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# VALIDATION REPORT

VITOL S.A.

SONG GIANG 2 HYDRO POWER PROJECT

**Report No: MY-VAL-10/09 <10/171>**

**Date: 2012-06-26**

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<b>Validation Report:</b>	<b>Report No.</b>	<b>Rev. No.</b>	<b>Date of 1<sup>st</sup> issue:</b>	<b>Date of this rev.</b>
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<b>Project:</b>	<b>Title:</b>	<b>Initial PDD Version:</b>	<b>Final PDD Version</b>	
	Song Giang 2 Hydro Power Plant	2010-04-19 / 1.0	2012-06-20 /1.7	
<b>Client:</b>	Vitol S.A.	<b>Client ref:</b>	Mr. David Fransen	
<b>Project Participant(s):</b>	<b>Host Party:</b>	<b>Other involved parties:</b>		
	Song Giang Hydropower Joint Stock Company	Vitol S.A.		
<b>Applied methodology/ies:</b>	<b>Title:</b>	<b>No.:</b>	<b>Scope / TA:</b>	
	Consolidated baseline methodology for grid-connected electricity generation from renewable sources	ACM0002 ver. 12.3.0	1 / 1.2	
<b>Validation team / Technical Review and Final Approval</b>	<b>Validation Team:</b>	<b>Technical review:</b>	<b>Final approval:</b>	
	Cheong, Chun Yuen (Robert) - TL Cheong, Chee Yin (Nicholas) - TM Pham, Van Trung (TE)	B. Grünenwald, Dr. J. Schubert	Dr. J. Schubert	
<b>Expected Emission reductions: [t CO<sub>2</sub>e]</b>	<b>Expected emission reductions over the first crediting period:</b>	<b>(Expected) crediting period starting date:</b>		
	516,296	2012-08-01		
<b>Confidential content:</b>	<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No	
<b>Summary of Validation Opinion:</b>	<input checked="" type="checkbox"/> Positive validation opinion		<input type="checkbox"/> Negative validation opinion	
	<p>The In detail the conclusions can be summarised as follows:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> The project is in line with all relevant host country criteria (&lt;host country&gt;) and all relevant UNFCCC requirements for CDM. Project activity approval have been obtained from DNA of Viet Nam vide the Letter of Approval (HCA) dated 2011-05-16 from DNA of Switzerland dated 2011-03-25</li> <li><input checked="" type="checkbox"/> The project additionality is sufficiently justified in the PDD.</li> <li><input checked="" type="checkbox"/> The monitoring plan is transparent and adequate.</li> <li><input checked="" type="checkbox"/> The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 516,296 tCO<sub>2</sub>e are most likely to be achieved within the (1<sup>st</sup> renewable) crediting period.</li> <li><input checked="" type="checkbox"/> The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation.</li> </ul>			
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## Abbreviations

<b>BAU</b>	Business as usual
<b>CA</b>	Corrective Action / Clarification Action
<b>CAR</b>	Corrective Action Request
<b>CDM</b>	Clean Development Mechanism
<b>CER</b>	Certified Emission Reduction
<b>CL</b>	Clarification Request
<b>CO<sub>2</sub></b>	Carbon dioxide
<b>CO<sub>2e</sub></b>	Carbon dioxide equivalent
<b>CP</b>	Certification Program
<b>DNA</b>	Designated National Authority
<b>EB</b>	CDM Executive Board
<b>EIA</b>	Environmental Impact Assessment
<b>FAR</b>	Forward Action Request
<b>GHG</b>	Greenhouse gas(es)
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>PDD</b>	Project Design Document
<b>QC/QA</b>	Quality control/Quality assurance
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>VVM</b>	Validation and Verification Manual

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## 1 OBJECTIVE / SCOPE

The purpose of a validation is to have an independent third party assess the project design. In particular the project's baseline, the monitoring plan (MP), and the project's compliance with

- the requirements of Article 12 of the Kyoto Protocol;
- the CDM modalities and procedures as agreed in the Marrakech Accords under decision 3/CMP.1
- the annex to the decision;
- subsequent decisions made by COP/MOP & CDM Executive Board and
- other relevant rules, including the host country legislation and sustainability criteria

are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders on the quality of the project and its intended generation of certified emission reductions (CERs).

The validation scope is given as a thorough independent and objective assessment of the project design including especially: the correct application of the methodology, the project's baseline study, additionality justification, local stakeholder commenting process, environmental impacts and monitoring plan, which are included in the PDD and other relevant supporting documents, to ensure that the proposed CDM project activity meets all relevant and applicable CDM criteria.

The information included in the PDD and the supporting documents were reviewed against the requirements as set out by the UNFCCC. The validation team has, based on the requirements in the Validation and Verification Manual<sup>VVM</sup>, carried out a full assessment of all evidences to assess the compliance of the project with the key areas as outlined in section V.E. and V.F. of the VVM (version 01.2, EB 55).

The validation is based on the information made available to TÜV NORD JI/CDM CP and on the contract conditions.

The validation is not meant to provide any consulting to the project participants. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

## 2 GHG PROJECT DESCRIPTION

### 2.1 Project Characteristics

Essential data of the project is presented in the following Table 2-1.

**Table 2-1:** Project Characteristics

Item	Data
Project title	Song Giang 2 Hydro Power Project
Project size	<input checked="" type="checkbox"/> Large Scale <input type="checkbox"/> Small Scale
Project Scope (according to UNFCCC sectoral scope numbers for CDM)	<input checked="" type="checkbox"/> 1 Energy Industries (renewable- /non-renewable sources)
	<input type="checkbox"/> 2 Energy distribution
	<input type="checkbox"/> 3 Energy demand
	<input type="checkbox"/> 4 Manufacturing industries
	<input type="checkbox"/> 5 Chemical industry
	<input type="checkbox"/> 6 Construction
	<input type="checkbox"/> 7 Transport
	<input type="checkbox"/> 8 Mining/Mineral production
	<input type="checkbox"/> 9 Metal production
	<input type="checkbox"/> 10 Fugitive emissions from fuels (solid, oil and gas)
	<input type="checkbox"/> 11 Fugitive emissions from production and consumption of halocarbons and hexafluoride
	<input type="checkbox"/> 12 Solvents use
	<input type="checkbox"/> 13 Waste handling and disposal
	<input type="checkbox"/> 14 Afforestation and Reforestation
	<input type="checkbox"/> 15 Agriculture
Applied Methodology	ACM0002: "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" Version 12.3.0
Technical Area	1.2 Renewable Energies
Crediting period	<input checked="" type="checkbox"/> Renewable Crediting Period (7 y) <input type="checkbox"/> Fixed Crediting Period (10 y)
Start of crediting period	2012-08-01 (or date of registration, whichever is later)

### 2.2 Involved Parties and Project Participants

The following parties to the Kyoto Protocol and project participants are involved in this project activity (Table 2-2).

**Table 2-2:** Project Parties and project participants

Characteristic	Party	Project Participant
Host party	Viet Nam	Song Giang Hydropower Joint Stock Company (as the Project Entity)
Other involved party/ies	Switzerland	Vitol S.A. (as the Purchasing Party)

### 2.3 Project Location

The details of the project location are given in Table 2-3:

**Table 2-3:** Project Location

Hydropower Station	Plant Location	Location	Longitude (E)	Latitude (N)
Song Giang 2	Khanh Trung Commune, Khanh Vinh District, Khanh Hoa Province, Viet Nam	Power-house	108° 52.9246'	12° 20.6489'
		Dam site	108° 50.2535'	12° 22.3305'

## 2.4 Technical Project Description

As described in the PDD sections A.2 and A.4.3, the project activity is a run-off river hydro power project with a capacity of 37MW consisting of 2 units generator with a capacity of 18.5MW each.

The estimated net power generated is approximately 134,962MWh per annum to be exported to the Viet Nam national electricity grid.

At the time of the on-site visit, the project activity is in under construction and will be implemented as described in the PDD. The technical key data are provided in Table 2-4 below.

**Table 2-4:** Technical data of the project activity <sup>/C4h/AD3/</sup>

Parameter	Unit	Value
<b>Turbines</b>		
Number of turbines	-	2
Type	-	Vertical Pelton
Rated speed	rpm	500
Rated Capacity	MW	19
<b>Generators</b>		
Number of Generators	-	2
Maximum Rated capacity	MW	18.5
Rated Voltage	kV	10.5
Power Factor	φ	0.8



### 3 METHODOLOGY AND VALIDATION SEQUENCE

#### 3.1 Validation Steps

The validation of the project consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers
- Publication of the project design document (PDD)
- Desk review of the PDD and supporting documents
- Validation planning
- On-Site assessment
- Background investigation and follow-up interviews with personnel of the project developer and its contractors
- Draft validation reporting
- Resolution of corrective actions (if any)
- Final validation reporting
- Technical review
- Final approval of the validation

The sequence of the validation is given in the table 3.1 below:

**Table 3.1:** Validation sequence

Topic	Time
Assignment of validation	2010-04-05
Submission of PDD for global stakeholder commenting process	2010-05-03
On-site visit	2010-07-07 to 2010-07-11
Draft reporting finalised	2010-08-22
Final reporting finalised	2012-06-26
Technical review on final reporting finalised	2012-06-26

#### 3.2 Contract review

To assure that

- the project falls within the scopes for which accreditation is held,
- the necessary competences to carry out the validation can be provided,
- Impartiality issues are clear and in line with the CDM accreditation requirements

a contract review was carried out before the contract was signed.

### 3.3 Appointment of team members and technical reviewers

On the basis of a competence analysis and individual availabilities, a validation team, consisting of one team leader and 2 additional team members, as well as the Technical Review personnel were appointed.

The list of involved personnel, the tasks assigned and the qualification status are summarized in the table 3-2 below.

**Table 3-2:** Involved Personnel

	Name	Company	Function <sup>1)</sup>	Qualification Status <sup>2)</sup>	Scheme competence <sup>3)</sup>	Technical competence <sup>4)</sup>	Host country Competence	On-site Visit
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Cheong, Chun Yuen (Robert)	TN Malaysia	TL	SA	<input checked="" type="checkbox"/>	1.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Cheong, Chee Yen (Nicholas)	TN Malaysia	TM <sup>A)</sup>	LA	<input checked="" type="checkbox"/>	1.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Pham, Van Trung	TN Vietnam	TM <sup>A)</sup>	A	<input checked="" type="checkbox"/>	1.2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms.	Grünenwald, Büsran	TN Cert	TR <sup>B)</sup>	LA	<input checked="" type="checkbox"/>	1.2	<input type="checkbox"/>	-
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Schubert, Dr. Jochen	TN Cert	TR/ FA <sup>B)</sup>	SA	<input checked="" type="checkbox"/>	1.2	<input type="checkbox"/>	-

<sup>1)</sup> TL: Team Leader; TM: Team Member, TR: Technical review; OT: Observer-Team, OR: Observer-TR; FA: Final approval

<sup>2)</sup> GHG Auditor Status: A: Assessor; LA: Lead Assessor; SA: Senior Assessor; T: Trainee; TE: Technical Expert

<sup>3)</sup> GHG auditor status (at least Assessor)

<sup>4)</sup> As per S01-MU03 or S01-VA070-A2 (such as 1.1, 1.2, ...)

<sup>A)</sup> Team Member: GHG auditor (at least Assessor status), Technical Expert (incl. Host Country Expert or Verification Expert), not ETE

<sup>B)</sup> No team member

All team members contributed to the review of documents, the assessment of the project activity and to the preparation of this report under the leadership of the team leader.

Technical Experts contributed to the assessment of special aspects of the project activity, e.g. technical or host country aspects.

Statements of competence for the above mentioned team members are enclosed in annex 6 of this report.

### 3.4 Consideration of Public Stakeholder Comments

Acc. to the modalities and procedures the draft PDD, as received from the project participants, has been made publicly available on the dedicated UNFCCC CDM website prior to the validation activity commenced. Stakeholders have been invited to comment on the PDD within the 30 days public commenting period.

In case comments are received, they are taken into account during the validation process. The comments and the discussion of the same are documented in annex 5 of this report.

### 3.5 Validation Protocol

In order to ensure consideration of all relevant assessment criteria, a validation protocol is used. The protocol shows, in a transparent manner, criteria and requirements, means of validation and the results from pre-validating the identified criteria. The validation protocol reflects the generic CDM requirements each CDM project has to meet as well as project specific issues as applicable. The validation protocol serves the following purposes:

- It organises, details and clarifies the requirements that a CDM project is expected to meet;
- It ensures a transparent validation process where the validating entity will document how a particular requirement has been validated and the result of the determination.

The validation protocol is described in Figure 1.

<b>Validation Protocol Table A-1: Requirement checklist</b>				
<b>Checklist Item</b>	<b>Validation Team Comment</b>	<b>Reference</b>	<b>Draft Conclusion</b>	<b>Final Conclusion</b>
<i>The checklist items in Table A-1 are linked to the various requirements the project should meet. The checklist is organised in various sections. Each section is then further subdivided as per the requirements of the topic and the individual project activity.</i>	<i>The section is used to elaborate and discuss the checklist item in detail. It includes the assessment of the validation team and how the assessment was carried out. The reporting requirements of the VVM shall be covered in this section.</i>	<i>Gives reference to the information source on which the assessment is based on</i>	<i>Assessment based on evidence provided if the criterion is fulfilled (OK), or a CAR, CL or FAR (see below) is raised. The assessment refers to the draft validation stage.</i>	<i>In case a corrective action or a clarification the final assessment at the final validation stage is given.</i>

**Figure 1:** Validation protocol table

The completed validation protocol is enclosed in Annex 1 to this report.

### 3.6 Review of Documents

The published PDD and supporting background documents related to the project design and baseline were reviewed.

Furthermore, the validation team used additional documentation by third parties like host party legislation, technical reports referring to the project design or to the basic conditions and technical data.

### 3.7 Site Visit and Follow-up Interviews

The validation team has carried out a site visit in order to assess the information included in the project documentation and to gain additional information regarding the compliance of the project with the relevant criteria applicable for CDM.

Or

Due to the fact that it is a Greenfield project a site visit was not carried out. All relevant project documentation has been provided in the PP’s offices.

During validation the validation team has performed interviews to confirm selected information and to resolve issues identified in the document review. The main topics of the interviews are summarized in table 3-3.

**Table 3-3:** Interviewed persons and interview topics

Interviewed Persons / Entities	Interview topics
<p>1. Projects &amp; Operations Personnel / Song Giang Hydropower Joint Stock Company <sup>/IM01/</sup></p> <p>2. Consultant / Hanam Carbon <sup>/IM02/</sup></p>	<ul style="list-style-type: none"> <li>- Chronological description of the project activity with documents of key steps of the implementation.</li> <li>- Current status of plant design</li> <li>- Technical details of the project realization, project feasibility, designing, operational life time, monitoring of the project</li> <li>- Host Government Approval</li> <li>- Approval procedures and status</li> <li>- Monitoring and measurement equipment and system.</li> <li>- Financial aspects</li> <li>- Crediting period</li> <li>- Project activity starting date</li> <li>- CER allocation / ownership</li> <li>- Baseline study assumptions</li> <li>- Additionality</li> <li>- Sustainable development issues</li> <li>- Monitoring</li> <li>- Analysis of local stakeholder consultation</li> <li>- Roles &amp; responsibilities of the project participants w.r.t. project management, monitoring and reporting</li> <li>- National Legislation</li> <li>- Editorial issues of the PDD</li> </ul>

A comprehensive list of all interviewed persons is part of section 7 'References'.

### 3.8 Project comparison

The validation team has compared the proposed CDM project activity with similar projects or technology that have similar or comparable characteristics and with similar projects in the host country in order to achieve additional information esp. regarding:

- Project technology
- Additionality issues
- Reasons for reviews, requests for reviews and rejections within the CDM registration process.

### 3.9 Resolution of Clarification and Corrective Action Requests

#### 3.9.1 Definition

A **Corrective Action Request (CAR)** will be established where:

- mistakes have been made in assumptions, application of the methodology or the project documentation which will have a direct influence the project results,
- the requirements deemed relevant for validation of the project with certain characteristics have not been met or
- there is a risk that the project would not be registered by the UNFCCC or that emission reductions would not be able to be verified and certified.

A **Clarification Request (CL)** will be issued where information is insufficient, unclear or not transparent enough to establish whether a requirement is met.

A **Forward Action Request (FAR)** will be issued when certain issues related to project implementation should be reviewed during the first verification.

#### 3.9.2 Draft Validation

After reviewing all relevant documents and taken all other relevant information into account, the validation team issues all findings in the course of a draft validation report and hands this report over to the project proponent in order to respond on the issues raised and to revise the project documentation accordingly.

#### 3.9.3 Final Validation

The final validation starts after issuance of the proposed corrective action (CA) of the CARs, CLs and FARs by the project proponent. The project proponent has to reply on those and the requests are "closed out" by the validation team in case the response is assessed as sufficient. In case of raised FARs the project proponent has to respond on this, identifying the necessary actions to ensure that the topics raised

in this finding are likely to be resolved at the latest during the first verification. The validation team has to assess whether the proposed action is adequate or not.

In case the findings from CARs and CLs cannot be resolved by the project proponent or the proposed action related to the FARs raised cannot be assessed as adequate, no positive validation opinion can be issued by the validation team.

The CAR(s) / CL(s) / FAR(s) are documented in chapter 4.

### **3.10 Technical review**

Before submission of the final validation report a technical review of the whole validation procedure is carried out. The technical reviewer is a competent GHG auditor being appointed for the scope this project falls under. The technical reviewer is not considered to be part of the validation team and thus not involved in the decision making process up to the technical review.

As a result of the technical review process the validation opinion and the topic specific assessments as prepared by the validation team leader may be confirmed or revised. Furthermore reporting improvements might be achieved.

### **3.11 Final approval**

After successful technical review of the final report an overall (esp. procedural) assessment of the complete validation will be carried out by a senior assessor located in the accredited premises of TÜV NORD.

Only after this step the request for registration can be started (in case of a positive validation opinion).

## 4 VALIDATION FINDINGS

In the following table the findings from the desk review of the published PDD, visits, interviews and supporting documents are summarised:

**Table 4-1:** Summary of CARs, CLs and FARs issued

Validation topic <sup>1)</sup>	No. of CAR	No. of CL	No. of FAR
General description of project activity (A) <ul style="list-style-type: none"> <li>- Project specification</li> <li>- Technical project description</li> <li>- Participation</li> <li>- Contribution to sustainable development</li> <li>- PDD editorial aspects</li> <li>- Technology to be employed</li> </ul>	3	1	
Project Baseline, Additionality and Monitoring Plan (B) <ul style="list-style-type: none"> <li>- Application of the Methodology</li> <li>- Project Boundary</li> <li>- Baseline identification</li> <li>- Calculation of GHG emission reductions               <ul style="list-style-type: none"> <li>Project emissions</li> <li>Baseline emissions</li> <li>Leakage</li> </ul> </li> <li>- Additionality determination</li> <li>- Monitoring Methodology</li> <li>- Monitoring Plan</li> <li>- Project management planning</li> </ul>	8	8	1
Duration of the Project / Crediting Period (C)	2		
Environmental impacts (D)			
Stakeholder Comments (E)	1		
<b>SUM</b>	<b>14</b>	<b>9</b>	<b>1</b>

<sup>1)</sup> The letters in brackets refer to the validation protocol

**Table 4-2:** PDD versions used for assessments

Version Nr.	Assessment Round
PDD v. 1.0, dated 2010-04-19 (Published)	Reference of initial findings

Version Nr.	Assessment Round
PDD v. 1.1, dated 2010-08-26	DOE Assessment #1
PDD v. 1.2, dated 2011-01-05	DOE Assessment #2
PDD v. 1.3, dated 2011-06-03	DOE Assessment #3
PDD v 1.4, dated 2011-09-09	Revised methodology version
PDD v. 1.5, dated 2011-12-12	Revised start date of crediting period (submission for TR)
PDD v. 1.6 dated 2012-05-18	DOE Assessment #4 (TR responds)
PDD v. 1.7 dated 2012-06-20	DOE Assessment #5 (TR responds)

The following tables include all raised CARs, CLs and FARs. For an in depth evaluation of all validation items it should be referred to the validation protocols (see Annex 1).

The findings of validation process are summarized in the tables below.

General	Finding A1		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<b>CAR A1:</b> Host country and Annex I country approvals have not been received yet.		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The project participants have been changed. The project owner is in the process of applying for a revised LOA with the current PP. LOAs will be submitted later. An explanation is provided in the PDD.		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The host country and Annex I project participants have been changed as demonstrated in A.3 of the revised PDD. The revised host country and Annex I country approvals have not been submitted.</p> <p>The validation team interviewed the Viet Nam DNA. It is confirmed that reissuing of LOA in case of a project participant change will be allowed as per the existing CDM criteria.</p> <p>The CAR is still OPEN.</p>		
<b>Corrective Action #2</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The Annex I country and Host country approvals were obtained. Please see file "Swiss Letter of Approval.pdf" and "Host country letter of approval.pdf". A32 and A33 in the evidence package for Swiss and Vietnam Letters of Approval		
<b>DOE Assessment #2</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The host country approval dated 2011-05-16 was issued by Viet Nam National Steering Committee for UNFCCC and Kyoto Protocol, Department of Meteorology, Hydrology and Climate Change and confirms followings: <sup>/A33/</sup></p> <ol style="list-style-type: none"> <li>1. The Government of Viet Nam has ratified the Kyoto Protocol on 2002-09-25</li> <li>2. Voluntary participation in the proposed CDM project activity</li> <li>3. The project activity will contribute to sustainable development</li> </ol> <p>The approval is not conditional.</p> <p>The Annex I country dated 2011-03-25 was issued by the Federal Office of the Environment confirms followings: <sup>/A32/</sup></p> <ol style="list-style-type: none"> <li>1. Ratified the Kyoto Protocol on 2003-07-09</li> </ol>		



General	Finding A1
	2. Approved voluntary participation of the project activity 3. Authorised Vitol S.A. to participate as project proponent  The validation team has cross-checked the names of the DNAs at the UNFCCC website to confirm their correctness.  CAR is CLOSED.
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

General	Finding A2		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<b>CAR A2:</b> The Modalities of Communication between the Host country and Annex 1 country project participants has not submitted.		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	See file A31 in the evidence package for Modalities of Communication		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The Modalities of Communication (MOC) has been submitted to the validation team for review. The MOC states the project participants are Vitol S.A. and Song Giang Hydropower Joint Stock Company. <sup>/A31/</sup>  CAR is CLOSED.		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements		

General	Finding A3		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<b>CAR A3:</b> Section A.4.1.4: With regard to the coordinates of the project stated in the PDD, is not clear, whether they refer to the powerhouse or the reservoir location.		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The coordinates were changed in the PDD. The measurement was conducted in the site visit. The map on page 6 of the PDD was also changed to reflect the new coordinates.		

General	Finding A3
<p><b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>The coordinates of the proposed project are revised in Section A.4.1.4 as well as the map provided in the revised PDD. The new coordinates are: Dam: 12° 22.3305' N latitude, 108° 50.2535' E longitude; Powerhouse: 12° 20.6489' N latitude, 108° 52.9246' E longitude.</p> <p>The validation team has reviewed and compared the coordinates in the related section of the revised PDD with the approved feasibility study report and actual measurements with a held hand GPS unit during the on-site visit. The coordinates are assessed as correct and appropriate. <sup>/B3/</sup></p> <p>CAR is CLOSED.</p>
<p><b>Conclusion</b> <i>Tick the appropriate checkbox</i></p>	<p><input type="checkbox"/> To be checked during the first periodic verification</p> <p><input checked="" type="checkbox"/> Appropriate action was taken</p> <p><input checked="" type="checkbox"/> Project documentation was corrected correspondingly</p> <p><input type="checkbox"/> Additional action should be taken</p> <p><input checked="" type="checkbox"/> The project complies with the requirements</p>

General	Finding A4
<b>Classification</b>	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
<p><b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p><b>CL A4:</b> Section A.2:</p> <ol style="list-style-type: none"> <li>The source of the operating hours of 3,331 hours annually is based on Song Giang 1. Kindly substantiate the statement of footnote 1. In additional, what is meant by the "PDD do not account for any potential effects of Song Giang 1"?</li> <li>Footnote 2 refers to 1% loss based on Song Giang 1.</li> <li>Kindly provide supporting document on Song Giang 1 in support of this claim. How would the net electricity exported be justified without any consideration of internal load consumption?</li> </ol>
<p><b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<ol style="list-style-type: none"> <li>Song Giang 1 is not a part of this project and is no longer taken into the analysis for that reason.</li> <li>See corrective action above.</li> <li>See corrective action above.</li> </ol>
<p><b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<ol style="list-style-type: none"> <li>OPEN. Although Song Giang 1 is not part of the project, however, in the revised PDD, it stated that the expected effective operating time of the project is 3,666 hours annually. Kindly clarify, how the number of hours has been determined.</li> <li>OPEN. As stated in revised PDD, the estimated consumption and grid outage is 0.5%. Kindly clarify, how this percentage has been determined.</li> <li>CLOSED. As Song Giang 1 is not part of the project activity, the justification is no longer required.</li> </ol> <p>CL is OPEN.</p>
<p><b>Corrective Action #2</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<ol style="list-style-type: none"> <li>The number of hours was determined based on the historical river water flow data in the period of 1978-2002 and the hydrological survey. The data of river flow rate and reservoir regulation scheme are shown in the Technical Design 1 – Report of hydrology and financial calculation – table PL-SL.02 and annex of hydrological survey. Please see file C4 in the evidence package for Technical Design 1 – Report of hydrology and financial calculation.</li> </ol>

General	Finding A4
	<p>2. The estimated consumption and grid outage rate of 1%-1.5% is a common practice for hydropower projects in Vietnam. The 0.5% stated in the PDD is taken from the Draft Technical Design 1 – Main report – page 3-18, where the PE uses to do the financial calculations. The proposed project applies the rate of 0.5%, this is therefore considered as a conservative input for the additionality analysis. Please see file C3 in evidence package for Draft Technical Design 1 – Main report</p>
<p><b>DOE Assessment #2</b>  <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>1. CLOSED. The Technical Design 1 – Report of hydrology and financial calculation have been provided to the validation team for review. The operating hours of 3,666 has been confirmed as taken from the technical design and calculated as per the common practice in hydropower generation by the technical design consultant <sup>C4/</sup>.</p> <p>2. CLOSED. The reference for the auxiliary consumption and grid outage of 0.5% is obtained from the “Draft Technical Design 1 - Main report - page 3-18” is applied in the revised financial analysis Excel Spreadsheet <sup>C3/</sup>.</p> <p>CL is CLOSED.</p>
<p><b>Conclusion</b>  <i>Tick the appropriate checkbox</i></p>	<p><input type="checkbox"/> To be checked during the first periodic verification  <input checked="" type="checkbox"/> Appropriate action was taken  <input checked="" type="checkbox"/> Project documentation was corrected correspondingly  <input type="checkbox"/> Additional action should be taken  <input checked="" type="checkbox"/> The project complies with the requirements</p>

Project Baseline, Additionality and Monitoring Plan	Finding B1		
<p><b>Classification</b></p>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
<p><b>Description of finding</b>  <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p><b>CAR B1:</b> Section B.4 Although the project spatial boundaries have been defined, the description for the baseline scenario is not in accordance with the methodology and tool. The grid system is not mentioned in the baseline.</p>		
<p><b>Corrective Action #1</b>  <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>Section B.4 in the PDD was revised.</p>		
<p><b>DOE Assessment #1</b>  <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>The information about the baseline scenario has been revised in Section B.4 of the revised PDD.</p> <p>The project activity is the installation of a new grid-connected renewable power plant, whereby the baseline scenario is the electricity delivered to the grid by the project activity otherwise would have been generated by the operation of grid-connected power plants and by the addition of new generation sources. The baseline emissions are the product of electrical energy baseline <math>EG_{\text{facility}, y}</math> expressed in MWh of electricity produced by the renewable generating unit multiplied by the grid emission factor.</p> <p>The validation team has reviewed the revised PDD and checked it against the methodology. The description of the baseline scenario is sufficient and in accordance with the methodology.</p>		



Project Baseline, Additionality and Monitoring Plan	Finding B1
	CAR is CLOSED.
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

Project Baseline, Additionality and Monitoring Plan	Finding B2		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<b>CAR.B2:</b> Section B.4 of PDD did not indicate, whether the project activity baseline identification has considered relevant national and/or sectoral policies.		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Section B.4 in the PDD was revised.		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>An analysis of the relevant national and/or sectoral policies has been provided in Section B.4 of the revised PDD. The government of Vietnam has not implemented any E± policies that are available and/or to be accessed publicly. The National Master Plan on national power development for the period 2006-2015 perspective to 2025 (Master plan VI) was approved by the Prime Minister in 2007. <sup>/X6/</sup> Since this policy is implemented after 2001-11-11, it is not required to take into account in developing a baseline scenario according to EB 22, annex 3.</p> <p>The validation team has reviewed the related section of the revised PDD, the National Master Plan on national development for the period 2006-2015, with perspective to 2025, and with the local knowledge to confirm such type of national and/or sectoral policies. It is concluded that no E+ and E- policy available in the host country is applicable to the guidelines provided in the Annex 3 of EB22.</p> <p>CAR is CLOSED.</p>		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements		

Project Baseline, Additionality and Monitoring Plan	Finding B3

Project Baseline, Additionality and Monitoring Plan	Finding B3		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<b>CAR B3 Section B.5:</b> <ol style="list-style-type: none"> <li>Table B.4: The decision to investment in project was 2005-08-15. The exchange rate applied was for the year 2008 with no reference and date provided. Revision is requested.</li> <li>Table B.13: The data for the annual generation is not consistent with table B.4 and respective sections in the PDD.</li> <li>Page 28: Incomplete sentence: "The plant has an annual generation per MW of....."</li> <li>Why Song Giang 1 IRR was presented for comparison? Is Song Giang 1 part of the project activity?</li> <li>Table B.12: Kindly provide further information with regard to the location of projects, the ownership for private plants and a document to substantiate date of operation</li> <li>Investment analysis, page 24: The justification and choice of variables used in the sensitivity analysis is missing.</li> </ol>		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<ol style="list-style-type: none"> <li>Explanation is given in the PDD – page 25</li> <li>Revised in PDD</li> <li>Revised in PDD</li> <li>Song Giang 1 is not part of the project activity and for that reason no longer included in the analysis.</li> <li>Information are updated in PDD</li> <li>The IRR of a project activity depends mainly on its revenues and cost.  The main revenue for this project are: Electricity output and feed in tariff. The main costs for the project are: Investment cost and O&amp;M cost. Therefore the chosen variables for the sensitivity analysis are justified.</li> </ol>		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<ol style="list-style-type: none"> <li>OPEN. There is no explanation in the PDD's p. 25.</li> <li>OPEN. Table B.13 had been removed from the revised PDD. Kindly explain the rational of removal the table and the explanation on the Corrective Action #1 is not cleared.</li> <li>OPEN. Page 28: Incomplete sentence had been removed from the revised PDD. Kindly explain the rational of removal the sentences and the explanation on the Corrective Action #1 is not cleared.</li> <li>CLOSED. Song Giang 1 is not part of the project activity. The comparison of Song Giang 1 IRR had been removed from the revised PDD.</li> <li>CLOSED. Referring to the revised PDD's Table B.8, the location of the project and ownership of the private plants are included. The submitted documents to substantiate the date of the project operation had been reviewed by the validation team.</li> <li>OPEN. The Corrective Action #1 justified the choice of variables used in sensitivity analysis as appropriate. However, it has not been indicated in the revised PDD.</li> </ol>		



Project Baseline, Additionality and Monitoring Plan	Finding B3
<p><b>Corrective Action #2</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<ol style="list-style-type: none"> <li>1. The exchange rate of VND/USD is no longer used in the latest PDD. The VND/EUR exchange rate was not mentioned in the Draft Technical Design 1, we therefore used the average VND/EUR exchange rate of January 2008 (the month right before the issuance of the Draft Technical Design 1) from <a href="http://www.gocurrency.com">www.gocurrency.com</a>. Please see file evidence D12 in evidence package</li> <li>2. The annual gross generation of 141,700 MWh is not of the proposed project, the CDM consultant put in the wrong number. The table B.13 was removed. It had been put in the PDD before to compare the generation ratio of the proposed project with two other hydropower projects to prove that the proposed project was less economically attractive than the others. However, the generation ratio only could not demonstrate, if a project is more or less economically attractive than another as per DOE's assessment. The argument was therefore removed. Being a part of the argument, the table B.13 was also removed.</li> <li>3. It was an error made by the CDM consultant. The sentence was part of the argument regarding economic attractiveness of the proposed project. This argument was removed as explained in item 2 above; the incomplete sentence was therefore removed.</li> <li>6. The choice of variables was justified in Sub-step 2d in the revised PDD.</li> </ol>
<p><b>DOE Assessment #2</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<ol style="list-style-type: none"> <li>1. CLOSED. Explanation had been updated in revised PDD for the exchange rate. The currency exchange was reviewed from the link and hardcopy provided. <sup>/D12/</sup></li> <li>2. CLOSED. The gross annual generation has been confirmed to be 135,640MWh, which is taken from the technical design. The project participant has chosen to remove the argument, therefore removing Table B.13, which is part of the argument, is reasonable. <sup>/C1/</sup></li> <li>3. CLOSED. Removal of the incomplete sentence is reasonable as it is part of the removed argument.</li> <li>6. CLOSED. Sub-step 2d of the revised PDD has been checked. Justification for the choice of variables has been appropriately provided.</li> </ol> <p>CAR is CLOSED.</p>
<p><b>Conclusion</b> <i>Tick the appropriate checkbox</i></p>	<p> <input type="checkbox"/> To be checked during the first periodic verification  <input checked="" type="checkbox"/> Appropriate action was taken  <input checked="" type="checkbox"/> Project documentation was corrected correspondingly  <input type="checkbox"/> Additional action should be taken  <input checked="" type="checkbox"/> The project complies with the requirements                 </p>

Project Baseline, Additionality and Monitoring Plan	Finding B4		
<b>Classification</b>	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR

Project Baseline, Additionality and Monitoring Plan	Finding B4
<p><b>Description of finding</b>  <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p><b>CL B4:</b> Section B.5:                      Referring to the document title Investment breakdown, Main Report, kindly clarify the following:</p> <ul style="list-style-type: none"> <li>a) How is the contingency being calculated?</li> <li>b) What does other cost consist of?</li> <li>c) What is Administration cost?</li> </ul>
<p><b>Corrective Action #1</b>  <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<ul style="list-style-type: none"> <li>a) Contingency cost is calculated as 10% of estimated investment cost as per paragraph II.1.1.7 in Circular 05/2007/TT-BXD. Contingency cost consists of:                             <ul style="list-style-type: none"> <li>a. contingency cost for materials (30,765 million VND)</li> <li>b. contingency for inflation (37,602 million VND)</li> </ul> </li> <li>b) As per paragraph II.1.1.6 in Circular 05/2007/TT-BXD. The other cost consists of:                             <ul style="list-style-type: none"> <li>a. validation of total investment cost</li> <li>b. exploring bombs/mines on project site</li> <li>c. Transport of construction materials and workers</li> <li>d. Quality checking and registration cost</li> <li>e. Safety cost during construction for workers and traffics</li> <li>f. Auditing, validations and approvals costs by third parties</li> <li>g. All other cost/fees defined by regulations</li> <li>h. Technology and science study regarding the project, initial operating cost, test run cost.</li> </ul> </li> <li>c) As per paragraph II.1.1.4 in Circular 05/2007/TT-BXD. The Administration cost consists of:                             <ul style="list-style-type: none"> <li>a. Organization for making Pre-FSR, FSR, or Technical and Economic Report</li> <li>b. Preparation cost for carrying out compensation and resettlement plan</li> <li>c. Choosing project designer</li> <li>d. Meeting organization for validation of FSR, Technical Design, investment cost estimation, drawings</li> <li>e. Choosing construction contractor</li> <li>f. Organization for quality, quantity, progress, and expense control</li> <li>g. Ensuring safety and hygiene in the project site</li> <li>h. Making norms, price tariff for the project cost estimation</li> <li>i. Material and project quality checking</li> <li>j. Checking and certification of project's quality</li> <li>k. Acceptance, contract payment, contract settlement; payment and finalizing project cost payment.</li> <li>l. Project delivery</li> <li>m. Groundbreaking, grand-opening and advertising</li> <li>n. General administration activities</li> <li>o. Please see file B29 in evidence package for Circular 05-2007-TT-BXD</li> </ul> </li> </ul>



Project Baseline, Additionality and Monitoring Plan	Finding B4
<p><b>DOE Assessment #1</b>  <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>During the on-site visit and according to the submitted documents, the validation team has reviewed the investment breakdown in the Draft Technical Design 1 – Main report for Song Giang 2 Hydro Power Project, which includes:<sup>/C3/</sup></p> <ul style="list-style-type: none"> <li>a) Contingency of thousand VND 38,366,668</li> <li>b) Other costs of thousand VND 10,393,885</li> <li>c) Administration cost of thousand VND 6,490,136.</li> </ul> <p>The Draft Technical Design is conducted by a third-party consultant. To ensure the investment estimation is in line with current budgeting practice and regulations in the host country, the supporting document for the third-party consultant qualifications is required for review.</p> <p>CL is still OPEN.</p>
<p><b>Corrective Action #2</b>  <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>Please see file X2 for experience of the consultant.</p> <ul style="list-style-type: none"> <li>a) As per Article 7 of the attachment to Decision 30/2006/QD-BCN promulgating regulations on management of independent power plant construction projects, a technical design is not required to be approved by a government authority. Please see file B35 in the evidence package for Decision 30/2006/QD-BCN</li> </ul>
<p><b>DOE Assessment #2</b>  <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<ul style="list-style-type: none"> <li>a) Sufficient explanation and documented evidence have been given to the validation team for review. The calculation of contingency is consistent with local practices within the financial analysis for hydropower projects.<sup>/X3/</sup></li> <li>b) The clarification is sufficient. The provided document has been reviewed to confirm this.<sup>/B35/</sup></li> </ul> <p>CL is CLOSED.</p>
<p><b>Conclusion</b>  <i>Tick the appropriate checkbox</i></p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> To be checked during the first periodic verification</li> <li><input checked="" type="checkbox"/> Appropriate action was taken</li> <li><input checked="" type="checkbox"/> Project documentation was corrected correspondingly</li> <li><input type="checkbox"/> Additional action should be taken</li> <li><input checked="" type="checkbox"/> The project complies with the requirements</li> </ul>

Project Baseline, Additionality and Monitoring Plan	Finding B5		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR





Project Baseline, Additionality and Monitoring Plan	Finding B5		
<p><b>Description of finding</b> Describe the finding in unambiguous style; address the context (e.g. section)</p>	<p><b>CAR B5:</b> Financial Spreadsheet:</p> <ol style="list-style-type: none"> <li>Assumptions – Row 28: Incorrect total investment. Please clarify, what the figure refers to.</li> <li>Assumptions – Row 56: The detailed name of the ordinance on natural resource tax has not been stated.</li> <li>The Emissions Reductions is not consistent between the PDD and the spreadsheet: 70,254 (with SG 1), 77,738 (without SG 1) and 84,684 (with SG 1 in the Spreadsheet).</li> </ol>		
<p><b>Corrective Action #1</b> This section shall be filled by the PP. It shall address the corrective action taken in details.</p>	<ol style="list-style-type: none"> <li>Row 28 refers to total loan, not total investment . The IRR has been recalculated as pre-tax IRR, therefore loan information has been removed from the IRR spreadsheet.</li> <li>Revised in spreadsheet. The row number has been changed.</li> <li>The emission reductions have been recalculated to be 73,757. This value has been applied throughout the PDD and IRR spreadsheet.</li> </ol>		
<p><b>DOE Assessment #1</b> The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</p>	<ol style="list-style-type: none"> <li>The total loan provided in row 28 of the Assumptions sheet has been removed. The validation team has checked the revised spreadsheet to confirm this. The corrective action is assessed as appropriate and sufficient</li> <li>Row 56 of Assumptions sheet has been revised. Circular No. 42/2007/TT-BTC has been put in row 50 of the assumptions sheet in the revised spreadsheet as reference for the resource tax rate of 2%. The validation team has reviewed the circular to confirm this resource tax rate. It is confirmed that the circular and resource tax rate applied by the project participant is valid and appropriate<sup>/B26/</sup></li> <li>The emission reductions have been revised in the PDD and the ER tab of the revised spreadsheet consistently as 73,757 tCO<sub>2</sub>e. The validation team has reviewed the revised PDD and spreadsheet to confirm this. The emission reductions is calculated as in accordance with the methodology and consistently written down in the revised PDD and spreadsheet.</li> </ol> <p>CAR is CLOSED.</p>		
<p><b>Conclusion</b> Tick the appropriate checkbox</p>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements		

Project Baseline, Additionality and Monitoring Plan	Finding B6		
<p><b>Classification</b></p>	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR

Project Baseline, Additionality and Monitoring Plan	Finding B6
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<b>CL B6:</b> A document to support the PLF of 41.8% has not been provided.
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	PLF = operational hours / (365 days X 24 hours) The operational hours = 3,666 is taken from Draft Technical Design 1 - Main report - page 3-14
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The project participant has calculated the plant load factor for the project using the inputs from the Draft Technical Design 1. The plant load factor of 41.8% is derived by dividing the operating hours by the total number of hours in a year. The operation hours of 3,666 have been applied, which is taken from the Draft Technical Design 1 – Main Report <sup>/C3/</sup>  However, the reference document Draft technical Design1 – Main report - page 3-14 has not been provided to the validation team for review and assessment.  CL is still OPEN
<b>Corrective Action #2</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Please see page 3-14 in file C3 of the evidence package
<b>DOE Assessment #2</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The document Draft Technical Design 1 – Main report has been provided for review. The operating hour value of 3,666 and the calculation of PLF has been confirmed. <sup>/C3/</sup>  CL is CLOSED.
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

Project Baseline, Additionality and Monitoring Plan	Finding B7		
<b>Classification</b>	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<b>CL B7:</b> It is requested to provide the document TD1 for further assessment of the interest applied.		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	See page 3-18 in file C3 for information regarding interest Note: since the analysis is before tax, the high of the interest does not influence the IRR calculation		

Project Baseline, Additionality and Monitoring Plan	Finding B7
<p><b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>The document Draft Technical Design1 has been provided. The validation team has reviewed the document - Main report - page 3-18_interest rates, which states down the interest for foreign loan is 8.4% and local loan is 11.4.%. The document page is extracted from the Main Report. These values have also been applied in the revised spreadsheet by the project participant and this is confirmed by the validation team after reviewing the revised spreadsheet.</p> <p>It is concluded that the interest rates applied by the project participant are valid and appropriate. <sup>/D14/B21/C3/</sup></p> <p>CL is CLOSED.</p>
<p><b>Conclusion</b> <i>Tick the appropriate checkbox</i></p>	<p><input type="checkbox"/> To be checked during the first periodic verification</p> <p><input checked="" type="checkbox"/> Appropriate action was taken</p> <p><input checked="" type="checkbox"/> Project documentation was corrected correspondingly</p> <p><input type="checkbox"/> Additional action should be taken</p> <p><input checked="" type="checkbox"/> The project complies with the requirements</p>

Project Baseline, Additionality and Monitoring Plan	Finding B8		
<p><b>Classification</b></p>	<p><input type="checkbox"/> CAR</p>	<p><input checked="" type="checkbox"/> CL</p>	<p><input type="checkbox"/> FAR</p>
<p><b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p><b>CL B8:</b> The project start date is determined as 2006-03-10 and the data applied for the WACC is year 2008. How could this be realistic that the decision to invest in the project was made in 2005-08-15?</p>		
<p><b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>Explanation is given in the PDD – sub-step 2c</p>		
<p><b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>There is no explanation on the revised PDD – sub-step 2c showing that the decision to invest in the project was made in 2005-08-15 is realistic. Justification should be described in details in the corrective action.</p> <p>CL is OPEN.</p>		
<p><b>Corrective Action #2</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>The investment decision on 2005-08-15 was for the 30 MW project. This is the original capacity in the feasibility study phase. In the technical design phase the location of the dam was advised to move downstream by the technical design consultant, which resulted in an increase of capacity to 36 MW. However, after studying the hydrological conditions thoroughly, the consultant in the Draft Technical Design dated 2008-02 one more time advised to increase the project capacity to 37 MW. On 25 February 2008 the project owner decided to go on with the project with the final capacity of 37 MW. It was not until May 2008, when the first official technical and financial data of the 37 MW project was available. The project entity uses this data of the 37 MW for the financial analysis in the PDD.</p>		
<p><b>DOE Assessment #2</b> <i>The assessment shall encom-</i></p>	<p>OPEN. The project is considered as a start-stop-start case. Input values applied in investment analysis should be valid and applicable at time of</p>		

<b>Project Baseline, Additionality and Monitoring Plan</b>	<b>Finding B8</b>
<p><i>pass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>investment decision taken on date of recommencement in May 2008. The corrective action by the project participant provided is not substantiated appropriately. A summary should be provided for the initial investment and the financial cost increase due to the change in capacity. In addition, paragraph 7 of EB 51 Annex 58 should be taken into consideration and demonstrated accordingly.</p> <p>CL is OPEN</p>
<p><b>Corrective Action #3</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>In Feb. 2008, following proposals of qualified design institute, the project design was requested to change the installed capacity to 37MW finally. Based on available information provided by the design institute, the board made the final investment decision to pursuit CDM support due to the poor financial return.</p> <p>For the proposed 37MW project, there were no real actions until the construction contract was signed in 4 Apr. 2008, which is considered CDM Starting Date as the earliest date.</p> <p>Compared with the available contracts, it is worthy to note that 'Contract for the construction of 4 km of the access road' in 9 Mar 2006 was regarded as the Pre-construction Preparation and can't be considered as a real action of proposed 37MW project. The cost of constructing the access road occurred before investment decision made is regarded as a sunk cost which is not taken into account in the Technical Design as well as the investment analysis in the PDD. Please see page 14 and 15 in file C11 for breakdown of investment cost.</p> <p>Therefore, 4 Apr. 2008 is the CDM starting date in this regard and revised in PDD.</p> <p>In May 2008, the technical design document 1 (37 MW) was officially issued in which the financial parameters are consistent with the Draft Technical Design 1 which is the basis for the board to make the investment decision. This is in accordance with paragraph 6 of EB51 Annex 58. Thus, the thorough data of Draft Technical Design 1 are suitable and applicable for the investment analysis in the PDD.</p>
<p><b>DOE Assessment #3</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>The technical design 1 for 37MW design was checked. It was completed in 2008-05.<sup>/C11/</sup> Prior to this, the project management board had based itself on the main of draft technical design 1 contents made available on 2008-02 to make a decision to continue with the investment and construction of the project activity.<sup>/C3/</sup></p> <p>After the new investment decision made by the management board on 2008-02-25 with regards to approving the installed capacity of 37MW and continuing CDM development for the project activity, the project owner had concluded the general construction contract to construct. Such construction contract was provided to the validation team for review. The authenticity of the document could be confirmed. The process of resuming investment and CDM intension for the project activity can be summarized as follows:</p> <ol style="list-style-type: none"> <li>1. 2008-02: Draft of Technical Design 1 content for 37MW design submitted by the Technical Design 1 developer to the project owner.<sup>/C3/</sup></li> <li>2. 2008-02-25: New investment decision to continue developing the</li> </ol>

Project Baseline, Additionality and Monitoring Plan	Finding B8
	<p>project. <sup>/A20/</sup></p> <p>3. 2008-04-04: General construction contract signed – new project start date. <sup>/A21/</sup></p> <p>A full timeline of CDM prior consideration and project development was documented in Table B.6 of the PDD version 1.5. All the events have been checked with documented evidences by the validation team.</p> <p>Furthermore, reviewing Section B.5 – Additionality Demonstration and the project IRR financial spreadsheet, all the input values were taken from the Technical Design documentation and the cost of the access road was not included. It could be confirmed as the sunk cost does not constitute the cost, when the project continued with the new capacity.</p> <p>CAR is CLOSED.</p>
<p><b>Conclusion</b> <i>Tick the appropriate checkbox</i></p>	<p><input type="checkbox"/> To be checked during the first periodic verification</p> <p><input checked="" type="checkbox"/> Appropriate action was taken</p> <p><input checked="" type="checkbox"/> Project documentation was corrected correspondingly</p> <p><input type="checkbox"/> Additional action should be taken</p> <p><input checked="" type="checkbox"/> The project complies with the requirements</p>

Project Baseline, Additionality and Monitoring Plan	Finding B9		
<p><b>Classification</b></p>	<p><input checked="" type="checkbox"/> CAR</p>	<p><input type="checkbox"/> CL</p>	<p><input type="checkbox"/> FAR</p>
<p><b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p><b>CAR B9:</b></p> <p>1. Section B.5 Step 4: Common Practice Analysis, the justification for this step lacks further improvement and an explanation on, why the project activity is not a common practice as compared to those in table B.12 has not been provided.</p> <p>2. Table B.13. The data for annual generation is not consistent with table B.4 and respective sections of the PDD. Why was the comparison of MW with smaller power plants instead of similar capacity?</p>		
<p><b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>1. Explanation given in the PDD. A table of projects with CDM involved was also provided as requested by the DOE.</p> <p>2. Numbers are corrected and explanation is given in PDD</p>		
<p><b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>1. CLOSED. Based on the explanation from the revised PDD, it is stated that only 2 projects from the list of similar project activities are privately owned entities, where the financial data and other relevant internal information for both projects are not public available. According to the additionality tools, "If necessary data/information of some similar projects not accessible for PPs to conduct this analysis, such projects can be excluded from this analysis." Therefore, both projects are excluded from the analysis.</p> <p>2. OPEN. Table B.13 had been removed from the revised PDD. The explanation on the Corrective Action #1 is not cleared. Kindly explain why was the comparison of MW with smaller power plants instead of similar capacity.</p>		



Project Baseline, Additionality and Monitoring Plan	Finding B9
	CAR is OPEN
<p><b>Corrective Action #2</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>2. Please see explanation of removing the table B.13 from the PDD in Corrective Action #2 of Finding B3.</p> <p>The project owner could not observe any hydropower plant under operation with an installed capacity similar to 37 MW. Therefore, projects of the same group (from 5 MW to 50 MW) as categorized by the Construction Code – TCXDVN 285 were taken into the comparison. This comparison is conservative interpretation of the common practice analysis requirements (consider a broader range of projects).</p> <p>See page 5 in the file “Construction code TCXDVN_285-2002” for the categorization.</p> <p>However, version 06.0.0 of the “Tool for demonstration and assessment of additionality” is now applicable to the project, therefore the common practice analysis has to be revised in compliance with guidance in this tool and the above CAR is longer relevant. Please see the revised common practice analysis in the revised PDD and file D21 for details</p>
<p><b>DOE Assessment #2</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>2. Table B.13 has been removed from the revised PDD, which was assessed as appropriate in Finding B3. Furthermore, the Vietnam construction standard TCXDVN 285:2002 has been provided for the validation team for review. The standard provided stipulation the design for certain categories of projects and is applicable with all projects located within Viet Nam territory. By means of web research and reviewing of the Vietnam Power Development Master Plan V and VI, it could be confirmed that projects with similar installed capacity with the proposed project activity are not common. Therefore, the choice of comparing with a category of projects (from 5MW to 50MW) as stipulated in the TCXDVN 285:2002 by the project participant is conservative.<sup>/B17/</sup></p> <p>Through the validation process, the tools for demonstration and assessment of additionality, the analysis of common practice is required, therefore the above is no longer relevant.</p> <p>CAR is CLOSED.</p>
<p><b>Conclusion</b> <i>Tick the appropriate checkbox</i></p>	<p><input type="checkbox"/> To be checked during the first periodic verification</p> <p><input checked="" type="checkbox"/> Appropriate action was taken</p> <p><input checked="" type="checkbox"/> Project documentation was corrected correspondingly</p> <p><input type="checkbox"/> Additional action should be taken</p> <p><input checked="" type="checkbox"/> The project complies with the requirements</p>

Project Baseline, Additionality and Monitoring Plan	Finding B10		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR

Project Baseline, Additionality and Monitoring Plan	Finding B10	
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<b>CAR B10:</b> <ol style="list-style-type: none"> <li>Section B.6.1 and Annex 3: <i>Calculation of the OM emission factor as a three-year full generation weighted average.</i> The value for OM EF is not properly presented.</li> <li>Section B.6.3. The equation applied for calculating ER is not included in this section.</li> </ol>	
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<ol style="list-style-type: none"> <li>The PDD is updated with the latest Baseline information released by the DNA on 26 March 2010.</li> <li>Revised in the PDD.</li> </ol>	
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<ol style="list-style-type: none"> <li>Review on the latest Baseline information released by the DNA of Viet Nam dated 2010-03-26 and the revised PDD, the value for the OM EF had been updated appropriate. <sup>/F2/F3/</sup></li> <li>The equation applied for calculating ER is added into the revised PDD.</li> </ol> <p>CAR is CLOSED.</p>	
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements	

Project Baseline, Additionality and Monitoring Plan	Finding B11		
<b>Classification</b>	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<b>CAR B11:</b> Section B.6.1: During the on-site visit, the project owner confirmed that electricity will be imported from the grid or from the diesel genset for operational purposes during major maintenance and any power outage. This is considered as project emissions and needs to be monitored.		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The project will draw power from the grid during shut down maintenance or blackout. In case of power outage from the grid a back-up diesel generator will be operated.		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	As the project will draw the power from the grid during shut down maintenance or blackout, there will be consider as a project emissions. This is the same when the power shortage from the grid, the back-up diesel generator will be operated. Therefore, these project emissions should be monitored.		
CL is OPEN			

Project Baseline, Additionality and Monitoring Plan	Finding B11
<p><b>Corrective Action #2</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>The NCV value and emission factor of diesel have been included in section B.6.2 in the PDD. The project emissions are considered negligible <i>ex-ante</i>. Explanation was given in section B.6.1 in the PDD. Relevant parameters are included in the monitoring sections for calculating the project emissions <i>ex-post</i>.</p>
<p><b>DOE Assessment #2</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>The NCV value applied, which is the IPCC default value, has been included in Section B.6.2 of the revised PDD. Further explanation has also been given in Section B.6.1 of the revised PDD. Since the back-up diesel generators will only be used in very rare cases and the emissions from these sources are not required by the applied methodology, the emissions from the diesel generators therefore can be considered as negligible and need not to be accounted for in calculating <i>ex-ante</i> emission reductions.  CL is CLOSED.</p>
<p><b>Conclusion</b> <i>Tick the appropriate checkbox</i></p>	<p><input type="checkbox"/> To be checked during the first periodic verification  <input checked="" type="checkbox"/> Appropriate action was taken  <input checked="" type="checkbox"/> Project documentation was corrected correspondingly  <input type="checkbox"/> Additional action should be taken  <input checked="" type="checkbox"/> The project complies with the requirements</p>

Project Baseline, Additionality and Monitoring Plan	Finding B12		
<p><b>Classification</b></p>	<p><input checked="" type="checkbox"/> CAR</p>	<p><input type="checkbox"/> CL</p>	<p><input type="checkbox"/> FAR</p>
<p><b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p><b>CAR B12:</b> Section B.7.1: From the interview with the project developer that the project activity will be importing grid electricity or use diesel genset to support the auxiliary equipment and essential equipment during any shut down maintenance or blackout. As such these need to be monitored and there is no parameter included in the monitoring plan.</p>		
<p><b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>Parameter to be monitored added in the PDD.</p>		
<p><b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>Referring to Section 7.1 of the revised PDD, the EG<sub>import,y</sub> is added as a monitored parameter and included in the monitoring plan.  CAR is CLOSED.</p>		
<p><b>Conclusion</b> <i>Tick the appropriate checkbox</i></p>	<p><input type="checkbox"/> To be checked during the first periodic verification  <input checked="" type="checkbox"/> Appropriate action was taken  <input checked="" type="checkbox"/> Project documentation was corrected correspondingly  <input type="checkbox"/> Additional action should be taken  <input checked="" type="checkbox"/> The project complies with the requirements</p>		



Project Baseline, Additionality and Monitoring Plan	Finding B13		
<b>Classification</b>	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<b>CL B13:</b> Section B.7.1: Parameter TEG <sub>y</sub> , information regarding the frequency of calibration for the meter is missing.		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	As per the ACM0002, version 12.3.0, the monitoring of TEG <sub>y</sub> is applicable to hydro power project activities with a power density of the project activity greater than 4 W/m <sup>2</sup> and less than or equal to 10 W/m <sup>2</sup> . The power density of the proposed project is 205.56 W/m <sup>2</sup> , therefore TEG <sub>y</sub> of the proposed project is not required to be monitored and information regarding calibration frequency for TEG <sub>y</sub> meter(s) is not necessary to mention in the PDD.		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Further review of methodology, since the power density of the project reservoir is more than 10W/m <sup>2</sup> , it is not necessary to monitor TEG <sub>y</sub> CL is CLOSED.		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements		

Project Baseline, Additionality and Monitoring Plan	Finding B14		
<b>Classification</b>	<input type="checkbox"/> CAR	<input type="checkbox"/> CL	<input checked="" type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<b>FAR B14:</b> During the 1st periodic verification period, it has to be checked that the QA/QC procedures have been established and implemented.		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	This will be checked during the 1 <sup>st</sup> Verification.		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	This will be checked during the 1 <sup>st</sup> Verification.		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input checked="" type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements		

Project Baseline, Additionality and Monitoring Plan	Finding B15		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	CAR.B15: Section B.1: The applied methodology version is no longer valid.		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The PDD has been updated with version 12.3.0 of ACM0002.		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The PP had updated to apply the methodology ACM0002 version 12.3.0, which is available on the UNFCCC CDM website and was approved on 2012-03-02 by the Executive Board:  <a href="http://cdm.unfccc.int/methodologies/PAMethodologies/approved">http://cdm.unfccc.int/methodologies/PAMethodologies/approved</a>            Submission for request for registration using this methodology version can be made until 2013-01-11.</p> <p>CAR is CLOSED</p>		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements		

Project Baseline, Additionality and Monitoring Plan	Finding B16																				
<b>Classification</b>	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR																		
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	CL.B16: Section B.5. It is unclear, why the IRR with and w/o CDM in the published PDD is different with the one as per PDD version 1.6.																				
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>The difference is due to different values of inputs applied. Please see below for comparison:</p> <table border="1"> <thead> <tr> <th>Input</th> <th>Published PDD</th> <th>Current PDD</th> </tr> </thead> <tbody> <tr> <td>Insurance cost (on project cost)</td> <td>0.84%</td> <td>0%</td> </tr> <tr> <td>CER price</td> <td>19.6 Euro/ton (price of September 2008 from BlueNext)</td> <td>16.5 Euro/ton (price of 04/02/2008 from carbonpositive.net)</td> </tr> <tr> <td>Grid emission factor</td> <td>0.5760 tCO<sub>2</sub>/MWh</td> <td>0.5465 tCO<sub>2</sub>/MWh</td> </tr> <tr> <td>Exchange rate (EUR/VND)</td> <td>21,785 (rate of 01/05/2008 from gocurrency.com)</td> <td>23,166 (average rate of Jan 2008 from gocurrency.com)</td> </tr> <tr> <td>Electricity price for</td> <td>595 VND/kWh</td> <td>750 VND/kWh</td> </tr> </tbody> </table>			Input	Published PDD	Current PDD	Insurance cost (on project cost)	0.84%	0%	CER price	19.6 Euro/ton (price of September 2008 from BlueNext)	16.5 Euro/ton (price of 04/02/2008 from carbonpositive.net)	Grid emission factor	0.5760 tCO <sub>2</sub> /MWh	0.5465 tCO <sub>2</sub> /MWh	Exchange rate (EUR/VND)	21,785 (rate of 01/05/2008 from gocurrency.com)	23,166 (average rate of Jan 2008 from gocurrency.com)	Electricity price for	595 VND/kWh	750 VND/kWh
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Electricity price for	595 VND/kWh	750 VND/kWh																			



Project Baseline, Additionality and Monitoring Plan	Finding B16		
	calculation of natural resource tax		
	<p>Besides, inputs such as loan and depreciation were mentioned in published PDD but not in the current PDD. However, these inputs do not affect IRR in both PDD versions since they are calculated pre-tax.</p>		
<p><b>DOE Assessment #1</b>  <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>Please also refer to CL.B8 which has been raised on the timing of the input values applied in the investment analysis by the PP. This finding has been addressed and closed out successfully.</p> <p>The main reasons for the difference between the IRR in the published and current PDD could be attributed to the timing of input data and benchmark approach applied. In the published PDD the PP applied the WACC as the benchmark while in the final PDD, it was the commercial lending rate which was in accordance with the latest guidance on the assessment and demonstration of additionality.</p> <p>The input values in the final PDD had been validated as correct as specifically addressed in CL.B8, therefore it could be confirmed:</p> <ol style="list-style-type: none"> <li>1. Insurance cost was not considered in the final PDD;</li> <li>2. CER price difference was due to the timing of input values applied;</li> <li>3. Grid emission factor difference was due to the re-calculation of the EF, which was lower than the one published by Vietnam DNA and is, therefore more conservative;</li> <li>4. Exchange rate was due to the timing of input values applied at time of investment decision made;</li> <li>5. Unit electricity tariff used in the calculation of natural resources tax. This was due to also the timing of investment decision made. The updated unit tariff has been confirmed as in accordance with local regulation of the host country.</li> </ol> <p>CL is CLOSED.</p>		
<p><b>Conclusion</b>  <i>Tick the appropriate checkbox</i></p>	<p><input type="checkbox"/> To be checked during the first periodic verification</p> <p><input checked="" type="checkbox"/> Appropriate action was taken</p> <p><input checked="" type="checkbox"/> Project documentation was corrected correspondingly</p> <p><input type="checkbox"/> Additional action should be taken</p> <p><input checked="" type="checkbox"/> The project complies with the requirements</p>		

Project Baseline, Additionality and Monitoring Plan	Finding B17		
<b>Classification</b>	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR
<p><b>Description of finding</b>  <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p>CL.B17: Section B.5: The PP is requested to clarify on the change of benchmark from 15.75% published PDD to 13.13% PDD version 1.6.</p>		

Project Baseline, Additionality and Monitoring Plan	Finding B17	
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	In the published PDD, WACC of 15.75% was chosen by the project entity to compare with the project IRR. However, due to lacking of appropriate data to substantiate the WACC, the local commercial lending rate of 13.13% was adopted as benchmark for comparison with the project IRR.	
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Please also refer to CL.B8 on the timing of input values applied in determining the WACC. The switching from the WACC to commercial lending rate has been accepted by the validation team for the following reasons: <ol style="list-style-type: none"> <li>1. The type of benchmark updated which is the commercial lending rate is in accordance with the latest version of the Guidelines on the assessment of investment analysis. It is stated in the guidelines as "In cases where a benchmark approach is used the applied benchmark shall be appropriate to the type of IRR calculated. Local commercial lending rates or weighted average costs of capital (WACC) are appropriate benchmarks for a project IRR."</li> <li>2. The updated benchmark value is more conservative since it is lower than the WACC value while the PP compared them with the same financial indicator (project IRR). Although there are some value differences in the calculation of the project IRR which was due to the timing of investment decision.</li> <li>3. All the data applied in calculating the updated benchmark has been derived from official source which is published by the State Bank of Vietnam.</li> </ol> CL is CLOSED.	
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements	

Duration of the project activity	Finding C1		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<b>CAR C1:</b> Section C.1.1: The starting date of the project chosen as 2006-03-10 is not in accordance to the Glossary of CDM Terms. The starting date of a CDM project activity is the earliest date at which either the implementation or construction or real action of a project activity begins.		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	As per the Glossary of CDM Terms, the starting date of the proposed project is determined as of 04/04/2008, with the activity of signing of the general construction contract. There were no real actions on the proposed project of 37 MW until the signing of this contract. Before this contract the project owner signed a 'Contract for the construction of 4 km of the access road' on 09/03/2006. The construction of access road is for two projects, Song Giang 1 and Song Giang 2 hydro power projects and was regarded as the Pre-construction Preparation and can't be considered as a real action of proposed 37MW project. Please see file A6 for access road		

Duration of the project activity	Finding C1
	contract and file A21 for the general construction contract.
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Reviewing on the revised PDD, it stated the starting date of the project activity is 2008-04-04 which is the date of signing the general construction contract of building the project. <sup>/A211</sup>  The signing of the construction of access road is not considered as the start date of the project since the expenditure is considered pre-construction activity. <sup>/A6/.</sup>  CAR is CLOSED.
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

Duration of the project activity	Finding C2
<b>Classification</b>	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<b>CAR C2:</b> Section C.2.1.1: The start date of the crediting period is not a realistic date.
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	PDD revised to 01/08/2012
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Referring to revised PDD, the starting date of the first crediting period is 2012-08-01 (or date of registration, whichever is later).  CAR is CLOSED.
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

Stakeholder Comments	Finding E1
<b>Classification</b>	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<b>CAR E1:</b> The following documents to support the stakeholder meeting are missing:  1. Invitation letter 2. Attendance list

Stakeholder Comments	Finding E1
<p><b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>1. The project owner requested the Khanh Trung Commune People's Committee to invite relevant parties to the stakeholder meeting. See files G1 for the letter from PE to the Khanh Trung Commune People's Committee.</p> <p>2. Attendants are listed in the stakeholder meeting minutes. Please see file G2 for the stakeholder meeting minutes.</p>
<p><b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>1. The invitation letter dated 2006-10-09 has been provided for the validation team for review. The invitation letter was sent to the Khanh Trung commune people's committee where the project is located. The topic of the meeting involved the discussion on the development of the proposed project as a CDM activity. The validation team has checked the document as correct and valid. <sup>/G1/</sup></p> <p>2. The minutes of stakeholder consultation meeting dated 2006-10-25 has been provided for the validation team for review. The minute summarized the content of the meeting attended by the local authorities and project owner representatives. During the meeting negative and positive impacts of the project were discussed. The representative from Khanh Trung commune people's committee proposed that the project needs to be implemented as soon as possible so that the local resident can benefit from the project. It is assessed that the provided document is correct and valid. <sup>/G2/</sup></p> <p>CAR is CLOSED</p>
<p><b>Conclusion</b> <i>Tick the appropriate checkbox</i></p>	<p><input type="checkbox"/> To be checked during the first periodic verification</p> <p><input checked="" type="checkbox"/> Appropriate action was taken</p> <p><input checked="" type="checkbox"/> Project documentation was corrected correspondingly</p> <p><input type="checkbox"/> Additional action should be taken</p> <p><input checked="" type="checkbox"/> The project complies with the requirements</p>

## 5 VALIDATION ASSESSMENT SUMMARY

### 5.1 General Description of the Project Activity

#### 5.1.1 Participation

##### LOA

The host country Letter of Approval for project activity “Song Giang 2 Hydro Power Project” has been issued by the host country, Vietnam DNA, Department of Meteorology, Hydrology and Climate Change, Ministry of Natural Resources and Environment of Viet Nam, (MONRE) dated 2011-05-16<sup>/A33/</sup>.

The host country LOA confirms the following:

1. The Government of Vietnam ratified the Kyoto Protocol on 2002-09-25;
2. Approval for voluntarily participation in the proposed project activity
3. The project contributes sustainable development in host country.

The Annex I country Letter of Approval was issued by the Federal Office of the Environment, Swiss DNA dated 2011-03-25 to Vitol S.A for the project activity titled “Song Giang 2 Hydro Power Project”<sup>/A32/</sup>.

The approval states the following:

1. Ratified the Kyoto Protocol on 2003-07-09;
2. Approves voluntary participation of the project activity;
3. Authorised Vitol S.A. to participate as project proponent

According to the regulation as set out in CDM VVM, EB 55, Annex 1 §45 the following has to be validated by a DOE:

The DOE shall determine whether each letter confirms that:

- (a) The Party is a Party to the Kyoto Protocol;
- (b) Participation is voluntary;
- (c) In the case of the host Party, the proposed CDM project activity contributes to the sustainable development of the country;
- (d) It refers to the precise proposed CDM project activity title in the PDD being submitted for registration.

All the relevant aspects have been validated by TÜV NORD and no deviation was observed. Since the HCA confirms the participation of the entities of the host country, the validation team is convinced that the host country approval along with the confirmation letter is sufficient to confirm that the project complies with all relevant requirements applying to the validation of the requirements set out in CDM VVM, EB 55, Annex 1 §44.

## **Project Participants**

The project participant from the host country is represented by Song Giang Hydropower Joint Stock Company.

The project participant from the Annex I country is Vitol S.A.

The project participants listed in table of section A.3 of the PDD and this information is consistent with the contact details provided in annex 1 of the PDD. No entities other than those approved as project participants are included in these sections of the PDD.

In addition, the Modalities of Communication mention the 2 project participants, Vitol S.A. and Song Giang Hydro Power Joint Stock Company. No other names are stated in the MOC. <sup>/A31/</sup>

### **5.1.2 Contribution to Sustainable Development**

In the letter of approval of the host Party, it is confirmed that the proposed CDM project activity complies with the national criteria and assists Viet Nam in achieving sustainable development. <sup>/A33/</sup>

### **5.1.3 PDD editorial Aspects**

The PDD of the project is based on the latest PDD Template (Version 03) dated 2006-07-28 approved at EB 26 meeting on 2006-09-26 to 2006-09-29 and complies with the Guidelines for Completing the PDD (Version 07) of EB41 Annex 12.

### **5.1.4 Technology to be employed**

A physical site visit was conducted on 2010-07-07 to 2010-07-11 to confirm that the description in the PDD will reflect the real situation of the proposed CDM project activity and that the technological parameters of the hydro power plant indicated in A.4.3 of the PDD are consistent with the equipment agreement. The project does not involve the alteration of any existing installation or process.

A clear description of the project scenario and the scenario existing prior to the start of the implementation of the project which is also the baseline scenario is provided in A.2, A.4.2 and A.4.3 the PDD. The project supplies renewable energy using hydropower to generate electricity and supply to the Viet Nam national grid. The technology employed is environmentally safe and sound.

### **5.1.5 Small Scale Projects**

N/A: The project activity is a large scale with an installed capacity of 37MW.



## 5.2 Project Baseline, Additionality and Monitoring Plan

### 5.2.1 Application of the Methodology

The project applied the approved methodology ACM0002 “**Consolidated baseline methodology for grid-connected electricity generation from renewable sources**” version 12.3.0, Scope 1 approved at EB 66 meeting.

At the time of PDD was published for GSP, the methodology version was 11 and upgraded to version 12.3.0 during the final validation.

The applied methodology version is available at the UNFCCC website and valid from 2010-09-17 for registration.

The latest version of methodological tools, “Tool to calculate the emission factor of electrical system” is applied.

The applied methodology and methodological tools are available at the following UNFCCC website:

<http://cdm.unfccc.int/methodologies/DB/C505BVV9P8VSNNV3LTK1BP3OR24Y5L> respectively.

All the applicability conditions of the methodology ACM0002 are met, and the project activity is not expected to result in emissions including project emissions, leakage, and any other significant emissions not addressed by the applied methodology.

### 5.2.2 Project Boundary

The project spatial boundary as stated in section A.4.1.4 of PDD is in accordance with the feasibility study. At the time of the on-site assessment, the validation team was able to visit the location of the powerhouse and reservoir sites to check the actual location with a handheld GPS unit and confirmed with google earth. <sup>/ge/</sup>

According to the applied methodology ACM0002, the spatial extent of the project boundary covers the hydropower plant and the Viet Nam national grid. <sup>/PDD/</sup>

The justification of the sources and sinks of greenhouse gases of the baseline and project boundary are identified in section B.3 of the PDD.

Through observations of the drawings and physical site visit of the project activity, the validation team confirms that the project boundary of the project includes the hydropower plant and the Viet Nam national grid. The baseline emission source is CO<sub>2</sub> emissions from the Viet Nam national grid electricity. There are no other emission sources which are impacted by the project and not being addressed by the applied methodology.

### 5.2.3 Baseline Identification

The validation team confirms that the procedure contained in the methodology to identify the most reasonable baseline scenario has been correctly applied and the description of baseline identification in the PDD is transparent and verifiable.

According to applied methodology ACM0002, the project activity is the installation of a new renewable energy power plant using hydropower that supplies electricity to and/or displaces electricity from an electricity distribution system. The baseline is the kWh produced by the renewable generating unit multiplied by an emission coefficient (measured in kg CO<sub>2e</sub>/kWh) calculated in a transparent and conservative manner and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the “Tool to calculate the emission factor for an electricity system”. At the time of the PDD submitted for publishing, version 2.2 of the tool was valid and applicable.

The calculation of the emission factor has been demonstrated transparently. All baseline information data are provided to support its calculation. Furthermore, the project participant has shown that all relevant policies and circumstances have been identified and correctly considered in the PDD in accordance with the guidance by the Board.

No alternative scenarios are to be considered in the identification of the most reasonable baseline scenario according to the approved methodology ACM 0002.

According to paragraph 105 of the VVM<sup>VVM/</sup>, the applied methodology ACM0002 prescribes the baseline scenario and no further analysis is required in identifying alternatives.

The validation team confirms that the procedure contained in the methodology to identify the most reasonable baseline scenario has been correctly applied, and the that description of baseline identification in the PDD is transparent and verifiable.

In summary, the identification of the baseline scenario is reasonably represented. The baseline scenario is identified in line with the ACM0002 version 12.3.0.

Please refer to section B.3 of the table A-1 of the validation protocol attached in Annex 1 for a detailed assessment.

#### 5.2.4 Calculation of GHG Emission Reductions

The emission reduction calculation is conducted as per applied methodology ACM0002 and the methodological tool “Tool to calculate the emission factor for an electricity system version 1.1 was applied” in lieu of the version 2.2 was not available at the time of PDD was submitted for publishing. In addition, the emission factor calculated by the host country Viet Nam DNA, applies version 1.1 of the tool as the time of the calculation study was conducted, version 2.2 was not available. <sup>/F2/F3/F4/</sup>

The emission reductions (ER<sub>y</sub>) of the project activity are the differences between baseline emissions (BE<sub>y</sub>), project emissions (PE<sub>y</sub>) and leakage emissions (LE<sub>y</sub>) as follows:

$$ER_y = BE_y - PE_y - LE_y$$

Where:

ER<sub>y</sub>: Emission reductions in year y (t CO<sub>2e</sub>/yr)

*BE<sub>y</sub>: Baseline emission in year y (t CO<sub>2e</sub>/yr)*

*PE<sub>y</sub>: Project emissions in year y (t CO<sub>2e</sub>/yr)*

### Baseline emissions:

BE<sub>y</sub> is calculated by multiplying the net electricity supplied to the Vietnamese grid (EG<sub>PJy</sub>) with the combined margin emission factor (EF<sub>grid,CM,y</sub>) :

$$BE_y = EG_{PJy} \times EF_{grid,CM,y}$$

The emissions factor (EF<sub>grid,CM,y</sub>) is calculated by using version 2.2.1 of the “Tool to calculate the emission factor for an electricity system”. It is determined ex-ante and consists of the weighted average factors of operating margin (EF<sub>OM</sub>) and build margin (EF<sub>BM</sub>).

The data source and process for calculations of OM and BM are based on the data available at the time of submission of the CDM-PDD to the DOE for validation. It is derived from data provided by the DNA of Viet Nam. The calculations are carried out by the Institute of Energy, an entity legally related to the grid operator EVN. <sup>/F2/F3/</sup>

The validation team has visited the DNA office to review and assess the vintage data including default values, NCVs, IPCC data and generation data applied in the calculations. The validation team has further reviewed the study report to confirm the equations and steps from the tool had been applied correctly in the calculations. Therefore, the validation team concludes, the OM, BM and CM emission factors are determined correctly in accordance to the tool version available at the time of the study. Hence, the emission factors are calculated in a conservative approach. <sup>/AD29/AD30/</sup>

The emission factors determined by the DNA are as follows:

Operating margin emission factor (EF<sub>grid,OM</sub>), 0.6465tCO<sub>2e</sub>/MWh.

Build margin emission factor (EF<sub>BM,grid</sub>) is 0.5064tCO<sub>2e</sub>/MWh.

In accordance with ACM0002 that weight factors of w<sub>OM</sub> = w<sub>BM</sub> = 0.5 have to be applied to determine the grid emission factor EF<sub>grid,CM,y</sub>. Therefore, the combined margin emission factor is the weighted average of the Operating Margin emission factor (EF<sub>OM,grid</sub>) and the Build Margin emission factor (EF<sub>BM,grid</sub>) is 0.5764tCO<sub>2e</sub>/MWh for the 1<sup>st</sup> crediting period and fixed throughout the crediting period.

However, the PP had re-calculated the EF using the same data provided by the Vietnamese DNA in its report, which was derived at 0.5465 tCO<sub>2e</sub>/MWh.

The combined margin emission factor calculated above is lower than the one published by the Vietnamese DNA (0.5764 t CO<sub>2</sub>e/MWh) in its letter no. 151/KTTVBDKH dated 26/03/2010. The reason for such difference is the default NCV and CO<sub>2</sub> emission factor applied; the calculation by the project entity above has applied lower limit values while the calculation published by Viet Nam DNA applies the upper limit values.

Therefore, the combined margin emission factor of 0.5465 tCO<sub>2</sub>e/MWh calculated by the project entity applied for the proposed project is assessed as conservative.

### **Project emissions:**

Project emissions are from the grid electricity supplied during any shut-down for maintenance or blackout due to sudden stoppage of power plant. The electricity from the grid will be monitored ex-post that will be accounted as project emissions

According to ACM0002, if the power density of the reservoir is higher than 10W/m<sup>2</sup>, emissions are considered as zero. The power density of the project activity is 205,56W/m<sup>2</sup> which is higher than 10 W/m<sup>2</sup>, therefore is considered as zero. However, this parameter will be monitored throughout the crediting periods.

### **Leakage:**

According to ACM0002, the leakage is zero.

### **Emission reductions:**

The expected annual net electricity generated by the project as ex-ante is 134,962MWh which is based on the feasibility study report stating that the annual electricity generation is 135,640MWh with an expected load loss and auxiliary consumption of 0.5%. From the above information, the emission reductions of the project is calculated as in the following:

$$ER_y = BE_y - PE_y - LE_y$$

The project is expected to import electricity from the grid in the event of power outage or during maintenance. As described in Section B.7.1, a bidirectional meter will be installed to measure the import power that will be deducted from the total export to the grid. The net export will be applied in the ER calculations.

The surface area of the project activity reservoir is 180,000m<sup>2</sup>, thus, the power density is 205.56W/m<sup>2</sup> which more than the 10W/m<sup>2</sup>. Therefore, it is not required to consider project emissions as ex-ante. As required by the methodology, the surface area of the reservoir is required to be monitored annually and had been included in section B.7.1 of PDD.

Therefore, since the project is newly installed, for the purpose of validation will be considered as zero.

LE<sub>y</sub> is considered to be zero since the project is new as according to methodology ACM0002 version 12.3.

$$BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$$

$$\begin{aligned} &= 134,962\text{MWh} \times 0.5465\text{tCO}_2\text{e/MWh} \\ &= 73,757\text{tCO}_2\text{e} \end{aligned}$$

The ex-ante GHG emission reductions covering the first crediting period are estimated to be 516,296tCO<sub>2</sub>e.

It is confirmed by the DOE via cross-checking the calculation process<sup>/VBEF/</sup> against all reference data sources and the requirements of the applied methodology and methodological tools that:

- a) All data sources and assumptions used are listed and referenced in the PDD and are appropriate. Calculations are correct, applicable to the proposed CDM project activity and will result in a conservative estimation of the emission reductions.
- b) All documentation used by the project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD.
- c) All values used in the PDD are considered reasonable in the context of the proposed CDM project activity.
- d) The baseline methodology has been applied correctly to calculate the project emissions, baseline emissions, leakage and emission reductions.

All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD and the emission reductions calculation spreadsheet.

## 5.2.5 Additionality Determination

### Consideration of CDM in decision making (if project start before validation)

The project start date is defined as 2008-04-04 which is the date of signing the road construction contract is taken as the earliest starting date according to the PDD and document review. This date is considered as the earliest date for implementation or real action that is in line with the "Glossary of CDM Terms".

According to VVM EB 55 Annex 1 Version 1.2 §100 and EB 62 Annex 22, the DOE has to determine whether the project start date is on or after 2008-08-02 or an existing project with a start date before 2008-08-02. The project start date as describe above is 2008-04-04 which is before 2008-08-02. At the time of project activity start, EB 49 Annex 22 was not available. Therefore, there were no requirements to submit notifications to the host country DNA and/or to the UNFCCC

However, the project developer has demonstrated the CDM consideration in accordance to VVM 1.2 §102 since it is an existing project. The chronicle events for CDM consideration is listed in table B.7, timelines of Events at Section B.5 of PDD and summarized as below

- 2005-08-15: Investment decision on the 30MW Song Giang 2 HPP with CDM consideration<sup>/A7.1/</sup>

- BoD decision to increase the capacity and utilise CDM dated 2006-03-10<sup>/A7-2/</sup>
- 2006-11-17: Initial ERPA with Government of Denmark signed<sup>/A15/</sup>
- 2006-12: PDD submitted for validation<sup>/unfccc/</sup>
- 2007-07-24: Vietnam CDM 1<sup>st</sup> letter of approval granted<sup>/A19/</sup>
- 2008-02-25: Investment decision on 37MW Song Giang 2 HPP<sup>/A20/</sup>
- 2008-04-04: Project start date, the date of signing the construction contract<sup>/A21/</sup>
- 2008-09-18: ERPA between PE and Danish government cancelled<sup>/A25/</sup>
- 2008-10-10: Correspondence: project entity contacted Hanam Carbon/CVDT for CDM cooperation<sup>/A24/A27/A28/</sup>
- 2009-07-10: ERPA signed between Project Entity and Vitol S.A., the current CERs buyer<sup>/A29/</sup>
- 2010-05: The PDD (37MW) is published for global stakeholder comments<sup>/unfccc/</sup>
- 2011-03-25: Swiss DNA letter of approval granted<sup>/A32/</sup>
- 2011-05-16: Vietnam DNA revised letter of approval<sup>/A33/</sup>

The validation team had reviewed documents provided and confirms that project participant's prior consideration of the CDM, satisfies the requirements of Guidance on the Demonstration and Assessment of Prior Consideration of the CDM (EB49, Annex 22).

Hence, the DOE confirms that the proposed project activity meets all stipulations as set out in EB 49, Annex 22, paragraph 6 to 8.

## **Application of methodology / methodological tools**

The additionality of the project activity was demonstrated and assessed using the latest version of the 'Tool for the demonstration and assessment of additionality' version 06.0.0 according to applied methodology ACM0002.

## **Alternatives**

### **Step 1: Identification of Alternatives**

An as mentioned in paragraph 105 of the VVM, version 1.2, "The PDD shall identify credible alternatives to the project activity in order to determine the most realistic baseline scenario, unless the approved methodology that is selected by the proposed CDM project activity prescribes the baseline scenario and no further analysis is required."

Therefore, since the baseline scenario of the project activity has been prescribed, the project participant does not need to conduct any further analysis of the alternatives.

## **Investment analysis**

Since the proposed project generates economic benefits (from the sales of electricity) other than CDM revenue, a simple cost analysis (Option I) is not applicable. As alternative 3 cannot be considered as a comparable investment, Option II is also not applied. Therefore, the benchmark analysis (Option III) is chosen to conduct the investment analysis. This is considered appropriate.

The project participants chose the benchmark approach to demonstrate the investment analysis according to the Guidelines on Assessment of Investment Analysis version 05.

The benchmark applied is the commercial lending rate at the time of investment decision made. It was calculated by multiplying the prime interest rate published by the State Bank of Vietnam with 150%, which is the maximum lending limit for commercial banks in Vietnam. This is regulated in the Civil Code 2005 of Vietnam. The benchmark value was derived as 13.13%. This is fully in compliance with the stipulations as set out in the Additionality Tool and Guidance on the Assessment of Investment Analysis and common economical expertise and practices. A detailed assessment of each parameter is provided in Annex 3 of this report.

To further demonstrate the project additionality, the project participant applies a sensitivity analysis in accordance to the latest version of the guidelines on the assessment of investment analysis. The project participant selected the below listed parameters for the sensitivity analysis.

The parameters included in the sensitivity analysis constitute more than 20% of either the total project costs or total project revenues. The validation team had considered that there are no other parameters which constitute less than 20% of either the total project cost or the total project revenue that will have a material impact on the financial parameters. A  $\pm 10\%$  variation has been applied in accordance to paragraph 16 and 17 of the Guidance for the sensitivity analysis. The expenses incurred by the project activity are mainly O&M costs (which is defined by the approved feasibility study documentation) <sup>/C3/</sup> and natural resources tax (regulated by the local regulations) <sup>/B26/</sup>.

a) Total investment cost

The total investment cost applied was 689,882 million VND. The submitted spreadsheets for the IRR calculations <sup>/D34/</sup> correspond to the investment approval on the total cost and O&M cost <sup>/C3/</sup>. The validation team has reviewed the documents during the on-site assessment and compared the total cost with the feasibility study financial portion that the values applied are consistent with the financial spreadsheet. In addition, the feasibility study documentation had been approved by local provincial authorities <sup>/C3/B11/B12/</sup>. For further analysis details, please refer to Annex 3 of this report.

b) Tariff

The feed-in tariff rate of 595 VND/kWh or was applied based on the power purchase agreement. This tariff has been compared with the tariff rates for registered projects where the average is 594.2 VND/kWh <sup>/</sup> and with the tariff noted in Decision 2014/QD-BCN issued on 2007-06-13 <sup>/B27/</sup>. The tariff rate applied in the

candidate project activity is at similar height with the average of registered projects in Vietnam. Thus, the applied tariff is considered appropriate and conservative.

c) Annual O&M cost

The annual O&M cost was calculated as 0.5% of the total investment based on the feasibility study report documentation<sup>/AD10/</sup>. The technical design was established by the “Consultancy Company of the University of Civil Engineering. The mentioned entity is an engineering company which has the necessary expertise to determine the feasibility of hydropower projects. The qualification of the developer has been checked on its website:

<http://www.ccu.vn/index.php?lang=en>.

The validation team also referred to the Decision No.2014/QD-BCN dated 2007-06-13. It provides temporary guidelines for conducting the economic, financial and investment. It prescribes annual O&M cost of 0.5-1% of the total investment cost for large scale (>30MW) hydropower plants. The applied value is in line with the local regulation.

With regard to the sensitivity analysis, the O&M must be reduced by -763% to make the benchmark reached. Such decrease in the O&M cost is unlikely given the increasing inflation rate in Viet Nam recently.

d) Annual power generation

The gross electricity generation is 135,640 MWh. The value was derived from the technical design report which was established by the “Consultancy Company of the University of Civil Engineering. The company has determined the output based on long term hydrological conditions from the project area. The mentioned entity is an engineering company which has the necessary expertise to determine the feasibility of hydro projects. The qualification of the developer has been checked on its website as stated above. The plant load factor is about 41.8%. Considering decision in EB 48, Annex 11, clause 3, the total electricity generation is assessed as applicable. The technical design providing company is a third party (engineering company) which has been contracted by the project owner.

Furthermore, as indicated in the PDD, the amount of gross electricity output must be increased by 33.7% to make the benchmark touched by the project IRR. The calculation has been checked and could be verified. Considering that the hydrological conditions are based on long term measurements it is unlikely that the output will be increased by 33.7%. Hence, a significant improvement of the financial viability of the proposed project is unlikely.

(Please refer to section B.4.4 of the table A-1 of the validation protocol attached in Annex 1 for a more detailed assessment).

The latest version of the Guidance on the Assessment of Investment Analysis<sup>/GAIA/</sup> was applied in the assessment.

Hence, the project activity cannot be considered as financially attractive without the income of the CERs.



Since the project participants rely on values from feasibility study documentation (technical design)<sup>/C3/</sup> which has been approved by Khanh Hoa provincial people's committee, <sup>/B7/</sup>, the validation team ensures that:

- a) The values from the feasibility study report (technical design) has been the basis of the decision to proceed with the investment in the project, i.e. the investment decision was made within the same month when the content of the technical design was drafted and submitted by the consultant to the project owner. Hence, there was no material change in the input values;
- b) The values used in the PDD and IRR calculation spreadsheet are fully consistent with the investment summary. Minor inconsistencies occur only due to numerical calculation, e.g. decimal digits reservation and references;
- c) The input values from the investment summary can be confirmed as valid and applicable at the time of the investment decision by cross-checking on the basis of specific local and sectoral expertise, all relevant information are summarized in Annex A3.

This is fully in compliance with the stipulation as set out in the latest version of the Additionality Tool and Guidance on the Assessment of Investment Analysis. A detailed assessment of each parameter is provided in Annex 3 of this report.

As to the accuracy of financial calculations carried out for any investment analysis, the DOE has:

- a) Conducted a thorough assessment of all parameters and assumptions used in calculating the project IRR and the commercial lending rate as the benchmark. The assessment of accuracy and suitability of these parameters are summarized in Annex A3 using the available evidences and expertise in relevant accounting practices (VVM, paragraph 111 (a));
- b) Cross-checked the parameters against third-party or publicly available sources, such as governmental statistics and industry yearbook (VVM, paragraph 111 (b));
- c) Reviewed the feasibility study documentation, governmental regulations and necessary documents related to the proposed CDM project activity and the project participants (VVM, paragraph 111 (c));
- d) Assessed the correctness of computations carried out and documented by the project participants by reproducing the IRR and benchmark calculation in accordance with industrial/local regulations (VVM, paragraph 111 (d));
- e) Assessed the sensitivity analysis to determine under what conditions variations in the result would occur, and the likelihood of these conditions (VVM, paragraph 111 (e)).

The DOE confirms the suitability of any benchmark applied in the investment analysis:

- a) Project IRR was identified as the financial/economic indicator which is suitable for the project type and decision context ((VVM, paragraph 113 (a)) as per EB 51 Annex 58 paragraph 12;

- b) It is ensured that any risk premiums applied in determining the benchmark reflect the risks associated with the project type or activity (VVM, paragraph 113 (b));
- c) It is reasonable to assume that no investment would be made at a rate of return lower than the benchmark (VVM, paragraph 113 (c)).

Hence, stipulations in VVM, paragraph 111 are fulfilled.

For details of the assessment of financial parameters used in investment analysis, please refer to Annex A3.

### **Barrier analysis**

The project does not face other barriers besides low financial returns. Therefore, step 3 of the Additionality Tool has not been applied.

### **Common practice analysis**

In the PDD published for global stakeholder consultation (dated 2010-04-19), the PP applied the Tool for the demonstration and assessment of additionality, version 05.2 to demonstrate the common practice analysis. However, during the validation process, this has been updated to the Methodological tool on Demonstration and assessment of additionality, version 06.0.0, EB65, Annex 21.

The final PDD documented the following steps in the common practice analysis:

1. Step 4a: Calculate +/-50% output range: Projects with output capacity range of 18.5 – 55.5 MW has been defined as at +/-50% of 37MW which is the project activity installed capacity
2. Step 4b: Identify  $N_{all}$ :  $N_{all}$  is defined as projects:
  - Located in Viet Nam
  - Not registered as CDM projects,
  - With a capacity within the range 18.5 – 55.5 MW, and
  - Started commercial operation before 04/04/2008.

Based on a list<sup>/D21-D30/</sup> of projects in Vietnam, the PP had short-listed 3 hydropower projects that meet the above criteria, including Srok Phu Mieng, Ea Krong Rou, and Dray H'linh. Such list had been reviewed by the validation team including cross-checking the references with the available documents and information on the internet. The data consolidated in the common practice excel spreadsheet could be confirmed as correct.

3. Step 4c: Identify  $N_{diff}$ :  $N_{diff}$  is defined as projects applying different technology. The PP had selected (iv) Investment climate in the date of the investment decision, inter alia as the criteria of different technology to demonstrate the list of  $N_{diff}$ . These include three projects, namely Srok Phu Mieng, Dray H'linh 2 and Ea Krong Rou.

Out of the 3 projects, the first two hydropower projects were invested by state owned companies, where the project owners had easy access to the bank credit to finance their projects. The validation team had checked the website of Viet Nam Urban and Industrial Zone Development Investment Corporation (IDICO) by following the link: <http://idico.com.vn/?Bcat=1&lg=eg&start=0>. It was the introduction page briefing information about the project owner. It could be confirmed that the company is a state owned entity and is entitled to a lot of financial incentives from the government in the context of the host country culture. The project had access to the credit from an overseas bank to finance the project. For Dray H'linh 2, the project owner was also a very big construction entity under the state owned Vietnam Electricity Corporate (EVN) and thus has easy access to bank credit to finance the project. The remaining project Ea Krong Rou was invested by a joint venture of the two largest State corporations; Song Da Holdings and Power Company No. 3.<sup>/CMP/</sup>

All the three project owners were financed by state budget and had been established for the prioritized purpose of national socioeconomic development. Therefore, it can be concluded these three projects are using different technology from the project activity.

4. Step 4c: Calculate factor  $F = 1 - N_{diff}/N_{all}$  and  $N_{all} - N_{diff}$   
 $F = 1 - 3/3 = 1 - 1$   
 $F = 0$

$$N_{all} - N_{diff} = 3 - 3$$

$$N_{all} - N_{diff} = 0$$

$$F = 0 < 0.2 \text{ and } N_{all} - N_{diff} = 0 < 3.$$

In conclusion and according to the Tool for demonstration and assessment of additionality, the proposed project activity is not a “common practice” one in Viet Nam.

## Summary

The validation team assessed and verified the reliability and credibility of all data, rationales, assumptions, justifications and documentation provided by project participants to support the demonstration of additionality by critically assessing the presented evidences using local knowledge and sectoral and financial expertise.

In conclusion, the proposed CDM project activity is assessed as additionality.

## 5.2.6 Monitoring Methodology

The monitoring plan of the proposed CDM project activity is based on and in compliance with the applied monitoring methodology ACM0002 “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” Version 12.3.0.

It has been assessed that the project correctly addresses all factors required by the methodology as provided in the most recent PDD guidelines. Section B.7.1 contains further information of the monitoring plan (e.g. tables measurement equipment, procedures, etc.)

### **The following data are determined ex-ante:**

The following data and parameters were available during the validation and will remain fixed ex-ante throughout the crediting period:

1. Combined Margin Grid Emission Factor ( $EF_{CM,grid,y}$ )
2. Simple Operating Margin  $CO_2$  Emission Factor in year y ( $EF_{grid,OMsimple,y}$ )
3. Net electricity generated and delivered to the grid by power unit m in year y ( $EG_{m,y}$ )
4.  $CO_2$  emission factor of fossil fuel type i used in power unit m in year y ( $EF_{CO_2,i,y}$ )
5. Build Margin Grid Emission Factor ( $EF_{grid,BM,y}$ )
6. Installed capacity of the hydropower plant before the implementation of the project activity. For new hydropower plants the value is zero ( $Cap_{BL}$ )
7. Area of the reservoir measured in the surface of the water, before the implementation of the project activity, when the reservoir is full ( $m^2$ ). For new reservoirs this value is zero ( $A_{BL}$ )
8. The net calorific value (energy content) of diesel in year y ( $NCV_{diesel,y}$ )
9.  $CO_2$  emission factor of diesel in year y ( $EF_{CO_2,diesel,y}$ )

The validation team had visited the DNA office to validate the method of calculations, data source and tools applied in the calculations. All data are considered reliable submitted by the respective power plants operating and connected to the Viet Nam national grid.

The validation has reviewed the documents provided and the calculations of the grid emission factor are deemed appropriate and conservative.

### **Parameters monitored ex-post**

The baseline and project emission parameters that are monitored ex-post are indicated in Section B.7.1 of the PDD and as follows:

1. Quantity of net electricity generation supplied by the project plant to the grid in year y ( $EG_{facility,y}$ )
2. Electricity exported to the grid by the project plant/unit in year y ( $EG_{export,y}$ )
3. Electricity imported from the grid by the proposed project in year y (in case of backup) ( $EG_{import,y}$ )
4. Installed capacity of the hydro power plant after implementation of the project activity ( $Cap_{pi}$ )

5. Area of the reservoir measured in the surface of the water, after the implementation of the project activity, when the reservoir is full ( $A_{PJ}$ )

The GHG indicators, parameters, monitoring methods, frequency of measurement and measuring instrument & equipments are acceptable.

Where applicable, the parameters and assumptions are according to the respective default and available values of IPCC 2006. <sup>/IPCC/</sup>

The monitoring of emission reductions generated by the project activity will be carried out systematically according to the monitoring plan. All relevant parameters are monitored as required by the methodology and throughout the project activity implementation.

It has been assessed that all parameters required by the methodology have been included in the PDD, Section B.7.1.

All monitoring data will be electronically archived for a period of 2 years after the end of the last crediting period.

### **5.2.7 Monitoring Plan**

The validation team applied a two-step process to assessing compliance with the requirements of monitoring plan, as follows:

- a) Compliance of the monitoring plan with the approved methodology:
  - (i) Identified the list of parameters required by the selected approved methodology by means of document review;
  - (ii) Confirm that the monitoring plan contains all necessary parameters, that they are clearly described and that the means of monitoring described in the plan complies with the requirements of the applied methodology ACM0002 and relevant tools.
- b) Implementation of the plan:
  - (i) The monitoring arrangements described in the monitoring plan are feasible within the project design;
  - (ii) The means of implementation of the monitoring plan, including the data management, quality assurance and quality control procedures will be developed when project is in operation to ensure that the emission reductions achieved by/resulting from the proposed CDM project activity can be reported ex post and verified.

The assessment conducted by the validation team is by means of review of the PDD annex 4, interviews with relevant personnel, project plan and inspections of the proposed CDM project activity program and schedule.

### **5.2.8 Project Management Planning**

The project participant will provide the necessary training and maintenance needs to operate the hydropower plant. The project participant will outsource the training

needs, when it is required. This has been verified by means of on-site assessment and interviews the project participant. During the on-site assessment, the validation team has also interviewed the superintendent of the project activity. The validation team found that the superintendent has sufficient experience in operating a hydropower plant as he was formally employed by some other hydropower plant operators.

The validation team has also reviewed the task description table of the project activity. The project participant proposed to assign a designated monitoring officer who will be responsible for monitoring emission reductions of the project activity. The monitoring officer will also oversee all staff involved with the collection of data and records with the quality assurance and supervision undertaken by Hanam Carbon as the CDM consultant.

### **5.2.9 Crediting Period**

The project activity will use a renewable crediting period of 3 x 7 years according to the PDD.

The starting date of the 1<sup>st</sup> renewable crediting period of the proposed CDM project is 2012-08-01 or the date of registration, whichever is later. This is assessed as appropriate.

### **5.2.10 Environmental Impacts**

Under Vietnamese regulations, strategic environmental impact assessment, environmental impact assessment (EIA) or environmental standard registration is required in accordance to the host country Law on Environmental Protection.

An environmental standard registration application<sup>/B22/B3/</sup> was conducted by the project owner and it had been approved by Department of Natural Resources and Environment of Khanh Hoa Provincial People's Committee. According to the approval, the project's environmental impacts are considered insignificant.

There are no transboundary issues with regard to the project activity. The project is constructed on the Giang River that is not shared with any countries that share borderlines with Vietnam. This was confirmed during the on-site visit.

### **5.2.11 Comments by Local Stakeholders**

A local stakeholders' consultation was conducted on 2006-10-25. Stakeholders were invited to comment on the proposed CDM project activity through invitation letter and public announcement prior to the publication of the PDD on the UNFCCC website.<sup>/G1/G2/</sup>

Local communities, NGOs, state government and governmental agencies, employees, local residents, contractors and consultants/ advisors were identified as the most important stakeholders in the proposed CDM project activity.

Brief description of how comments by local stakeholders have been invited and compiled was presented in the section E.2 of PDD.

The validation team confirmed by means of document review and interviews with local stakeholders that:

- a) Comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity have been invited, there are no residents that can directly be influenced by the proposed project;
- b) The summary of the comments received as provided in section E.2 of the PDD is complete;
- c) No major negative comments or opinions were received during the stakeholders' consultation.

The validation team is convinced that the stakeholder consultations were conducted is deemed adequate for this kind of project activity under the given conditions.

## 6 VALIDATION OPINION

Vitol S.A. has commissioned the TÜV NORD JI/CDM Certification Program (CP) to validate the project: “Song Giang 2 Hydro Power Project” with regard to the relevant requirements of the UNFCCC for CDM project activities, as well as criteria for consistent project operations, monitoring and reporting. UNFCCC criteria include article 12 of the Kyoto Protocol, the modalities and procedures for CDM (Marrakech Accords) and the relevant decisions by COP/MOP and CDM Executive Board.

In the course of the validation 14 Corrective Action Requests (CARs) and 09 Clarification Requests (CLs) were raised and successfully closed. 1 Forward Action Request was raised that will be checked during the 1<sup>st</sup> verification.

The review of the project design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and review of comments by parties, stakeholders and NGOs have provided TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.

In detail the conclusions can be summarised as follows:

- The project is in line with all relevant host country criteria Viet Nam and all relevant UNFCCC requirements for CDM. Project activity approval have been obtained from DNA of Viet Nam vide the Letter of Approval (HCA) dated 2011-05-16 and from DNA of Switzerland dated 2011-03-25.
- The project additionality is sufficiently justified in the PDD.
- The monitoring plan is transparent and adequate.
- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 516,296 tCO<sub>2</sub>e are most likely to be achieved within the 1<sup>st</sup> renewable crediting period.


The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation.

Malaysia, 2012-06-26



Cheong Chun Yuen (Robert)  
TÜV NORD JI/CDM CP  
Validation Team Leader

Essen, 2012-06-26



Dr. Jochen Schubert  
TÜV NORD JI/CDM CP  
Final Approver



## 7 REFERENCES

**Table 7-1:** Documents provided by the project participant

Reference	Document
<b>A. CDM Consideration</b>	
/A1/	Letter from PE to RCEE regarding CDM cooperation dated 2005-04-15
/A2/	Letter from PE to Tohoku Electric Power Company regarding CDM cooperation dated 2005-10-15
/A3/	Reply from Tohoku to PE dated 2005-11-22
/A4/	Email exchange between PE and Tohoku for meeting arrangement dated 2005-11-24
/A5/	Letter from PE to TBI Securities and Guarantee Co., Ltd dated 2006-03-07
/A6/	Contract for construction of 4 km of access road dated 2006-03-09
/A7/	<ol style="list-style-type: none"> <li>1. 1<sup>st</sup> BoD investment decision on 30MW Song Giang 2 HPP dated 2005-08-15</li> <li>2. Executive Board Decision to increase capacity and utilize CDM dated 2006-03-10</li> </ol>
/A8/	Carbon service contract with RCEE dated 2006-07
/A9/	Letter from PE to DNA for CDM development approval dated 2006-07-17
/A10/	Letter from PE to Khanh Hoa Peoples Committee asking for a CDM recommendation to DNA dated 2006-08-01
/A11/	Letter from PE to Ministry of Industry and PPC of Khanh Hoa for CDM implementation dated 2006-09-25
/A12/	Letter from Ministry of Industry to PE regarding CDM development dated 2007-09-27
/A13/	Letter from PE to PPC of Khanh Hoa requesting for CDM development approval dated 206-10-30
/A14/	Letter from RCEE to the PE informing of the visit by Denmark's Ministry of Foreign Affairs dated 2006-11-13
/A15/	ERPA with Government of Denmark dated 2006-11-17
/A16/	PDD of 36 MW project dated 2006-11-15
/A17/	Upload for global stakeholder consultation

Reference	Document
/A18/	Letter from PE to DNA requesting for LoA dated 2007-06-12
/A19/	1 <sup>st</sup> Letter of Approval dated 2007-07-24
/A20/	Meeting minutes of BODs for capacity increase to 37 MW dated 2008-02-25
/A21/	General Construction Contract dated 2008-03-05
/A22/	Cancellation of carbon service contract dated 2008-05-31
/A23/	Letter of PPs to UNFCCC for withdrawal of 36 MW PDD validation dated 2008-06-16
/A24/	Additionality and sustainability report for Danish Government by Hanam Carbon dated 2008-08
/A25/	Termination letter for ERPA with Danish Government dated 2008-09-18
/A26/	Equipment purchase contract dated 2008-09-29
/A27/	Letter from PE to Hanam Carbon for CDM cooperation dated 2008-10-10
/A28/	Letter by PE regarding providing information to HNC datd 2009-01-20
/A29/	ERPA with Vitol dated 2009-07-10
/A30/	Additionality Assessment Report by Hanam Carbon for Vitol dated 2009-09-17
/A31/	Modalities of Communication dated 2012-03-14
/A32/	Swiss Letter of Approval dated 2011-03-25
/A33/	Revised Vietnam Letter of Approval dated 2011-05-16
/A34/	Initial construction schedule dated 2009-03
/A35/	Revised construction schedule dated 2010-04
<b>B. Regulations &amp; Approval</b>	
/B1/	Investment approval by PPC of Khanh Hoa dated 2005-02-23
/B2/	Revised Business registration certificate of PE dated 2010-08-06
/B3/	EIA approval letter issued by Department of Natural resources and Environment of PPC Khanh Hoa dated 2005-05-05

Reference	Document
/B4/	FSR approval letter by Ministry of Industry dated 2005-06-10
/B5/	Land lease approval by PPC of Khanh Hoa dated 2005-02-23
/B6/	Compensation approval 1 dated 2008-05-09
/B7/	Compensation approval 2 dated 2009-10-20
/B8/	Grid connection permit dated 2009-07-17
/B9/	Capacity increase approval by PPC Khanh Hoa Department of Industry and Trade dated 2009-08-13
/B10/	Confirmation of 37 MW equipment imported for SG2 dated 2009-10-05
/B11/	Investment certificate issued by PPC Khanh Hoa dated 2010-01-25
/B12/	Revised investment certificate issued PPC Khanh Hoa dated 2010-02-02
/B13/	Approval of reservoir operation scheme issued by Ministry of Industry and Trade dated 2010-12-06
/B14/	Surface water use license issued by Ministry of Natural Resources and Environment dated 2011-03-29
/B15/	Decision 95-2001-QD-TTg master plan for national power development in period 2001-2010 undated
/B16/	Decree 45-2001-ND-CP regarding electricity activities and electricity consumption dated 2001-08-02
/B17/	Construction code TCXDVN_285-2002
/B18/	Decision 40-2003-QD-TTg Master plan for national power development in period 2001-2010 with visions to year 2020 dated 2003-03-21
/B19/	Decision 206-2003-QD-BTC Use and allocation of Fixed Assets Depreciation date 2003-12-12
/B20/	Electricity Law 28-2004-QH11 dated 2001-12-25
/B21/	Civil code 33-2005-QH11 dated 2005-06-24
/B22/	Environment protection law 52-2005-QH11 dated 2007-08-09
/B23/	Decree 80-2006-ND-CP on the detailing and guiding the implementation of a number

Reference	Document
	of articles of the Law of Environmental Protection dated 2006-08-09
/B24/	Decision 02-2007-QD-BCN technical requirements of metering instruments in power plants dated 2007-01-09
/B25/	Decree 24-2007-ND-CP Corporate Income Tax dated 2007-02-14
/B26/	Circular 42-2007-TT-BTC revised natural resources tax dated 2007-04-27
/B27/	Decision 2014-QD-BCN financial and economic investment analysis and tariff for power generation projects dated 2007-06-13
/B28/	Decision 110-2007-QD-TTg Master Plan for Electricity Development 2006 to 2015 dated 2007-07-18
/B29/	Circular 05-2007-TT-BXD Guideline for cost estimate management of construction projects dated 2007-07-25
/B30/	Decision 18-2008-QD-BCT Regulations on avoided cost tariff for small renewable energy power plant dated 2008-07-18
/B31/	Circular 08-2006-TT-BTNMT on the detailing and guiding the implementation of a number of articles of the Law of Environmental Protection dated 2006-08-09
/B32/	Decree 124-2008-ND-CP Law of Enterprise Income tax dated 2008-06-03
/B33/	Decision 2082-QD-TTg approval of construction projects from south of Nghe An province to north of Ha Tinh province to year 2025 dated 2011-11-21
/B34/	VAT Law 07-2003-QH11 dated 1997-05-10
/B35/	Decision No: 30/2006/QD-BCN regulations on management of independent power plant construction projects dated 2006-08-31
<b>C. Technical Design &amp; Technology</b>	
/C1/	Project layout drawing undated
/C2/	FSR - Main report dated 2005-04
/C3/	Draft TD1 - Main report dated 2008-02
/C4/	Technical Design 1 - Report of hydrology and financial calculation dated 2008-05
/C5/	Technical Design 1 - Main report dated 2008-05
/C6/	Technical Design 2 - Main report of construction dated 2009-03

Reference	Document
/C7/	Technical Design 2 - Report of hydrology and financial calculation dated 2009-03
/C9/	EIA report dated 2005-02
/C10/	Experience of equipment manufacturer BFL
/C11/	Draft Technical Design 1 - Total investment cost report dated 2008-02
<b>D. Additionality</b>	
/D1/	Power purchase agreement dated 2006-03-01
/D2/	Meeting minutes of new power price negotiation dated 2010-03-24
/D3/	CER price from carbon positive.com dated 2008-02-04
/D4/	Declaration of non ODA dated 2010-06-25
/D6/	Loan agreement 1_dated 2007-12-15
/D7/	Loan agreement 2_dated 2007-12-15
/D8/	Loan agreement 3_dated 2009-03-17
/D9/	Loan agreement 4_datd 2009-08-17
/D12/	EUR-VND average exchange rate of Jan-2008
/D14/	Basic interest rate from website of State Bank of Vietnam
/D15/	A newspaper report on mid and long term lending interest rate dated 2008-02-16
/D17/	<ul style="list-style-type: none"> <li>a) Actual cost report excel spreadsheet</li> <li>b) Contract No 02c-09-HDBS construction of dam components dated 2008-07-29</li> <li>c) Contract No 05-2008-HDKT and supplement contract construction of penstock dated 2008-07-30</li> <li>d) Contract No 08-SG2-BFL-ISH-2008 electro-mechanical equipment dated 2008-09-29</li> <li>e) Contract No 16-2008-HDKT construction of power house, tailrace and substation dated 2008-10-25</li> <li>f) Contract No 25-2009-HDKT &amp; Contract No 25b-2010-HDSD construction of tunnel and pressure well dated 2009-01-12</li> <li>g) Contract No 32-2009-HDKT construction of steel pipes dated 2009-06-18</li> <li>h) Contract No 34a-2009-HDKT construction of water channel dated 2009-07-24</li> <li>i) Contract No 37-2009-HDKT installation of electro-mechanical equipment dated 2009-11-06</li> <li>j) Contract No 45c-2011-HDSD amendment to general construction contract</li> </ul>

Reference	Document
	dated 2010-02-27 k) Contract No 46c-HDBS construction of penstock dated 2010-02-27
/D18/	Vietnam inflation rate per year in period 1999-2010
/D21/	Common Practice Analysis excel sheet
/D23/	Investment cost of Srok Phu Mieng HPP undated
/D24/	Output of Srok Phu Mieng HPP dated 2006-10-22
/D25/	Information on Ea Krong Rou HPP dated 2009-12-22
/D26/	Information on Dray H'Linh 2 HPP dated 2007-06-18
/D27/	Information on IDICO dated 2012-03-12
/D28/	Document 4846-VPCP-KTKH foreign loan guarantee for the Srok Phu Mieng hydropower project dated 2004-09-13
/D30/	Information on ODA and interest support for Ea Krong Rou HPP undated
/D32/	Newspapers report on Benchmark Interest Rate increase to 12% by Bloomberg dated 2008-05-17
/D33/	Notice 37-TB-CCT regarding land use fee exemption during construction 2007-04-06
/D34/	SG2 project IRR 37MW V1.6
<b>E. Project Operation</b>	
/E1/	Electricity connection diagram dated 2010-10
/E2/	Training contract dated 2008-06-03
/E3/	Training materials for O&M staff
<b>F. Emission Reduction</b>	
/F2/	Document 427-KTTVBDKH on emission factor of Viet Nam issued by DNA dated 2009-07-29
/F3/	Grid emission factor released by DNA dated 2010-03-26
/F4/	Viet Nam emission factor calculation
<b>G. Stakeholder Meeting</b>	

Reference	Document
/G1/	Letter from PE to Khanh Trung Commune PC for stakeholder meeting dated 2006-10-09
/G2/	Meeting minutes of stakeholder consultation dated 2005-10-25
<b>X. Additional Documents</b>	
/X1/	Experience of FSR developer PECC4
/X2/	Experience of TD1 developer CCU
/X3/	Experience of TD2 developer PECC3
/X4/	Turbine-generator parameters by Boving Fouress <ol style="list-style-type: none"> <li>1. Minutes of Contract Negotiation dated 2008-09-25 to 2008-09-25</li> <li>2. Equipment Contract Agreement signed dated 2008-09-29</li> <li>3. General Conditions of Contracts</li> <li>4. Special Conditions of Contract</li> <li>5. Price Schedule</li> <li>6. Turbine &amp; Generator Parameters</li> </ol>
/PDD/	<ol style="list-style-type: none"> <li>1. PDD v. 1.0, dated 2010-04-19 (Published)</li> <li>2. PDD v. 1.1, dated 2010-08-26 DOE Assessment #1</li> <li>3. PDD v. 1.2, dated 2011-01-05 DOE Assessment #2</li> <li>4. PDD v. 1.3, dated 2011-06-03 DOE Assessment #3</li> <li>5. PDD v 1.4, dated 2011-09-09 Revised methodology version</li> <li>6. PDD v. 1.5, dated 2011-12-12 Revised start date of crediting</li> <li>7. PDD v 1.6 dated 2012-04-19 revised after technical review</li> <li>8. 'PDD v. 1.7 dated 2012-06-20 revised after technical review</li> </ol>
/HRC/	Host Country Regulation <ol style="list-style-type: none"> <li>1. Electricity Law; dated 2004-12-03.</li> <li>2. Law of Environment Protection 2005</li> <li>3. Circular No.08/2006/TT/BTBNT on the Detailing and Guiding the implementation of a number of articles of the Law on Environmental Protection; dated 2008-12-08</li> <li>4. Circular No. 42/2007/TT-BTC on the Guiding Natural Resources Tax on Natural Water Used for Hydroelectricity Generation dated 2007-04-27</li> <li>5. Decree No.80/2006/ND-CP on the Detailing and Guiding the implementation of a number of articles of the law on Environmental Protection dated 2006-08-09</li> <li>6. Decision No.18/2008 on the Promulgation of Regulation on Avoided Cost Tariff and Standardized Power Purchase Agreement for Small Renewable Energy Power Plants dated 2008-07-18</li> <li>7. Decision No.206/2003/QD-BTC on the Regime on management, use and calculation of depreciation of fixed assets dated 2003-12-12</li> <li>8. Decision No.2014/QD-BCN on promulgating temporary Regulations on the contents of calculation and analysis of economy, investment finance and electricity purchasing price frame of power source projects.</li> <li>9. Decree No.24/2007/ND-CP on detailing the implantation of the law on business income tax dated 2007-02-14</li> <li>10. Decree No.124/2008/ND-CP dated 11/12/2008 on corporate income tax</li> </ol>

Reference	Document
	Vietnam Civil Code 2005 No.33/2005/QH11 11.Construction code TCXDVN 285-2002 year 2002
/sbv/	<a href="http://www.sbv.gov.vn/wps/portal/!ut/p/c4/04_SB8K8xLLM9MSSzPy8xBz9CP0os3gDFxNLczdTEwN3NyNzA0_INfAYEcXo2AXE_2CbEdFAAeDpaQ!/">http://www.sbv.gov.vn/wps/portal/!ut/p/c4/04_SB8K8xLLM9MSSzPy8xBz9CP0os3gDFxNLczdTEwN3NyNzA0_INfAYEcXo2AXE_2CbEdFAAeDpaQ!/</a>

**Table 7-2:** Background investigation and assessment documents

Reference	Document
/ACM2/	ACM0002, version 12.3.0: Consolidated baseline methodology for grid-connected electricity generation from renewable sources
/CPM/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)
/GAIA/	Guidance on the Assessment of Investment Analysis, Version 05, EB 62, Annex 5
/GCP/	Guidelines on common practice V01.0 EB 63 Annex 12
/GCP/	UNFCCC: Guidelines for completing CDM-PDD and CDM-NM
/GT/	Glossary of CDM Terms
/IPCC/	2006 IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual
/KP/	Kyoto Protocol (1997)
/MA/	Decision 3/CMP. 1 (Marrakesh – Accords & Annex to decision (17/CP.7))
/MP/	Vietnam Power Development Master Plan VI
/PDDG/	PDD guidelines applied version 07 with effective date 2008-08-02 on EB Meeting 41 (Annex 12) 2008-07-30 to 2008-08-02.
/PDDT/	Version 03 of the CDM-PDD dated 2006-07-28 approved at EB 25 meeting
/TA/	Tool for the demonstration and assessment of additionality” (Version 6.0)
/TEF/	Tool to calculate the emission factor for an electricity system, Version 02.2.1



Reference	Document
/VBEF/	Vietnam DNA published baseline data and report for 2008 grid emission factor
/VC/	Validation Contract between DOE and Annex I PP dated 2010-04-05
/VVM/	Validation and Verification Manual (Version 01.2, Annex 1; EB 55)
/LET/	Version 02 of the tool to calculate project or leakage CO <sub>2</sub> emissions from fossil fuel combustion

**Table 7-3:** Websites used

Reference	Link	Organisation
/cd4cdm/	<a href="http://www.cd4cdm.org">www.cd4cdm.org</a>	UNEP Riso Centre
/dnav/	<a href="http://www.noccop.org.vn/">http://www.noccop.org.vn/</a>	DNA of Viet Nam
/ge/	<a href="http://www.google.com/earth/index.html">http://www.google.com/earth/index.html</a>	Google Earth website
/ipcc/	<a href="http://www.ipcc-nggip.iges.or.jp">www.ipcc-nggip.iges.or.jp</a>	IPCC publications
/unfccc/	<a href="http://cdm.unfccc.int">http://cdm.unfccc.int</a>	UNFCCC

**Table 7-4:** List of interviewed persons

Reference	Mol <sup>1</sup>		Name	Organisation / Function
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Vu Van Hung	Hanam Carbon / Project Manager
	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Tran Thai	Hanam Carbon / Director
	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Nguyen Thuan	Hanam Carbon / CDM Consultant
/IM02/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Dinh Xuan Hai Sang	Song Giang Hydropower Joint Stock Company / General Director
	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Ngo Minh Tan	Song Giang Hydropower Joint Stock Company / Vice General Director

Reference	Mol <sup>1</sup>		Name	Organisation / Function
	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Pham Tien Lam	Song Giang Hydropower Joint Stock Company / Planning Department
	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Nguyen Thi Bich Thao	Song Giang Hydropower Joint Stock Company / General Affairs and Investment Department
	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Hoang Ngoc Linh	Song Giang Hydropower Joint Stock Company / Technical Department
<b>/IM3/</b>	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Nguyen Ngoc Huong	Khanh Trung Commune People's Committee President
	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Vo Thi Minh Tai	Khanh Trung Commune People's Committee Vice President
	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Ha Bang	Khanh Trung Commune People's Council President
	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Luong Xuan Bang	Khanh Trung commune stakeholder
	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Ha My	Khanh Trung commune stakeholder
	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Ha Anh Khoa	Khanh Trung commune stakeholder
	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Nguyen Thi Phuong	Khanh Trung commune stakeholder
	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Luu Xuan Mia	Khanh Trung commune stakeholder
	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Le Dinh Khung	Khanh Trung commune stakeholder
	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Pinang Thi Thuy	Khanh Trung commune stakeholder

<sup>1)</sup> Means of Interview: (Telephone, E-Mail, Visit)

# ANNEX

- A1:** Validation Protocol
- A2:** Assessment of Baseline Identification
- A3:** Assessment of Financial Parameters
- A4:** Assessment of Barrier analysis
- A5:** Outcome of the GSCP
- A6:** Appointment certificates of the team members

## ANNEX 1: VALIDATION PROTOCOL

**Table A-1: Requirements Checklist**

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<b>A. General Description of Project Activity</b>				
<b>A.1. Approval</b> <i>The written approval of the parties involved is a mandatory requirement</i>				
<p>A.1.1. Has the project provided written approvals of all parties involved? (EB 55 Annex 1, § 44) <i>Indicate whether a letter of approval has been received, with a clear reference to the supporting documentation.</i> <i>Indicate whether this letter was provided to the DOE by the project participants or directly by the DNA</i></p>	<p><i>Description:</i> As stated in A.3 of PDD, the host party is Viet Nam and the annex I party is Switzerland. <i>Justification of evidences:</i> The LOAs from the host country and Annex 1 party have not been submitted <i>Conclusion:</i> CAR A1 has been raised.</p>	/PDD/ /A33/	CAR A1	OK
<p>A.1.2. Are the approvals issued from organisations listed as DNAs on the UNFCCC CDM website? (EB 55 Annex 1, §§ 44, 47, 48, 49 (b), 49 (c), 53)</p>	<p><i>Description:</i> The host country and annex I party approvals have not been received. This will further assessed <i>Justification of evidences:</i></p>	/PDD/ /A33/	CAR A1	OK

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<i>Indicate the means of validation employed to assess the authenticity, i.e. in case of doubt whether LOA has been verified with the DNA. Further describe which entity submitted the LOA for validation.</i>	No approvals submitted for review and assessment <i>Conclusion:</i> CAR A1 has been raised.			
A.1.3. Do the written approvals confirm that the corresponding party is a Party to the Kyoto Protocol?  (EB 55 Annex 1, § 45(a))	<i>Description:</i> The host country and annex I party approvals have not been received.  <i>Justification of evidences:</i> No approvals submitted for review and assessment..  <i>Conclusion:</i> CAR A1 has been raised.	/PDD/ /A33/	<del>CAR A1</del>	OK
A.1.4. Do the written approvals confirm that the participation is voluntary?  (EB 55 Annex 1, § 45(b))	<i>Description:</i> The host country and annex I party approvals have not been received. This will further assessed.  <i>Justification of evidences:</i> No approvals submitted for review and assessment  <i>Conclusion:</i> CAR A1 has been raised.	/PDD/ /A33/	<del>CAR A1</del>	OK
A.1.5. Does the written approval from the host country confirm7 that the project contributes to the sustainable development in the country?  (EB 55 Annex 1, § 45(c))	<i>Description:</i> The host country and annex I party approvals have not been received.  <i>Justification of evidences:</i>	/PDD/ /A33/	<del>CAR A1</del>	OK

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
	No approvals submitted for review and assessment <i>Conclusion:</i> CAR A1 has been raised.			
A.1.6. Do the written approvals refer to the precise project title in the PDD submitted for registration or an additional specification of the project activity, e.g. PDD version number?  (EB 55 Annex 1, §§ 45(d), 50)	<i>Description:</i> The host country and annex I party approvals have not been received. <i>Justification of evidences:</i> No approvals submitted for review and assessment <i>Conclusion:</i> CAR A1 has been raised.	/PDD/ /A33/	<del>CAR A1</del>	OK
A.1.7. Are the written approvals unconditional with regard to A.1.3 to A.1.6?  (EB 55 Annex 1, § 46)	<i>Description:</i> The host country and annex I party approvals have not been received. <i>Justification of evidences:</i> No approvals submitted for review and assessment <i>Conclusion:</i> CAR A1 has been raised.	/PDD/ /A33/	<del>CAR A1</del>	OK
A.1.8. Is the information regarding the project participants listed in section A3 and in Annex 1 of the PDD internally consistent to each other?  (EB 55 Annex 1, § 51)	<i>Description:</i> The project participant listed in section A.3 and Annex 1 of PDD is consistent to each other. <i>Justification of evidences:</i>	/PDD/ /A33/ /A31/	<del>CAR A1</del> <del>CAR A2</del>	OK OK

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
	<p>The validation team has reviewed in the PDD respective sections and conducted interviews with the project participant during the on-site visit.</p> <p>The MOC has not been submitted for confirmation of the project participant.</p> <p><i>Conclusion:</i> CAR A1 and CAR A2 have been raised.</p>			
<p>A.1.9. Are all project participants listed in the PDD approved at least by one Party involved? (EB 55 Annex 1, § 51) <i>Indicate whether the participation of the project participant(s) has been approved by a Party to the Kyoto Protocol.</i> <i>Describe the means of validation employed to draw this conclusion.</i></p>	<p><i>Description:</i> The host country and annex I party approvals have not been received.</p> <p><i>Justification of evidences:</i> No approvals submitted for review and assessment</p> <p><i>Conclusion:</i> CAR A1 has been raised.</p>	<p>/PDD/ /A33/</p>	<p><del>CAR A1</del></p>	<p>OK</p>
<p>A.1.10. Are any other project participants approved but not listed in the PDD? (EB 55 Annex 1, § 52)</p>	<p><i>Description:</i> The host country and annex I party approvals have not been received.</p> <p><i>Justification of evidences:</i> No approvals submitted for review and assessment</p> <p><i>Conclusion:</i> Refer to CAR A1.</p>	<p>/PDD/ /A33/</p>	<p><del>CAR A1</del></p>	<p>OK</p>
<p>A.1.11. Does the DoE have a direct contractual</p>	<p><i>Description:</i></p>	<p>/PDD/</p>	<p>OK</p>	<p>OK</p>

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
relationship with the PP?  (EB 55 Annex 1, § 51; EB 50 Annex 48, §§ 7–9) <i>Check whether the PPs listed in the published PDD are still listed in the PDD going to be submitted to request for registration.</i>	The DOE has a contractual relationship with the Annex 1 party project participant, Vitol S.A.  <i>Justification of evidences:</i>  The validation team has reviewed the contract agreement with TÜV NORD Cert GmbH and Vitol S.A..  <i>Conclusion:</i>  The DOE has a direct contractual relationship with the Annex I PP.	/VC/		
<b>A.2. Contribution to Sustainable Development</b>  <i>The project's contribution to sustainable development is assessed.</i>				
A.2.1. Has the host country confirmed that the project assists it in achieving sustainable development?  (EB 55 Annex 1, §§ 125–127) <i>Contains a statement confirming whether the letter of approval by the DNA of the host party confirmed the contribution of the project to the sustainable development of the Host Party.</i>	<i>Description:</i>  The host country and annex I party approvals have not been received.  <i>Justification of evidences:</i>  No approvals submitted for review and assessment  <i>Conclusion:</i>  Refer to CAR A1.	/PDD/ /A33/ /VVM/	<del>CAR A1</del>	OK
A.2.2. Will the project create other environmental or social benefits than GHG emission reductions?  (EB 55 Annex 1, §§ 125–127) <i>Describe the other positive aspects not related to GHG</i>	<i>Description:</i>  Besides the GHG emission reductions, the project will contribute to following: <ul style="list-style-type: none"> <li>Reduction of the dependence on exhaustible fossil fuels for</li> </ul>	/PDD/ /onsite/ /IM01/	OK	OK



<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p><i>emission reduction on the environment.</i></p>	<p>power generation;</p> <ul style="list-style-type: none"> <li>• Reduction of air pollution by displacing coal-fired power plants with clean, renewable power;</li> <li>• Reduction of the adverse health impacts from air pollution;</li> <li>• Reduction of the emissions of greenhouse gases to combat global climate change; and</li> <li>• Promotion of local economic development through the creation of transport infrastructure and employment.</li> </ul> <p><i>Justification of evidences:</i></p> <p>The validation team has reviewed the PDD, respective documents such as development proposed by the project owner and compensation program approved by the local authority.</p> <p><i>Conclusion:</i></p> <p>The project will bring social and economic benefits to the people around the project location with road access and opportunity to work at the project.</p>			
<p><b>A.3. PDD editorial aspects</b></p> <p><i>The PDD used as a basis for validation shall be prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website.</i></p>				
<p>A.3.1. Has the latest version of the PDD form been applied? (EB 55 Annex 1, § 55)</p>	<p><i>Description:</i></p> <p>The CDM-SSC-PDD applied is version 03 dated 2006-12-22 approved at EB 28 meeting (annex 34) on 2006-12-12 to 2006-12-15. It is the latest version of CDM-SSC-PDD published by UNFCCC on its official website.</p>	<p>/PDDT/ /unfccc/</p>	<p><del>CAR-A2</del></p>	<p>OK</p>

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
	<p><i>Justification of evidences:</i></p> <p><a href="http://cdm.unfccc.int/Reference/PDDs_Forms/PDDs/index.html">http://cdm.unfccc.int/Reference/PDDs_Forms/PDDs/index.html</a></p> <p><i>Conclusion:</i></p> <p>The PDD template applied is consistent with the published template at the UNFCCC website.</p> <p>However, CAR A2 has been raised.</p>			
<p>A.3.2. Has the PDD been duly filled in accordance with the latest guidance(s)? (EB 55 Annex 1, §§ 56–57)</p>	<p><i>Description:</i></p> <p>The PDD has in general been filled in accordance with the latest PDD guidelines applied version 05 with effective date 2007-09-14 on EB Meeting 34 (Annex 09) 2007-09-12 to 2007-09-14.</p> <p><i>Justification of evidences:</i></p> <p><a href="http://cdm.unfccc.int/Reference/Guidclarif/pdd/PDD_guid02_v05.pdf">http://cdm.unfccc.int/Reference/Guidclarif/pdd/PDD_guid02_v05.pdf</a></p> <p><i>Conclusion:</i></p> <p>The PDD is duly filled in accordance to the latest guidance.</p>	<p>/PDDG/ /unfccc/</p>	<p>OK</p>	<p>OK</p>
<p><b>A.4. Technology to be employed</b></p> <p><i>Validation of project technology focuses on the project engineering, choice of technology and competence/maintenance needs. The DOE should ensure that environmentally safe and sound technology and know-how is used.</i></p>				
<p>A.4.1. Does the PDD contain a clear, accurate and</p>	<p><i>Description:</i></p>	<p>/PDD/</p>	<p>CAR A3</p>	<p>OK</p>

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>complete project description? (EB 55 Annex 1, §§ 58–59, 64) <i>The PDD shall contain a clear description of the project activity which provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation.</i> <i>Pl. consider esp. chapters A.2, A.4.2 and A.4.3 (in case of LSC PDD) for assessment.</i> <i>§64 (a) Describe the process undertaken to validate the accuracy and completeness of the project description.</i> <i>§64 (b) Contain the DOE's opinion on the accuracy and completeness of the project description.</i></p>	<p>Section A.2 and A.4.3 of PDD describe the project activity, technology and proposed technical data.</p> <p>This project is a hydro electric power plant using a run-of-river technology to generate electricity and will be connected to the Viet Nam national grid – Electricity Viet Nam (EVN)</p> <p><i>Justification of evidences:</i></p> <p>By means of document review and on-site assessment, the following documents were reviewed and the project owner was interviewed.</p> <ul style="list-style-type: none"> <li>• PDD</li> <li>• Technical Design</li> <li>• Location of the hydropower plant and coordinates.</li> <li>• Proposed Technology employed</li> <li>• Proposed equipment technical data and specifications</li> <li>• Power plant construction progress status.</li> </ul> <p><i>Conclusion:</i></p> <p>CAR A3 and CL A4 were raised.</p>	<p>/C4/ /C7/ /C3/ /A35/</p>	<p>CL A4</p>	<p>OK</p>
<p>A.4.2. Is this description in accordance with the real situation or (in case of greenfield projects) is it most likely that the project will be implemented acc to the project description?</p>	<p><i>Description:</i></p> <p>The project is a new installation that will be implemented according to the project description in the PDD.</p> <p><i>Justification of evidences:</i></p> <p>During the on-site visit it could be confirmed that the construction for the dam and water intake tunnel are in accordance to the</p>	<p>/PDD/ /onsite/ /C3/ /C2/ /B4/</p>	<p>OK</p>	<p>OK</p>

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
	<p>description in the PDD.</p> <p>In addition, the validation team has interviewed the project technical personnel, reviewed the technical design report, the approvals from authorities to confirm on the design and implementation of the project.</p> <p><i>Conclusion:</i></p> <p>It can be confirmed that it is most likely that the project will be implemented as described in the PDD.</p>			
<p>A.4.3. In case the project involves alteration of the existing installation or process, is a clear description available regarding the differences between the project and the pre-project situation?</p> <p>(EB 55 Annex 1, §§ 63–64) <i>Describe the steps taken to validate this issue.</i></p>	<p><i>Description:</i></p> <p>The hydropower plant stated in the PDD is a new installation and does not involve the alteration of any existing installation, which has been confirmed during the on-site visit by the validation team.</p> <p><i>Justification of evidences:</i></p> <p>The validation team has reviewed the relevant approved documents for the construction and implementation of the project. The project owner was interviewed.</p> <p><i>Conclusion:</i></p> <p>It can be confirmed that the project activity is a new hydropower plant.</p>	<p>/PDD/ /IM02/ /C3/ /onsite/</p>	<p>OK</p>	<p>OK</p>
<p>A.4.4. Does the project design engineering reflect current good practices?</p> <p><i>Consider the equipment specifications, literature (e.g. EU BREF papers) and professional experiences. Describe the process undertaken to assess the engineering.</i></p>	<p><i>Description:</i></p> <p>The project design engineering reflects good practices not being available in the host country.</p> <p>The proposed hydro power plant technology and generation equipment will be imported from India.</p> <p><i>Justification of evidences:</i></p>	<p>/PDD/ /IM02/ /X3/ /onsite/</p>	<p>OK</p>	<p>OK</p>

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
	<p>During the on-site visit, the validation team has reviewed the technical and equipment specifications as stated in the feasibility studies. The project owners and technical personnel were interviewed on the supplies of the turbines, generation equipment and technology will be imported from China.</p> <p><i>Conclusion:</i></p> <p>The project engineering and design reflects good practices in hydro power generation. China is a leading country in supplying hydro power generation equipment.</p>			
<p>A.4.5. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?</p> <p><i>Describe the process undertaken to assess the state of the art technology.</i></p>	<p><i>Description:</i></p> <p>This project applies hydropower electricity generation equipment technology in this industrial sector which is not available in the host country. The equipment selected for the project activity is suitable for the proposed power generation design and is acceptable to the host country.</p> <p><i>Justification of evidences:</i></p> <p>The validation team has checked the technical data by reviewing the technical information stated in the draft technical design 1, main report for the type of equipment that will be installed.</p> <p><i>Conclusion:</i></p> <p>The technology and equipment applied is appropriate for the power plant requirement.</p>	<p>/PDD/ /IM02/ /C7/</p>	<p>OK</p>	<p>OK</p>
<p>A.4.6. Does the project make provisions for meeting training and maintenance needs?</p> <p><i>Describe the process undertaken to assess the maintenance</i></p>	<p><i>Description:</i></p> <p>The provision of training and maintenances needs was sufficiently described in Section A.4.3 of the PDD.</p>	<p>/PDD/ /X2/ /X4/</p>	<p>OK</p>	<p>OK</p>

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<i>and training needs.</i>	<i>Justification of evidences:</i> By means of document review, the type of training is stated in the PDD.  <i>Conclusion:</i> Training and maintenance provisions are addressed in the PDD section A.4.3.			
<b>A.5. Small scale project activity</b> <i>It is assessed whether the project qualifies as small-scale CDM project activity</i>				
A.5.1. Does the project qualify as a small scale CDM project activity as defined in decision 4 / CMP.1 annex II?  (EB 55 Annex 1, §§ 135–136 (a))	<i>Description:</i> Not applicable as this is a large scale project.  <i>Justification of evidences:</i>  <i>Conclusion:</i>	/PDD/	N/A	N/A
A.5.2. Does the project apply one of the approved small scale categories and any methodology and tool referred therein?  (EB 55 Annex 1, § 136 (b)) <i>Check, if applicable the expiry dates of the applied</i>	<i>Description:</i> Not applicable as this is a large scale project.  <i>Justification of evidences:</i>	/PDD/	N/A	N/A

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<i>methodology. Further, take into consideration the general guidance to the methodologies<sup>1</sup>, which provide guidance on equipment capacity, equipment performance, sampling and other monitoring related issues.</i>	<i>Conclusion:</i>			
<p>A.5.3. Is the small scale project activity not a debundled component of a larger project activity?</p> <p>(EB 55 Annex 1, § 136 (c)) Describe the steps taken to validate this issue. PI refer to the Compendium of guidance on debundling (EB 36, Annex 27 54, Annex 13).</p>	<p><i>Description:</i> Not applicable as this is a large scale project.</p> <p><i>Justification of evidences:</i></p> <p><i>Conclusion:</i></p>	/PDD/	N/A	N/A
<p>A.5.4. Is an assessment of the environmental impacts of the proposed SSC CDM project activity required by the host Party?</p> <p>(EB 55 Annex 1, § 136 (d))</p>	<p><i>Description:</i> Not applicable as this is a large scale project.</p> <p><i>Justification of evidences:</i></p> <p><i>Conclusion:</i></p>	/PDD/	N/A	N/A
<p><b>B. Project Baseline, Additionality and Monitoring Plan</b></p>				

<sup>1</sup> <http://cdm.unfccc.int/methodologies/SSCmethodologies/approved.html>

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<b>B.1. Application of the Methodology</b>				
<p>B.1.1. Does the project apply an approved and applicable CDM methodology and a valid version thereof?</p> <p>(EB 55 Annex 1, § 65) <i>Describe the steps taken to validate this issue.</i></p>	<p><i>Description:</i></p> <p>The project activity applies the approved large scale methodology ACM0002, "<b>Consolidated Methodology for Grid Connected Electricity Generation from Renewable Sources</b>" Version 12.3.0, Scope 1 approved at EB 66 meeting.</p> <p>At the time of publishing the PDD for global stakeholder consultation, version 11 of the methodology was applied which is valid and applicable.</p> <p>The methodology version has been updated to version 12.3.0 during the validation process</p> <p><i>Justification of evidences:</i></p> <p>To ensure that the applied methodology is approved by the EB, the PPs has chosen the available latest version, the methodologies section of UNFCCC CDM website at the time of PDD submitted for publishing</p> <p><a href="http://cdm.unfccc.int/methodologies/PAmethodologies/approved.html">http://cdm.unfccc.int/methodologies/PAmethodologies/approved.html</a></p> <p>Furthermore, to assess the applicability of the project, the PDD was reviewed and the applicability determination of the PDD was counterchecked against the criteria given in the applicability section of the methodology.</p> <p>The information in the PDD was further reviewed during on-site visit to confirm that the information in the PDD is valid and reflects the</p>	<p>/PDD/ /ACM2/ /unfccc/</p>	<p><del>GAR.</del> <del>B15</del></p>	<p>OK</p>



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	reality of the proposed project activity.  <i>Conclusion:</i> The project meets the applicability criteria stated in the applicability section of the methodology.  Please also refer to CAR.B15.			
B.1.2. Is the applied CDM methodology identical with the version available on the UNFCCC website?  (EB 55 Annex 1, §§ 65, 70) <i>Describe the steps taken to validate this issue.</i>	<i>Description:</i> The methodology applied is identical with the version available on UNFCCC website.  <i>Justification of evidences:</i> This has been reviewed during the validation and by checking the UNFCCC website <a href="http://cdm.unfccc.int/methodologies/PAmethodologies/approved.html">http://cdm.unfccc.int/methodologies/PAmethodologies/approved.html</a>  <i>Conclusion:</i> The methodology stated in the PDD is identical to the version available at the UNFCCC website.	/PDD/ /ACM2/ /unfccc/	OK	OK
B.1.3. Are all applicability criteria in the methodology, the applied tools or any other methodology component referred to therein fulfilled?  (EB 55 Annex 1, §§ 66(a)–(b), 68, 71, 76) <i>Describe for each applicability criterion listed in the selected approved methodology the steps taken to assess the information contained in the PDD.</i>	<i>Description:</i> The methodology ACM0002 applicability criteria and justification of the project are summarized as follows:  1. The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave	/PDD/ /ACM2/	OK	OK

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	<p>power plant/unit or tidal power plant/unit.</p> <p>2. In the case of capacity additions, retrofits or replacements the existing plant started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion or retrofit of the plant has been undertaken between the start of this minimum historical reference period and the implementation of the project activity.</p> <p>3. In case of hydro power plants, one of the following conditions must apply:</p> <p>a) The project activity is implemented in an existing reservoir, with no change in the volume of reservoir; or</p> <p>b) The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the Project Emissions section, is greater than 4 W/m<sup>2</sup>; or</p> <p>c) The project activity results in new reservoir and the power density of the power plant, as per definitions given in the Project Emissions section, is greater than 4 W/m<sup>2</sup>.</p> <p><i>Justification of evidences:</i></p> <p>1. The project activity involves the installation of a new hydropower project with a small run-of-river reservoir.</p> <p>2. The project is a new build and does not involve a capacity addition, retrofit or replacement.</p> <p>3. The new reservoir associated with this project has a power density of 205.56W/m<sup>2</sup> as defined in accordance to ACM0002</p>			

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	<p><i>Conclusion:</i></p> <p>The project activity meets the applicability of the methodology as a renewable energy hydro power unit.</p>			
<p>B.1.4. In case one or more applicability criteria have not been met, has the validation team requested clarification to, revision of or deviation from the methodology in accordance with the latest guidelines? (EB 55 Annex 1, §§ 72–75)</p>	<p><i>Description:</i></p> <p>The project meets the methodology applicability</p> <p><i>Justification of evidences:</i></p> <p>By review of PDD with methodology</p> <p><i>Conclusion</i></p> <p>No request for clarification or revision required. Please refer to B.1.3.</p>	<p>/PDD/ /ACM2/</p>	<p>OK</p>	<p>OK</p>
<p>B.1.5. Is the project in accordance with every other stipulation or requirement mentioned in all sections of the methodology and in guidances for approved methodologies provided by the CDM EB? (EB 55 Annex 1, § 69, 71) <i>Describe the steps taken to check whether the proposed project activity meets all the other possible stipulations and /or limitations mentioned in all sections of the approved methodology selected.</i></p>	<p><i>Description:</i></p> <p>The project is in accordance to every other stipulation or requirement mentioned in all sections of the applied methodology.</p> <p><i>Justification of evidences:</i></p> <p>No deviation has been found in the PDD.</p> <p><i>Conclusion:</i></p> <p>The project activity meets the applicability of the methodology.</p>	<p>/PDD/ /ACM2/</p>	<p>OK</p>	<p>OK</p>

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<b>B.2. Project Boundaries</b> <i>Project Boundaries are the limits and borders defining the GHG emission reduction project</i>				
B.2.1. Are the project's spatial boundaries (geographical) clearly defined?  (EB 55 Annex 1, §§ 67(a), 78–80) <i>Provide information on how the validation of the geographical boundary has been performed either based on reviewed documented evidence or by describing what was observed/viewed during a site visit.</i>	<i>Description:</i> The project spatial boundaries as stated in PDD section B.3 consisting of the project activity site, auxiliary consumption and national grid, where the existing power generations are connected to the baseline grid.  <i>Justification of evidences:</i> The validation team has reviewed the site map, FSR Main Report and technical design main report during the on-site visit to check on the project locations.  <i>Conclusion:</i> CAR B1 was raised.	/PDD/ /C1/ /C2/ /C5/ /onsite/	<del>CAR</del> B1	OK
B.2.2. Are all sources and GHGs included in the project boundary as required in the applied methodology?  (EB 55 Annex 1, §§ 67(a), 78–80) <i>Provide information on how the validation of the GHGs and sources has been performed either based on reviewed documented evidence or by describing what was observed/viewed during a site visit.</i>	<i>Description:</i> Based on the methodology ACM0002, a table needs to be included in section B.3 of the PDD to demonstrate the sources and GHGs in the project boundary.  <i>Justification of evidences:</i> This was validated by reviewing the PDD, methodology and documents provided during the on-site visit.  During the interview of the project owner, it was confirmed that electricity will be imported from the grid for operational purposes during major maintenance and any power outage.	/PDD/ /ACM2/ /IM02/ /onsite/	OK	OK

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	<i>Conclusion:</i> All sources and GHGs are included in the project boundary and in accordance to the applied methodology.			
<b>B.2.3.</b> In case the methodology allows to choose whether a source and/or gas is to be included, is the choice sufficiently explained and justified?  (EB 55 Annex 1, §§ 67(a), 78–80) <i>Confirm if the justification provided by the PPs is reasonable, based on assessment of supporting documented evidence provided by the PPs or by onsite observations.</i>	<i>Description:</i> There is a requirement of the methodology that requires inclusion of the sources and gases of the project boundary in the PDD.  <i>Justification of evidences:</i> The validation team has reviewed the PDD, project activity baseline and boundary that the sources and GHGs that will occur.  <i>Conclusion:</i> The choices are sufficiently explained and justified.	/PDD/ /ACM2/	OK	OK
<b>B.3. Baseline Identification</b>  <i>The choice of the baseline scenario will be validated with focus on whether the baseline is a likely scenario, and whether the methodology to define the baseline scenario has been followed in a complete and transparent manner.</i>				
<b>B.3.1.</b> What possible baseline scenarios have been considered?  (EB 55 Annex 1, §§ 67(b), 83) <i>Fill in all alternatives in table A-2.</i>	<i>Description:</i> The project activity baseline is the electricity generated multiplied by the combined emission factor of the national grid.  <i>Justification of evidences:</i> The hydro power plant of this project activity will be connected to the national grid when it will begin operation as stated in the PDD.	/PDD/ /ACM2/ /VBEF/	<del>CAR-B1</del>	OK

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
	<p>The validation team has reviewed the relevant documents during the on-site visit to confirm the baseline and the emission factors calculation.</p> <p><i>Conclusion:</i></p> <p>The baseline of the project activity has not been described in accordance with the methodology and the tool, refer to CAR B1.</p>			
<p>B.3.2. Is the list of alternatives complete? (EB 55 Annex 1, §§ 67(b), 83)</p> <p><i>Describe how it was validated that all alternatives are plausible and no plausible alternative is excluded from the consideration</i></p>	<p><input checked="" type="checkbox"/> All plausible alternative scenarios listed in the approved methodology have been considered. In the course of document review and site visit, it has been validated that no other alternatives which supply comparable outputs and / or services are to be taken into consideration. Thus no plausible scenario has been omitted.</p> <p><input type="checkbox"/> The following alternative scenarios/options have been omitted. Corresponding CAR(s)/CL(s) has /have been issued</p>	<p>/PDD/ /ACM2/</p>	<p>OK</p>	<p>OK</p>
<p>B.3.3. What has been identified as the baseline scenario? (EB 55 Annex 1, §§ 81–82, 86)</p> <p><i>Describe the chosen BL scenario, taking into consideration the technology that would be employed and / or the activities that would take place in the absence of the proposed CDM project activity.</i></p>	<p><i>Description:</i></p> <p>The baseline is the electricity generated by the project activity multiplied by the emission factor of national grid.</p> <p>In the absence of the project activity, electricity will continue to be supply from the grid generated by fossil fuel dominated power plants.</p> <p><i>Justification of evidences:</i></p> <p>The validation team has reviewed the PDD and relevant documents provided to underline the baseline scenario.</p> <p><i>Conclusion</i></p> <p>CAR B1 was raised.</p>	<p>/PDD/ /ACM2/ /VBEF/</p>	<p><del>CAR B1</del></p>	<p>OK</p>

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>B.3.4. Has the baseline scenario been determined according to the methodology?</p> <p>(EB 55 Annex 1, §§ 82, 87(e)) <i>Describe how it is validated that the identification of the most plausible baseline scenario is carried out in accordance with the applied methodology and applied methodological tools. Please refer to table A-2.</i></p>	<p>For details of the assessment regarding the evaluation of the baseline scenario pl. refer to table A-2.</p> <p><input checked="" type="checkbox"/> The determination has been carried out as per the procedure contained in the applied methodology.</p> <p><input type="checkbox"/> The following CARs / CLs have been identified with respect to the selection of the baseline scenario:</p>	<p>/PDD/ /ACM2/</p>	<p>OK</p>	<p>OK</p>
<p>B.3.5. Has any plausible alternative scenario been excluded?</p> <p>(EB 55 Annex 1, § 83) <i>Describe how it is validated that no plausible alternative scenario has been excluded.</i></p>	<p>For details of the assessment regarding the evaluation of the baseline scenario pl. refer to table A-2.</p> <p><input checked="" type="checkbox"/> No plausible baseline scenario has been excluded.</p> <p><input type="checkbox"/> The following plausible baseline scenarios have been excluded though no adequate justification has been provided for elimination. The following CARs / CLs have been issued:</p>	<p>/PDD/ /PDD/ /ACM2/</p>	<p>OK</p>	<p>OK</p>
<p>B.3.6. Is the identified baseline scenario reasonable and has the baseline scenario been determined using conservative assumptions where possible, including relevant references and sources?</p> <p>(EB 55 Annex 1, §§ 84–86(a)–(c)) <i>Describe whether the choice of the identified baseline scenario is reasonable by validating the <u>key assumptions, calculations and rationales</u> used in the PDD. Describe whether these are listed, relevant and <u>conservatively interpreted</u> in the PDD.</i></p>	<p><input checked="" type="checkbox"/> The baseline scenario is reasonable and has been determined using conservative assumptions where possible. Please refer to comments in table A-2 and sections B.3.2 to B.3.5 above.</p> <p><input type="checkbox"/> The following CARs / CLs have been issued because assumptions used in the baseline determination have been assessed to be not conservative</p> <p>Refer to CAR B1.</p>	<p>/PDD/ /ACM2/</p>	<p><del>CAR-B1</del></p>	<p>OK</p>

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<p>B.3.7. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?</p> <p>(EB 55 Annex 1, §§ 85, 87(d))  <i>Describe whether the PP has shown that all relevant policies and circumstances have been identified and correctly considered in the PDD in accordance with the guidance by the Board. Pl. consider the guidance EB 22 annex 3 (regarding E+ and E- policies).</i></p>	<p><i>Description:</i></p> <p>There are no national and/or sectoral policies, macro-economic trends and political aspiration in the host country for hydro power projects</p> <p><i>Justification of evidences:</i></p> <p>Section B.4 of the PDD was reviewed that did not state the relevant document to reflect there are no such policies in host country.</p> <p><i>Conclusion:</i></p> <p>Below finding if found            CAR B2 was raised.</p>	/PDD/	<del>CAR B2</del>	OK
<p>B.3.8. Is the baseline scenario determination compatible with the available data and are all literature and sources clearly referenced?</p> <p>(EB 55 Annex 1, § 87(a)–(c))  <i>Describe whether the documents and sources referred to in the PDD are correctly quoted and clearly referenced.</i></p>	<p><i>Description:</i></p> <p>The baseline scenario is determined from the information provided by the National Utility Company.</p> <p>The baseline scenario is compatible with the available data and all literature and sources have clearly been referenced.</p> <p><i>Justification of evidences:</i></p> <p>The validation team had reviewed the data which was provided by the EVN. The data in the excel sheet calculation is consistent with the data provided by the DNA. The emission factor values for the fuel source types are based on the IPCC 2006 version.</p> <p>The option of calculating the Operation Margin was determined according to low-cost-must-run resources. The low-cost-must-run percentage shall be lower than 50% of the total power generated from the Grid.</p>	/PDD/ /F4/ /VBEF/ /IPCC/	<del>CAR B1</del>	OK



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	<p><i>Conclusion:</i> Refer to CAR B1.</p>			
<p>B.3.9. Does the PDD contain a <i>verifiable</i> description of the identified baseline scenario, including a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed CDM project activity. (EB 55 Annex 1, § 86)</p>	<p><i>Description:</i> The proposed project activity is a renewable hydro power plant power generation. The technology employed by the project is conventional type of hydropower plant. The electricity generated from the project activity will be exported to the National Electricity Grid which is currently generated by a fuel mix. In the absence of the proposed CDM project activity, the amount of electricity which would be generated by the proposed project activity will be continue to be generated by the fuel mixed grid system. <i>Justification of evidences:</i> The validation team has made comparison of the description in the PDD with the followings: 1. The Technical Design 1 – Main Report 2. The Grid emission factor calculation. 3. The fuel type, fuel emission factor, fuel inputs and power output data provided by the DNA of Viet Nam. <i>Conclusion:</i> Please refer to B.2.1, B.3.3 and B.3.7.</p>	<p>/PDD/ /C5/ /F2/ /F3/ /VBEF/</p>	<p>CAR-B1</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	Refer to CAR.B1.			
<b>B.4. Additionality Determination</b> <i>The assessment of additionality will be validated with focus on whether the project itself is not a likely baseline scenario.</i>				
<b>B.4.1. Methodology</b>				
<p>B.4.1.1. Does the PDD describe how the project is additional and does the additionality justification follow the requirements of the applied methodology and/or methodological tools?</p> <p>(EB 55 Annex 1, §§ 67(d), 94–95)  <i>Describe how it is validated that additionality justification is carried out in accordance with the applied methodology and/or applied methodological tools. Further focus your assessment on the reliability and credibility of data, rationales and assumptions, justifications and documentations provided by the PP.</i></p>	<p><i>Description:</i></p> <p>The project activity is described to be additional by applying the “Tool for the Demonstration and Assessment of Additionality“.</p> <p>The project activity has determined to be additional with Investment as a barrier. The project activity is not financially attractive as an investment without the assistance of CDM revenues. The project developer has also performed sensitivity analysis to further substantiate the barrier, the project activity faces.</p> <p>The project participant has performed the additional analysis with the investment barrier accordance to step 2 of the “Tool for the Demonstration and Assessment of Additionality“.</p> <p><i>Justification of evidences:</i></p> <ol style="list-style-type: none"> <li>1. The baseline of the project activity is the national grid emission factor.</li> <li>2. The investment analysis is demonstrated with a benchmark sensitivity analysis.</li> <li>3. The investment analysis has been demonstrated according to</li> </ol>	<p>/PDD/  /C3/  /B4/  /D34/  /VBEF/  /TA/  /sbv/  /VVM/</p>	OK	OK

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
	<p>the “Guidance on the Assessment of Investment Analysis” version 05.</p> <p>4. The input value of the investment of the project activity is based on the draft technical design 1 – main report.</p> <p>The validation team has made comparison of the input values by interviewing an independent hydro power consultant to confirm the possible cost applied by the project activity. In the situation of Viet Nam, the FSR shall be approved by the national authority. In accordance to the VVM version 01.2 para. 113, the value of the approved FSR is considered appropriate with the condition that the investment decision and the date of the approval of the FSR is relatively close.</p> <p>1. The O&amp;M cost of the project activity was determined based on the draft technical design 1 – main report.</p> <p>2. All other operational costs (insurance and resources tax) are determined according to the host country decision and circular.</p> <p>3. The benchmark applied by the project activity is the prime interest rate issued by the State Bank of Viet Nam.</p> <p>4. The validation team has confirmed the non-cash items which is related to the project activity is in accordance to the permission of the host country.</p> <p><i>Conclusion:</i></p> <p>The validation team concluded that the determination of additionality of the project activity is possible and in accordance with the requirements of the Tool for the Demonstration and Assessment of Additionality.</p>			
<b>B.4.2. Consideration of CDM before project start</b>				

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>B.4.2.1. Is the project starting date reported in accordance with the CDM glossary of terms?</p> <p>(EB 55 Annex 1, § 99, 104(a))  <i>Assess why the chosen starting date can be considered as the earliest date at which either the implementation or construction or real action of a project has begun or will begin.</i></p> <p><i>Check that no other activities related to the project that happened before the identified start date can be considered as start date. In this context please also take into consideration infrastructural expenses if they are relevant (in terms of costs and importance for the project implementation) in the specific context of the project activity. Appropriate evidence should be given.</i></p>	<p><i>Description:</i></p> <p>The project starting date is reported in the PDD's Section C.1.1.</p> <p>The date selected is based on the signature date of the general construction contract dated 2008-04-04.</p> <p>According to the Glossary of CDM terms for starting date of the project is the earliest date at which either the implementation or construction or real actions action of the project begins.</p> <p><i>Justification of evidences:</i></p> <p>The validation team has reviewed the general construction contract dated 2008-04-04 during the on-site visit.</p> <p><i>Conclusion:</i></p> <p>The project starting date is in accordance with the Glossary of CDM terms.</p>	<p>/PDD/ /A21/</p>	<p>OK</p>	<p>OK</p>
<p>B.4.2.2. In case the project start date is on or after 2<sup>nd</sup> August 2008 has the PP informed the DNA and UNFCCC about the intension to seek CDM status?</p> <p>(EB 55 Annex 1, §§ 99–101)  <i>Describe whether such a notification has been provided by the project participants within six months of the project activity start date; if NOT it shall be determined that the CDM was not seriously considered.</i></p>	<p><i>Description:</i></p> <p>Please refer to B.4.2.3.</p> <p><i>Justification of evidences:</i></p> <p><i>Conclusion:</i></p>	<p>/PDD/</p>	<p>OK</p>	<p>OK</p>
<p>B.4.2.3. In case the project start date is before commencing of validation and 2<sup>nd</sup> August</p>	<p><i>Description:</i></p> <p>The project start date is 2008-04-04 which is before 2008-08-02.</p>	<p>/PDD/ /VVM/</p>	<p>OK</p>	<p>OK</p>

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>2008, was the incentive from the CDM seriously considered and are details given in the PDD?</p> <p>(EB 55 Annex 1, §§ 100, 102) <i>Describe whether the evidence to support such consideration is adequately and transparently described in the PDD.</i></p>	<p>As according to EB49 Annex 22, the notification to the UNFCCC and DNA is necessary, if the project start date is after 2008-08-02.</p> <p><i>Justification of evidences:</i></p> <p>The start date was based on the general construction contract signature date.</p> <p>The validation team has reviewed the general construction contract to confirm the start date as stated in PDD section B.5. A copy of the construction contract has been provided to the validation team for review that shows the date was 2008-04-04 and before 2008-08-02.</p> <p><i>Conclusion:</i></p> <p>This confirms CDM consideration has been considered at the initial state of the planning for the development of the project activity</p>	<p>/A7/ /A20/ A21/</p>		
<p>B.4.2.4. How and when was the decision to proceed with the project taken? <i>Describe the steps taken to validate the starting date.</i></p>	<p><i>Description:</i></p> <p>The decision taken to proceed with the development of the project activity by the Board Directors was described in Section B.5 of the PDD.</p> <p>The 1<sup>st</sup> Board Meeting was held on 2006-03-10 on the decision to proceed with the project, where CDM was included in the meeting minutes.</p> <p>The 2<sup>nd</sup> BOD meeting was 2008-02-25 to proceed for the change in capacity from 30MW to 37MW.</p> <p><i>Justification of evidences:</i></p> <p>The BOD has decided to invest the project activity with CDM assistance in the meeting held on 2008-02-25. The validation team</p>	<p>/PDD/ /A7 /A20/</p>	<p>OK</p>	<p>OK</p>

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	reviewed the minutes of the meeting provided by the project participant  <i>Conclusion</i>  The decision made at the Board meeting has considered CDM in the implementation of the hydropower plants by the project owner.			
<b>B.4.2.5. Is the project start date consistent with the available evidences?</b> (EB 55 Annex 1, § 102)  <i>Describe the evidence assessed regarding the prior consideration of the CDM (if necessary). Describe whether the evidence to support such consideration is adequately and transparently described in the PDD.</i>	<i>Description:</i>  The project start date was consistent with the evidence provided and based on the date of signing the general road construction contract dated 2008-04-04  <i>Justification of evidences:</i>  The validation team has reviewed the construction contract date and interviewed the project owner to confirm the start date of the project is based on the general construction contract.  <i>Conclusion:</i>  The start date stated in the PDD has been consistent with the general construction contract which is adequate and has been described in a transparent manner.	/PDD/ /A21/ /IM02/	OK	OK
<b>B.4.2.6. Was the decision to proceed with the project taken by a person which has the authority to do so?</b> (EB 55 Annex 1, § 102(a))  <i>Describe the steps taken to validate this issue.</i>	<i>Description:</i>  The decision to proceed with project was taken by the Board of Directors.  <i>Justification of evidences:</i>  The validation team has reviewed the Board Meeting minutes to confirm CDM has been considered to proceed in the investment of the project. The minutes are signed by the BOD.  <i>Conclusion:</i>	/PDD/ /A20/	CAR B2	OK

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
	However, CAR B2 was raised.			
B.4.2.7. How was the CDM involved in the decision making process?  (EB 55 Annex 1, § 102) <i>Describe why CDM was a decisive factor in the decision making process.</i>	<i>Description:</i> The project entity corresponded with a CDM advisor and potential CER buyers in 2005. A Carbon Service Contract was signed by the project owner with RECC – Energy and Joint Stock Company and SV Carbon to begin the development of the PDD. At the Board meeting held CDM was discussed and considered carbon income that will assist the project financially. <i>Justification of evidences:</i> The Board meeting decisions and carbon service contract were made available to the validation during the on-site visit. <i>Conclusion:</i> The validation team is convinced through the document review and interviews with the project owner during the on-site visit which have been mutually consistent that CDM has been considered seriously for the project viability.	/PDD/ /A1/ /A8/ A7/ /A20/ /IM02/	OK	OK
B.4.2.8. Do the evidences provided doubtlessly prove that continuous and real actions were taken in order to secure the CDM status?  (EB 55 Annex 1, § 102; EB 62 Annex 13 § 7)	<i>Description:</i> The project owner has taken a serious approach continuously to secure CDM for the project. The project owner has submitted the application to the Ministry of Natural Resources and Environment for approving the project as CDM status on 2006-07-17 and official document from the project owner to Khanh Hoa provincial people’s Committee asking for the recommendation to the DNA on 2006-08-01.	/PDD/ /A9/ /A10/ /A11/ /IM02/	OK	OK

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
	<p><i>Justification of evidences:</i></p> <p>The validation team has reviewed below documents to confirm CDM has been pursued continuously.</p> <ol style="list-style-type: none"> <li>1. Board Meeting Decision on 2005-08-15</li> <li>2. Carbon Service Contractt with RECC and SV Carbon</li> <li>3. Letter by the project owner to the Ministry of Natural Resources and Environment on CDM</li> <li>4. Letter by the project owner to Khanh Hoa provincial people's committee on CDM</li> </ol> <p><i>Conclusion:</i></p> <p>The validation team is convinced that the project owner has continuously pursuing to obtain CDM status for the project.</p>			
<p>B.4.2.9. Is the gap of documented evidences to secure the CDM status less than 3 years and are the evidences relevant for substantiating the action taken, credible, reliable and complete?</p> <p>(EB 62 Annex 13 § 8)</p>	<p><i>Description:</i></p> <p>The gap taken to secure CDM status is continuous and each activity is less than 2 years.</p> <p><i>Justification of evidences:</i></p> <p>All necessary documents have been submitted to the validation team for review to confirm the dates and timelines showing that pursuing the project with CDM status has been continuous..</p> <p><i>Conclusion:</i></p> <p>The validation team is convinced CDM has been continuously pursued in a credible, reliable and appropriate approach.</p>	<p>/PDD/ /A1/ /A2/ /A5/ /A7/ /A8/ /A9/ /A10/ /A11/ /A12/</p>	<p>OK</p>	<p>OK</p>



<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
		/A13/ /A14/ /A15/ /A17/ /A18/ /A19/		
<p>B.4.2.10. Did implementation of the project ceased after its commencement and did implementation recommence after consideration of the CDM?</p> <p>(EB 62 Annex 5, § 7)  <i>Describe the reasons for ceasing the project and explain why the incentive from CDM was necessary to recommence the implementation.</i></p>	<p><i>Description:</i></p> <p>The PDD did not indicate any ceasing of the project activity after the start date of the project activity.</p> <p><i>Justification of evidences:</i></p> <p>The start date of the project activity was identified to be 2008 -04-04. Prior to the identified start date, there is no possibility of other start date. The justifications are as below:</p> <ul style="list-style-type: none"> <li>• The project participant could not commit to any contract, if the technical design 1 –main report was not approved by the Khanh Hoa Provincial Authority (Department of Industry).</li> <li>• The technical design was approved by the Khanh Hoa Provincial Authority on 2005-08-10.</li> <li>• The EIA approval was issues on 2005-05-10. Prior to this approval, the project owner is not allowed to start construction. Hence, it is not possible to have a contract prior to the approval of EIA without knowing the certainty of</li> </ul>	/PDD/ /C3/ /B3/ /EIA/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<p>the approval.</p> <ul style="list-style-type: none"> <li>The construction of the project activity could not take place until the compensation is completed as the project participant has no rights to develop the land.</li> </ul> <p><i>Conclusion:</i> The validation team concluded that, the project activity did not ceased and recommenced.</p>			
<p>B.4.2.11. Can the CDM involvement in the decision assessed as serious? (EB 55 Annex 1, § 104(b)–(c)) <i>Describe whether or not the project would have been undertaken without the incentive of the CDM.</i></p>	<p><i>Description:</i> CDM involvement in the decision has been taken seriously by the project owner.</p> <p><i>Justification of evidences:</i> The following documents were reviewed by the validation team.</p> <ol style="list-style-type: none"> <li>Board Decision</li> <li>Letter from PE to RCEE</li> <li>Carbon Service Contract with RECC and SV Carbon</li> <li>Letter from the project owner to the Ministry of Natural Resources and Environment on CDM</li> <li>Letter from the project owner to Khanh Hoa provincial people's committee on CDM-</li> </ol> <p><i>Conclusion:</i> By means of document review and onsite interview, CDM has been included in decision from 2005.</p>	<p>/PDD/ /IM02/ /A1/ /A8/ /A9/ /A10/</p>	OK	OK
<p><b>B.4.3. Identification of alternatives Step 1</b></p>				

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
(in case of SSC projects pl. skip steps 1 and 2 if appropriate)				
<p>B.4.3.1. Does the list of alternatives contain the status-quo situation, the project not undertaken as a CDM project as well as all other viable means of supplying the outputs or services that are to be supplied by the proposed CDM project activity?</p> <p>(EB 55 Annex 1, §§ 105–107) <i>Describe the steps taken to validate this issue on the basis of your local and sectoral knowledge.</i></p>	<p><i>Description:</i></p> <p>The project participant has identified the following alternative:</p> <ol style="list-style-type: none"> <li>1. The proposed project activity undertaken without being registered as a CDM project activity;</li> <li>2. Continuation of the current situation (no project activity or other alternatives undertaken)</li> </ol> <p><i>Justification of evidences:</i></p> <p>In general, electricity could be generated with either renewable fuel sources or fossil fuel sources. The project participant has demonstrated the possibility of other renewable sources as compared to the project activity (in this case hydro power).</p> <p>According to the Grid Emission Factor calculation, Viet Nam is still highly dependent on fossil fuel power generation to supply to the demand.</p> <p><i>Conclusion:</i></p> <p>The validation team concluded that the alternatives provided in the PDD is complete and is representative enough of the scenario of power generation in Viet Nam.</p>	<p>/PDD/ /F2/ /ACM2/</p>	<p>OK</p>	<p>OK</p>
<p>B.4.3.2. Have all realistic alternatives been identified to the project?</p> <p>(EB 55 Annex 1, §§ 105–107) <i>Describe whether the list of alternatives is credible and complete. Describe how it is validated that the alternatives</i></p>	<p><i>Description:</i></p> <p>In section B.5 of the PDD the project participant has identified the following realistic alternatives:</p> <ol style="list-style-type: none"> <li>1. The project activity is not undertaken as a CDM project activity.</li> <li>2. Get equivalent electricity supply from the national grid annually.</li> </ol>	<p>/PDD/ /ACM2/ /F2/</p>	<p>OK</p>	<p>OK</p>

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p><i>are realistic.</i></p>	<p><i>Justification of evidences:</i> Review of PDD, methodology and the national grid of Viet Nam.  <i>Conclusion:</i> The validation team concluded that the all realistic alternatives have been identified and discussed with proper evidences and have been substantiated.</p>			
<p><b>B.4.3.3. Do all identified alternatives comply with enforced legislations?</b>  (EB 55 Annex 1, §§ 106(c)) <i>Describe the steps taken to validate this issue. Refer to the legislations.</i></p>	<p><i>Description:</i> The alternatives identified are as below: 1. The proposed project activity undertaken without being registered as a CDM project activity; 2. Continuation of the current situation (no project activity or other alternatives undertaken)  <i>Justification of evidences:</i> In section B.5 of the PDD (sub-step 1b), it has stated that all the mentioned alternatives are in compliance with the laws and regulations of Viet Nam.  <i>Conclusion:</i> The validation team concluded that the all realistic alternatives have been identified and discussed with proper evidences and have been substantiation.</p>	<p>/PDD/ /ACM2/ /F2/</p>	<p>OK</p>	<p>OK</p>
<p><b>B.4.4. Investment analysis Step 2</b>  <i>In case the investment analysis as per step 2 is chosen to justify the additionality Annex 2 "Assessment of Financial Parameters" has to be used to provide</i></p>				

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<i>additonal details of the the calculation parameters..</i>				
B.4.4.1. Does the PDD provide evidence that the project would not be the most economically or financially attractive alternative or economically / financially feasible without the revenues from the sale of CERs?  (EB 55 Annex 1, § 108)	<p><i>Description:</i></p> <p>The project activity will not be financially attractive without the revenues from the sale of CERs. This is documented in the PDD. The PDD has included the summary of the investment cost and operational cost. The PDD has furthermore demonstrated using the sensitivity analysis the additionality of the project activity.</p> <p><i>Justification of evidences:</i></p> <p>The benchmark of 15.75% is the weighted average cost of capital of project activity is used. The financial input values are from the draft technical design 1, main report. The validation team has cross-checked the financial value input in the financial excel calculation with the draft technical design 1, main report of the project activity. The sensitivity analysis includes a variation of electricity generation, project cost, and annual O&amp;M cost.</p> <p><i>Conclusion:</i></p> <p>CAR B3 and CL B4 have been raised.</p>	/PDD/  /C3/  /B3/	<del>CAR-B3</del>  CL-B4	OK  OK
B.4.4.2. Is an appropriate analysis method chosen for the project (simple cost analysis, investment comparison analysis or benchmark analysis)?  (EB 55 Annex 1, § 108; EB 39 Annex 10) <i>Describe why the selected analysis method is appropriate under consideration of potential revenues and costs, potential project alternatives and potential available benchmark values.</i>	<p><i>Description:</i></p> <p>Since the project has income from the sale of electricity, a benchmark analysis is applied.</p> <p><i>Justification of evidences:</i></p> <p>As stated in Section B.5 of PDD, the WACC of the project is applied as the benchmark to demonstrate the project additionality.</p> <p><i>Conclusion:</i></p> <p>Refer to CAR B3.</p>	/PDD/  /D34/	<del>CAR-B3</del>	OK

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>B.4.4.3. Is a clear, viewable and unprotected Excel spreadsheet available for the investment calculation?</p> <p>(EB 55 Annex 1, § 110; EB 51, Annex 58, §8) <i>Describe the steps taken to validate this issue.</i></p>	<p><input checked="" type="checkbox"/> Yes, a clear, viewable and unprotected Excel spreadsheet is available.</p> <p><input type="checkbox"/> No, a respective Excel spreadsheet needs to be made available for investment calculation.</p> <p>In this context the following additional findings have been identified: CAR B5 was raised.</p>	/D34/	<del>CAR B5</del>	OK
<p>B.4.4.4. Does the period chosen for the investment analysis reflect the technical lifetime of the project activity or in case a shorter period is chosen, is the fair value of the project activity's assets at the end of the investment analysis period (as a cash inflow) included?</p> <p>(EB 55 Annex 1, § 109; EB 62 Annex 5, § 3 – 4) <i>Describe how the technical lifetime / period chosen for calculating financial parameter(s) is reviewed and which documents were utilised in the course of review. Describe furthermore the approach used to check the inclusion of a potential fair value.</i></p>	<p><i>Description:</i></p> <p>The crediting period chosen is 7 years renewable to demonstrate investment analysis as stated in the PDD, section C.2.1.2. The technical lifespan of the project is 40 years which is longer than the renewal crediting period of 3 x 7 years.</p> <p><i>Justification of evidences:</i></p> <p>As accordance to the Decision 709, the term of the project for hydropower plant of more than 30MW is 40 years.</p> <p>The default values for technical life time for hydro turbines is presided as 150,000 hrs (= 17.12 years) for continuous operation. Considering 41.8% annual generation PLF, the technical life time for this project activity is approx. 41 years.</p> <p>As accordance to the Guidelines on the assessment of Investment Analysis version 03, both project IRR and equity IRR calculations shall as a preference reflect the period of expected operation of the underlying project activity (technical lifetime)</p> <p><i>Conclusion:</i></p> <p>Refer to CAR B3.</p>	/PDD/ /D34/	<del>CAR B3</del>	OK
<p>B.4.4.5. Is the (remaining) technical lifetime of</p>	<p><i>Description:</i></p>	/PDD/	OK	OK

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>existing or project equipment defined in accordance with the guidance of the <i>Tool to determine the remaining lifetime of equipment?</i></p> <p>(EB 50 Annex 15)</p>	<p>The proposed project activity is a new installed hydropower plant project activity.</p> <p><i>Justification of evidences:</i></p> <p>In accordance with the tool, the scope and applicability of the tool is used for project activities which involve the replacement of existing equipment with new equipment or which retrofit existing equipment as part of energy efficiency improvement activities.</p> <p><i>Conclusion:</i></p> <p>Therefore, the tool is not applicable to this project activity.</p>			
<p>B.4.4.6. Is the fair value calculated in accordance with local accounting regulations (where available) or international best practice?</p> <p>(EB 55 Annex 1, § 109; EB 62 Annex 5, § 4)</p> <p><i>State the accounting regulations applied for calculating the fair value and describe why these are applicable under the project specific circumstances. Describe potential mismatches between regulations and the approach applied for calculating the fair value.</i></p>	<p><i>Description:</i></p> <p>A fair value is not applied for this project activity. A salvage value is considered in the financial calculations.</p> <p><i>Justification of evidences:</i></p> <p>Salvage value has been included in the final year of investment calculation.</p> <p>In accordance to the Guideline on the assessment of Investment Analysis version 05, the technical lifetime refers to the period of expected operation of the underlying project activity which is considered as the operation lifetime</p> <p><i>Conclusion:</i></p> <p>Hence, a fair value was not applied.</p>	<p>/PDD/ /D34/</p>	<p>OK</p>	<p>OK</p>
<p>B.4.4.7. Is the book value as well as the expectation of the potential profit or loss included in the fair value calculation?</p>	<p><i>Description:</i></p> <p>A salvage book value is considered in the financial calculations. The percentage applied is 5% of the project capital investment.</p>	<p>/PDD/ /D34/ /B27/</p>	<p>OK</p>	<p>OK</p>

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(EB 55 Annex 1, § 109; EB 62 Annex 5, § 4)	<p>The value is applied at year 40 of the project period.</p> <p><i>Justification of evidences:</i></p> <p>By means of document review and the checking the financial analysis spreadsheet.</p> <p><i>Conclusion:</i></p> <p>The project participant has chosen 40 years (operational lifetime of the project activity) as the period to demonstrate the investment analysis. According to the Guideline on the assessment of Investment Analysis version 05, if the period chosen is not shorter than the expected operation of the underlying project activity, a fair value is not required. However, for conservativeness, the project owner applied 5% of the capital investment.</p>			
<p>B.4.4.8. Are depreciation and other non-cash related items only considered in the tax calculation and not as cash outflow?</p> <p>(EB 55 Annex 1, § 109; EB 62 Annex 5, § 5)</p>	<p><i>Description:</i></p> <p>The project participant has deducted the depreciation and interest of the term loan to calculate the taxable profit.</p> <p>The project participant has added back the depreciation and the interest of the term loan (non-cash related items) into the IRR calculation.</p> <p><i>Justification of evidences:</i></p> <p>The validation team has checked the IRR calculation. In the “IRR” work sheet of the IRR excel spread sheet, it has indicated that the depreciation and interest of the term loan have been added back into the IRR calculation.</p> <p>The O&amp;M cost is according to the draft technical design 1, main report.</p>	<p>/PDD/ /D34/ /C3/</p>	<p>OK</p>	<p>OK</p>



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	<p>The investment cost is from the draft technical design 1, main report.</p> <p><i>Conclusion:</i></p> <p>The financial calculation is an income and expenditure analysis that depreciation and non cash items are included in the taxation calculation</p>			
<p>B.4.4.9. Were the input values used in the investment analysis valid and applicable at the time of the investment decision?</p> <p>(EB 55 Annex 1, § 109,112; EB 62 Annex 5, § 6)</p> <p><i>In case the basis for input values is a Feasibility Study Report (FSR) describe how it has been ensured that the period in time between the finalisation of the FSR and the investment decision is sufficiently short so that it is unlikely that input values would have materially changed. Further confirm the consistency of values in FSR and PDD.</i></p>	<p><i>Description:</i></p> <p>The values applied for the investment analysis are valid and applicable at the time of the investment decision made by the Board.</p> <p>The values are from the revised draft technical design 1, main report which was lity studies report approved by the Ministry of Industry dated 2005-08-10.</p> <p><i>Justification of evidences:</i></p> <p>During the on-site visits, the validation team was provided with the technical design 1, main report with approval obtained from the the PPC of Khanh Hoa Department of Industry and Trade. The values stated in the documents are used in the financial calculations. A copy of the draft and final technical design 1, main report and approval was provided to support the data stated in the financial calculations.</p> <p><i>Conclusion:</i></p> <p>Refer to CL B4.</p>	<p>/PDD/ /D34/ /B9/ /C3/ /C5/</p>	<p>CL-B4</p>	<p>OK</p>
<p>B.4.4.10. Is the plant load factor (PLF) chosen in a conservative manner, taking into account</p>	<p><i>Description:</i></p> <p>The plant load factor as stated in the PDD is 41.8% and based on</p>	<p>/PDD/ /C3/</p>	<p>CL-B6</p>	<p>OK</p>

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
that the PLF may be different in the framework of demonstrating additionality and calculating the ex-ante ER? (EB 48, Annex 11)	the draft technical design 1, main report. <i>Justification of evidences:</i> The PLF is calculated based on the average operating hour of the project activity. The operating hour for project activity is hours/year. It is a common practice in Viet Nam that all hydro power plants have low PLF as due to wet and dry seasons in Viet Nam. <i>Conclusion:</i> CL B6 was raised.			
B.4.4.11. In case of project IRR: Are the costs of financing expenditures (loan repayments and interests) excluded from the calculation of project IRR? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 9)	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Yes, the costs of financing expenditures have been included. <input type="checkbox"/> No, this requirement is not met.	/PDD/ /D34/	N/A	N/A
B.4.4.12. In cases where a post-tax benchmark is applied please ensure that actual interest payable is taken into account in the calculation of income tax. (EB 55 Annex 1, § 109; EB 62 Annex 5, § 11) <i>If this is not the case, ensure that taxation is excluded from the investment analysis.</i> <i>As per the guidance it is recommended to select a pre tax benchmark in order to describe the steps taken in assessing this requirement.</i>	<input type="checkbox"/> N/A <input type="checkbox"/> Yes, the interest has been taken into account. <input checked="" type="checkbox"/> No, this requirement is not met.  In this context the following additional findings have been identified: <b>CL B7.</b>	/PDD/ /D34/	<del>CL B7</del>	OK
B.4.4.13. In case of equity IRR: Is the part of the	<input checked="" type="checkbox"/> N/A	/PDD/	N/A	N/A

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
investment costs, which is financed by equity considered as net cash outflow and is the part financed by debt excluded in net cash outflow?  (EB 55 Annex 1, § 109; EB 62 Annex 5, § 10)	<input type="checkbox"/> Yes, cash in- and outflows have been considered correctly. <input type="checkbox"/> No, this requirement is not met.			
<b>B.4.4.14.</b> Is the type of benchmark chosen appropriate for the type of IRR calculated (e.g. local commercial lending rates or weighted average costs of capital for project IRR; required/expected returns on equity for equity IRR)?  (EB 55 Annex 1, § 111; EB 62 Annex 5, §§12 – 18) <i>In case risk premiums are applied precisely describe its suitability to reflect the risks associated with the project activity, considering the project type and market situation.</i>	<i>Description:</i> The proposed project activity uses the benchmark analysis. Since the investment return is demonstrated with the Project IRR, the weighted average costs of capital is applied in accordance to the Guidelines on the assessment of investment analysis version 03.  <i>Justification of evidences:</i> The validation team has reviewed the financial analysis to determine the WACC, the source of the data and the date of the data applied.  <i>Conclusion:</i> CL B8 was raised. Please also refer to CL.B17	/PDD/ /D34/	<del>CL-B8</del> <del>CL-B17</del>	OK
<b>B.4.4.15.</b> Is the benchmark value suitable for the project activity and is it reasonable to assume that no investment would be made at a rate of a lower return than the benchmark?  (EB 55 Annex 1, § 109; EB 62 Annex 5, §§13 – 18) <i>Describe whether it is reasonable to assume that a lower rate of return would consequently result in the baseline scenario.</i>	<i>Description:</i> The benchmark selected is a weighted average of capital costs.  <i>Justification of evidences:</i> From the review of the financial analysis and interviewing the project owner without the CERs, it is not financially attractive to invest in the project.  <i>Conclusion:</i>	/PDD/ /D34/ /IM02/	<del>CL-B8</del> <del>CL-B17</del>	OK

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
	<p>From the interview of the project owner, with a lower rate of return and CERs to support the project.</p> <p>Refer to CL B8.</p> <p>Also refer to CL.B17.</p>			
<p>B.4.4.16. Is it ensured that the project cannot be developed by other developers than the PP?</p> <p>(EB 55 Annex 1 § 109; EB 62 Annex 5, §§ 13 – 14)</p> <p><i>Describe why the benchmark does not include the subjective profitability expectations or risk profile of the project developer. If applicable assess the past financial behavior of the entity during at least the last 3 years in relation to similar projects.</i></p>	<p><i>Description:</i></p> <p>The project activity could be developed by any other entity besides the project developer. Therefore, the benchmark demonstrated by the project developer is based on publicly available data.</p> <p><i>Justification of evidences:</i></p> <p>The project participant has applied a publicly available data source to determine the WACC.</p> <p><i>Conclusion:</i></p> <p>In accordance to EB62 Annex 05, since the benchmark is determined by publicly available data source, even, if the project is developed by other entity, the benchmark will remain the same. The benchmark approach reflects publicly available data source and not a developer specific benchmark. However, refer to CL B8.</p>	<p>/PDD/ /IM02/ /D14/ /B21/</p>	<p>CL-B8</p>	<p>OK</p>
<p>B.4.4.17. Was the benchmark consistently used in the past for similar projects with similar risks?</p> <p>(EB 55 Annex 1, § 112(c))</p>	<p><i>Description:</i></p> <p>The benchmark could be consistently used in other similar projects with similar risk.</p> <p><i>Justification of evidences:</i></p> <p>The project activity applied a publicly available data source to determine the benchmark that is the WACC.</p>	<p>/PDD/ /IM02/ /D14/</p>	<p>CL-B8</p>	<p>OK</p>

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
	<p>The project activity could be developed by an entity other than the project participant since the benchmark applied was based on publicly available data source.</p> <p><i>Conclusion:</i></p> <p>The benchmark applied was based on the publicly available data source. However, refer to CL B8.</p>			
<p>B.4.4.18. Does the PDD and related spreadsheets contain a sensitivity analysis and does the same contain variation of parameters which may vary throughout the project lifetime,</p> <p>(EB 55 Annex 1, §§ 109–110(e); EB 62 Annex 5, § 20-21)</p> <p><i>Describe relevance of parameters used in the sensitivity analysis as well as their likeliness to vary during the project's lifetime. Parameters which are fixed on the basis of contracts, PPAs etc. may not be subject to variation and not adequate.</i></p>	<p><i>Description:</i></p> <p>The PDD and the excel spreadsheet have demonstrated the sensitivity analysis to the proposed project activity.</p> <p><i>Justification of evidences:</i></p> <p>The project participant applied the below parameter for the sensitivity analysis with a ±10% variant</p> <ul style="list-style-type: none"> <li>a) Electricity Tariff</li> <li>b) Total investment Cost</li> <li>c) O&amp;M cost</li> <li>d) Annual power generation</li> </ul> <p>The variants applied to demonstrate the sensitivity is the same parameter which was used every year in the financial analysis.</p> <p>The possible parameter that may have been considered in the sensitivity analysis which is likely to vary is insurance premium.</p> <p><i>Conclusion:</i></p> <p>It is concluded that the variants selected are deemed appropriate and in accordance to EB62 Annex 5 paragraphs 20 and 21.</p>	<p>/PDD/ /D34/ /GAIA/</p>	<p>OK</p>	<p>OK</p>

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<p>B.4.4.19. Were only variables that constitute more than 20% of either total project costs or total project revenues subjected to reasonable variation?</p> <p>(EB 55 Annex 1, § 109; EB 62 Annex 5, § 20)</p>	<p><i>Description:</i></p> <p>The variable applied is 10% to demonstrate additionality using the 4 financial indicators of electricity tariff, total investment cost, O&amp;M cost and annual power generation.</p> <p><i>Justification of evidences:</i></p> <p>All the parameters which included in the sensitivity analysis have a material impact on the financial analysis.</p> <p>The parameters of electricity generation constitute 100% of either the total project revenues or the total project cost.</p> <p>As according to paragraph 20 of EB62 Annex 5, the project cost has been included as one of the parameter.</p> <p>Although the O&amp;M cost constitute less than 20% of the either the total project cost or total investment cost. However, since there is a material impact, the consideration of the analysis has been considered.</p> <p><i>Conclusion:</i></p> <p>All the parameters which included in the sensitivity analysis have a material impact on the financial analysis.</p> <p>The parameter electricity generation constitute 100% of either the total project revenues or total project costs</p> <p>According to paragraph 20 of EB62 Annex 5, the cost of project has been included as one of the parameter.</p> <p>Although the O&amp;M cost constitute less than 20% of the either the total project cost or total investment cost. However, since there is a material impact, it has been considered in the analysis.</p>	<p>/PDD/ /D34/ /GAIA/</p>	<p>OK</p>	<p>OK</p>

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<p>B.4.4.20. Have parameters, constituting less than 20% of total project costs or revenues, been identified with potential material impact on the financial parameter?</p> <p>(EB 55 Annex 1, § 109; EB 62 Annex 5, § 20) <i>Describe whether those parameters are considered in the sensitivity analysis?</i></p>	<p><i>Description:</i></p> <p>There are not other costs which have been considered as expenses of the project activity.</p> <p><i>Justification of evidences:</i></p> <p>The O&amp;M cost constitute less than 20% of the either the total project cost or total investment cost. However since there is a material impact, it has been considered in the analysis.</p> <p><i>Conclusion:</i></p> <p>The validation team concluded there are no other parameters which will have potential material impact to the financial analysis besides those described above in B.4.4.18..</p>	<p>/PDD/ /D34/ /GAIA/</p>	<p>OK</p>	<p>OK</p>
<p>B.4.4.21. Is the range of variation reasonable in the specific context of the project activity, taking into consideration historic trends in the business sector?</p> <p>(EB 55 Annex 1, § 109; EB 62 Annex 5, § 21) <i>Describe whether the range of variation is appropriate with focus on historic developments, e.g. price of oil / labour etc., energy potential in the region in question.</i></p>	<p><i>Description:</i></p> <p>The range of the variation applied by the project participant to demonstrate the sensitivity analysis is <math>\pm 10\%</math> which is considered reasonable and applicable.</p> <p><i>Justification of evidences:</i></p> <p>The project participant has applied the range of <math>\pm 10\%</math> which is accordance to the Guideline on assessment of investment analysis EB 51 Annex 58 paragraph 18. There were no past trends to be considered.</p> <p><i>Conclusion:</i></p> <p>As a result of the outcome of the review and the interview with the project owner, the validation team is convinced the variable applied is deemed reasonable and appropriate.</p>	<p>/PDD/ /D34/ /GAIA/</p>	<p>OK</p>	<p>OK</p>

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<b>B.4.5. Barrier analysis Step 3 or SSC additionality assessment</b>				
B.4.5.1. Are there any barriers given which have a clear and direct impact on the financial returns of the project?  (EB 55 Annex 1, §§ 115, 134, 137) <i>In case of LSC projects those issues cannot be considered as barriers and shall be assessed in the investment analysis. In case of SSC projects the same fundamentals as for LSC projects shall apply, i.e. the assessment of the investment barrier according to EB 62 Annex 5.</i>	<i>Description:</i> There are no other barriers besides the investment analysis to demonstrate additionality.  <i>Justification of evidences:</i> The project activity has demonstrated to be additional due to the financial returns of the project activity being below the benchmark.  <i>Conclusion:</i> The only barrier is the investment barrier.	/PDD/ /D34/	OK	OK
B.4.5.2. Are the barriers described risk related (e.g technology failure, other performance related risks)?  (EB 55 Annex 1, §§ 116, 134, 137) <i>Are there other barriers or barriers due to prevailing practice existent which would have led to higher emissions?</i>	<i>Description:</i> The project does not face any other barriers besides the investment.  <i>Justification of evidences:</i> Refer to the analysis under B.4.4.1 and to B.4.4.2 above.  <i>Conclusion:</i> The project does not face another barrier besides the investment barrier.	/PDD/ /D34/	OK	OK
B.4.5.3. Has the unavailability of means of finance for the proeject been described and adequately substantiated? Do evidences doubtlessly prove that the financing of the project was assured only due to the benefit	<i>Description:</i> Refer to B.4.5.1  <i>Justification of evidences:</i>  <i>Conclusion:</i>	/PDD/ /D34/	OK	OK



<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
of the CDM? (EB 55 Annex 1, §§ 116, 137, EB 50 Annex 13, § 9)				
B.4.5.4. How is it justified and evidenced that the barriers given in the PDD are real? (EB 55 Annex 1, § 116(a))	<p><i>Description:</i></p> <p>The investment is a real barrier to the project and it has been justified by demonstrating the financial analysis.</p> <p><i>Justification of evidences:</i></p> <p>The CERs earning will assist to support financing of the investment cost for the project, even though there is an income from the electricity sales to the grid.</p> <p><i>Conclusion:</i></p> <p>It can be concluded that the investment is a barrier to the project.</p>	/PDD/ /D34/	OK	OK
B.4.5.5. How is it justified that one or a set of real barriers prevent(s) the implementation of the project activity and do not prevent the implementation of at least one of the alternatives? (EB 55 Annex 1, § 116(b))	<p><i>Description:</i></p> <p>The project activity had demonstrated the additionality of the project activity with the financial indicator IRR. The IRR demonstrated in the investment analysis is below the applied benchmark, if the project activity will not be implemented with CDM benefits.</p> <p><i>Justification of evidences:</i></p> <p>Refer to B.4.5.1 and B.4.5.2</p> <p><i>Conclusion:</i></p> <p>Thus it can be concluded the investment is the only barrier to the project.</p>	/PDD/ /D34/	OK	OK
B.4.5.6. Does the review of relevant background information on the nature of the	<p><i>Description:</i></p> <p>The project activity identify investment barrier as a barrier. The</p>	/PDD/	OK	OK

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
company(ies) and entity(ies) involved in the financing and implementation of the project sufficiently justify that the barriers related to the lack of access to capital, technologies and skilled labour are real?  (EB 50 Annex 13, § 4)	project activity has applied Investment analysis to demonstrate the additionality.  <i>Justification of evidences:</i> Refer to B.4.4.1 to B.4.4.16 and B.4.5.1  <i>Conclusion:</i> Refer to B.4.4.1 to B.4.4.16 and B.4.5.1			
B.4.5.7. Has it been demonstrated in an objective way how the CDM alleviates each of the identified barriers to a level that the project is not prevented anymore from occurring by any of the barriers?  (EB 50 Annex 13, § 5)	<i>Description:</i> Refer B.4.5.1  <i>Justification of evidences:</i> CDM alleviates the investment barrier by the investment analysis,  <i>Conclusion:</i> Refer to B.4.4.1 to B.4.4.16	/PDD/	OK	OK
B.4.5.8. Would provision of additional financial means lead to the mitigation of the barrier(s) demonstrated?  (EB 50 Annex 13, § 7) <i>Describe why provision of additional financial means would not lead to mitigation of the barrier(s) demonstrated and hence analysing the project's additionality within the framework of an investment analysis is inappropriate. .</i>	<i>Description:</i> Refer to B.4.5.1 The project activity identify investment barrier as a barrier. The project activity has applied Investment analysis to demonstrate the additionality.  <i>Justification of evidences:</i> Refer to b.4.4.1 to B.4.4.16  <i>Conclusion:</i> Refer to b.4.4.1 to B.4.4.16	/PDD/	OK	OK
<b>B.4.6. Common practice analysis Step 4</b>				

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
(in case of SSC projects skip this step)				
B.4.6.1. Is the defined region for the common practice analysis appropriate for the technology/industry type?  (EB 55 Annex 1, § 120(a)) <i>Describe why the project activity is not common practice in a transparent and unambiguous manner. If a region other than the entire host country is chosen, describe why this region is more appropriate.</i>	<i>Description:</i> There is no region define for the project activity. According to Viet Nam's Construction Code – TCXDVN 285: 2002, the project activity is classified as belonging to Group III.  <i>Justification of evidences:</i> The validation team has reviewed the PDD, step 4 “common practice analysis” which is in accordance with the tool to demonstrate and assessment of additionality version 6.0.  <i>Conclusion:</i> However, CAR B9 was raised.	/PDD/ /GCP/ /TA/	<del>CAR B9</del>	OK
B.4.6.2. To what extent similar projects have been undertaken in the relevant region?  (EB 55 Annex 1, § 120(b))	<i>Description:</i> Refer to B.4.6.1.  <i>Justification of evidences:</i> Refer to B.4.6.1.  <i>Conclusion:</i> Refer to CAR B9.	/PDD/	<del>CAR B9</del>	OK
B.4.6.3. In case similar projects are identified, are there any key differences between the proposed project and existing or ongoing projects and what kind of differences are observed?	<i>Description:</i> Refer to B.4.6.1.  <i>Justification of evidences:</i> Refer to B.4.6.1.	/PDD/	<del>CAR B9</del>	OK

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
(EB 55 Annex 1, § 120(c))	<i>Conclusion:</i> Refer to B.4.6.1.			
<b>B.5. Ex-Ante Calculation of GHG Emission Reductions</b>  <i>It is assessed whether the ex-ante calculations of project emissions, baseline emissions, leakage emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified. Furthermore calculation of emission reductions shall be assessed.</i>				
B.5.1. Are the equations applied correctly according to the applied approved methodology?  (EB 55 Annex 1, §§ 67(c), 89–90, 92) <i>Describe clearly the steps taken to assess whether the methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions. Further take into consideration that all estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD.</i>	<input type="checkbox"/> The equations applied for calculation are correctly applied according to the approved methodology. <input checked="" type="checkbox"/> The following mistakes have been identified in this context:  <i>Description:</i> The equation applied for calculating ER is not in accordance with the methodology.  <i>Justification of evidences:</i> The PDD was reviewed against the methodology ACM0002 to check the correctness of the equation.  <i>Conclusion:</i> CAR B10 was raised.	/PDD/ /ACM2/	CAR B10	OK
B.5.2. In case the methodology allows for different	<i>Description:</i>	/PDD/	OK	OK

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>methodological choices, are the equations applied properly justified and have they been used reflecting the other methodological choices (i.e. baseline identification)?</p> <p>(EB 55 Annex 1, §§ 90–91) <i>Assess the correct selection and application of methodological choices. Describe whether proper justification has been provided (based on the choice of the baseline scenario, context of the project activity and other evidence provided) and whether the correct equations have been used reflecting the relevant methodological choices.</i></p>	<p>The methodology applied to this project does not indicate or link to any other methodological choices.</p> <p>However, the tool to calculate the emission factor for an electricity system allows choices.</p> <p><i>Justification of evidences:</i></p> <p>Reviewing of the methodology ACM0002 did not indicate any other methodological choices.</p> <p><i>Conclusion:</i></p> <p>There is not link to any other methodologies.</p>	/ACM2/		
<p>B.5.3. Have conservative assumptions been used when calculating the project emissions?</p> <p>(EB 55 Annex 1, §§ 90–91) <i>Describe clearly the steps taken to assess whether all the assumptions and data used by the PP are listed in the PDD including references and sources and are conservatively interpreted in the PDD.</i></p>	<p><i>Description:</i></p> <p>As per the guidance in methodology ACM0002, there are no expected project emissions for hydropower plants which have a run-of river reservoir with the power density larger than 10W/m<sup>2</sup>.</p> <p>However, the project activity is expected to have back up power from the grid or diesel genset to operate its auxiliary equipments during any non-operational phase of the power plant.</p> <p><i>Justification of evidences</i></p> <p>The validation team has reviewed the PDD and methodology. Based on the equation 7, the power density of this project is larger than 10W/m<sup>2</sup>. During the on-site visit, the validation team has interviewed the project participant to confirm the back-up power for the project activity will be from the grid and diesel genset, when the project activity is not in operation.</p> <p><i>Conclusion:</i></p>	/PDD/ /ACM2/	GAR B11	OK

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	The project emissions from reservoir are considered to be zero. However, CAR.B11 was raised.			
B.5.4. Does the implementation of the project activity lead to GHG emissions within the project boundary which are expected to contribute more than 1% of the overall expected average annual emission reductions, which are not addressed by the methodology?  (EB 55 Annex 1, § 77)	<i>Description:</i> Refer to B.5.3 above  <i>Justification of evidences:</i> Refer to B.5.3 above  <i>Conclusion:</i> Refer to CAR B11	/PDD/ /ACM2/	CAR B11	OK
B.5.4.1. Has a plant load factor (PLF) been defined ex-ante and considered for determination of baseline emissions?  (EB 48 Annex 11, §§ 1, 3–4) <i>Describe why the PLF is conservative in the framework of calculating emissions reductions and whether the PLF is the same in the framework of demonstrating additionality by applying the investment analysis. Note, in order to be conservative in both cases the PLF may be different.</i>	<i>Description:</i> Refer to B.4.4.11  The plant load factor is 41.8% stated in the PDD and the IRR which is based on the FSR.  <i>Justification of evidences:</i> The baseline emission has been determined from ex-ante plant availability factor. The factor has been determined from hydrological study for reporting in FSR.  <i>Conclusion:</i> Refer to CL B4.	/PDD/	CL-B4	OK
B.5.5. Are all data sources and assumptions appropriate and parameters which remain fixed throughout the crediting period correct, applicable to the project and will lead to a conservative estimation of emission	<i>Description:</i> The ex-ante data and parameters are stated in section B.6.2 of the PDD and remain fixed through the crediting period.  <i>Justification of evidences:</i>	/PDD/	OK	OK

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>reductions? (EB 55 Annex 1, § 91) <i>Describe clearly the steps taken to assess whether the values used for the fixed parameters are considered reasonable, correct and applicable in the context of the project activity. Check esp. chapter 6.2 of the PDD.</i></p>	<p>The PDD has identified the following to remain as fixed parameters throughout the crediting period: Combined Margin Grid Emission Factor - <math>EF_{CM,grid,y}</math></p> <ol style="list-style-type: none"> <li>1. Net electricity generated and delivered to the grid by power unit <math>m</math> - <math>EG_{m,y}</math></li> <li>2. Operating Margin CO<sub>2</sub> Emission Factor - <math>EF_{grid,OMsimple,y}</math></li> <li>3. CO<sub>2</sub> emission factor of power unit <math>m</math> - <math>EF_{EL,m,y}</math></li> <li>4. CO<sub>2</sub> emission factor of fossil fuel type <math>i</math> used in power unit <math>m</math> - <math>EF_{CO2,i,y}</math></li> <li>5. Average net energy conversion efficiency of power unit <math>m</math> or <math>k</math> - <math>\eta_{m,y}</math></li> <li>6. Build Margin Grid Emission Factor - <math>EF_{grid,BM,y}</math></li> <li>7. Installed capacity of hydropower plant – <math>C_{APjBL}</math></li> <li>8. Area of reservoir - <math>A_{BL}</math></li> </ol> <p><i>Conclusion:</i></p> <p>The data and parameter fixed as ex-ante are conservative and applicable to the project that lead to conservative estimation of emissions reductions.</p>			
<p>B.5.6. Are all ex-ante calculation values for monitoring parameters (as defined as per chapter B.7.1) reasonable? (EB 55 Annex 1, § 91) <i>Describe clearly the steps taken to assess whether the values used for the monitoring parameters are considered</i></p>	<p><input checked="" type="checkbox"/> All “Values of data to be applied for the purpose of calculating expected emissions reductions” are considered to be reasonable, applicable and conservative.</p> <p><input type="checkbox"/> The following mistakes have been identified in this context:</p>	/PDD/	OK	OK

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<i>reasonable, applicable and conservative in the context of the project activity</i>				
<p>B.5.7. Are the emission reductions real, measurable and give long-term benefits related to the mitigation of climate change. <i>Describe the steps taken to validate this issue.</i></p>	<p><i>Description:</i></p> <p>The emissions reductions are real, measurable and give long term benefits to mitigate climate change.</p> <ol style="list-style-type: none"> <li>1. Reduce the dependent on fossil fuel for electricity generation</li> <li>2. Reduce the emissions of CO<sub>2</sub> into the atmosphere generated by the fossil fuel power plants connected to the host country Viet Nam national grid.</li> </ol> <p><i>Justification of evidences:</i></p> <p>The validation team has reviewed the power generation documents submitted that the host country Viet Nam national grid is dominated by fossil fuel.</p> <ol style="list-style-type: none"> <li>1. The technology employed in general is less GHG polluting than commonly utilized power plants based on fossil fuels;</li> <li>2. The data sources for determining the baseline emission factor are publically available.</li> </ol> <p><i>Conclusion:</i></p> <p>The emission reductions are real and measurable.</p>	<p>/PDD/</p>	<p>OK</p>	<p>OK</p>



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<b>B.6. Monitoring of Emission Reductions</b>  <i>It is assessed whether the monitoring plan is appropriate for the project activity and in line with the applied methodology.</i>				
<p>B.6.1. Are all monitoring parameters required by the applied methodology contained in the monitoring plan?</p> <p>(EB 55 Annex 1, §§ 67(e), 121, 123(a), 124)  <i>Assess whether all applicable parameters listed in the methodology are included in the monitoring plan.</i></p> <p><i>Pl. check further whether the selection of parameters not to be monitored (section B.6.2) is appropriate and in line with the applied methodology.</i></p> <p><i>In case of different approaches can be chosen acc. to the methodology assess whether the selection of parameters is justified and correct.</i></p>	<p><i>Description:</i></p> <p>The proposed project activity is a hydropower project activity. Therefore, the monitoring parameters included in the monitoring plan according to ACM0002 are the net electricity supplied by the project activity to the grid. Since it is expected that the backup power of the project activity is from the grid system, the electricity generation metered should be adjusted by deducting the electricity generation from fossil fuels using the specific fuel consumption and the quantity of fossil fuel consumed.</p> <p><i>Justification of evidences:</i></p> <p>The validation team has interviewed the project participant to confirm the usage of grid electricity as backup power to the operation of the project activity auxiliary equipment during any emergency and maintenance. The validation team has compared the monitoring plan stated in the PDD with the requirement of ACM0002</p> <p><i>Conclusion:</i></p> <p>Finding CAR B12 was raised.</p>	<p>/PDD/ /ACM2/ /IM02/</p>	<p><del>CAR</del> B12</p>	<p>OK</p>
<p>B.6.2. Are the means of monitoring of all parameters contained in the monitoring plan feasible and in accordance with the requirements of the</p>	<p><i>Description:</i></p> <p>The parameter contained in the monitoring is feasible. It has a label, data unit, description, source of data, measurement</p>	<p>/PDD/ /ACM2/</p>	<p><del>CAR</del> B12 <del>CL</del></p>	<p>OK OK</p>

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>applied methodology? (EB 55 Annex 1, § 123(a)–(b), 124) <i>Assess whether the provided information for all parameters w.r.t.</i></p> <p>a) <i>Label (name of the data / parameter)</i> b) <i>data unit</i> c) <i>description</i> d) <i>source of data</i> e) <i>measurement equipment / method / procedure</i> f) <i>monitoring frequency</i> g) <i>QA/QC procedures</i></p> <p><i>are appropriately described and in compliance with the requirements of the methodology..</i></p>	<p>equipment, and QA/QC procedures.</p> <p>The methodology requires to monitor the following: :</p> <ul style="list-style-type: none"> <li>• Net electricity supplied by the project activity to the grid.</li> <li>• Electricity consumption supply from the grid.</li> <li>• Water Surface Area</li> <li>• Installed capacity of Project</li> </ul> <p><i>Justification of evidences:</i></p> <p>The PDD has described the monitoring method of EG<sub>y</sub> as accordance to the requirement of ACM0002 version 11.</p> <p>The net electricity exported will be continuously monitored at the connection point to the National Electricity Grid of Viet Nam (substation). The amount of the exported electricity can be cross-checked with the monthly invoice. The electricity meter will be calibrated by EVN or an accredited metering organization authorised by EVN.</p> <p><i>Conclusion:</i></p> <p>The data and parameter to be monitored are appropriately reference and labelled. However, CL B13 was raised.</p>		B13	
<p>B.6.3. Are all parameters presented as per international standards?</p> <p>a) <i>Format: Standard format (e.g. 1,000 representing one thousand and 1.0 representing one).</i></p> <p>b) <i>Units: Values shall be directly given in SI units – or additionally to original units transferred to SI.</i></p>	<p><input checked="" type="checkbox"/> Standard formats have been used</p> <p><input checked="" type="checkbox"/> SI units were used – or added</p> <p><input checked="" type="checkbox"/> The short scale naming is correct</p> <p>In this context the following additional findings have been identified: N/A</p>	/PDD/	OK	OK

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>c) <i>Short scale naming system: (Only) million = 10<sup>6</sup> and billion 10<sup>9</sup> shall be used.</i></p> <p><i>Please refer to the International System of Units (SI) as published within Guidance 11/08.</i></p>				
<p>B.6.4. Have all means of implementing the monitoring plan, e.g. equations necessary for ex-post emission reduction calculation, been described clearly and in line with the methodology?</p> <p>(EB 55 Annex 1, §§ 123(b), 124)</p> <p><i>Check whether all necessary equations have been provided in the PDD. Pl. consider that ex-post and ex-ante calculations might be different.</i></p> <p><i>Please consider that additional equations might be necessary to calculate auxiliary parameters.</i></p>	<p><i>Description:</i></p> <p>Refer to B.5.2 and B.5.3</p> <p>The equations applied for ex-post emissions reduction calculation are in accordance with the methodology.</p> <p><i>Justification of evidences:</i></p> <p>The project participant did also not state the monitoring of the GEF (ex-ante or ex-post). The project activity is expected to import grid electricity supply and genset as backup power for the auxiliary equipment.</p> <p><i>Conclusion:</i></p> <p>Refer to CAR B12.</p>	/PDD/	CAR B12	OK
<p>B.6.5. Is it likely that the monitoring arrangements described in the PDD can properly be implemented in the context of the project activity?</p> <p>(EB 55 Annex 1, § 124(c))</p> <p><i>Assess whether the described monitoring arrangements are sufficient and realistic to enable a thorough monitoring. Pl. consider also special monitoring conditions, e.g. downtimes of monitoring equipment etc.</i></p>	<p><i>Description:</i></p> <p>The monitoring arrangement as described in the PDD will be implemented accordingly.</p> <p><i>Justification of evidences:</i></p> <p>The validation team has interviewed project owner and carbon consultant during the on-site visit for the understanding of the implementation of the monitoring during operations. QA/QC procedures will be established before operations begin.</p> <p><i>Conclusion:</i></p>	/PDD/ /IM02/	FAR B14	FAR B14

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
	The validation team is convinced, the monitoring arrangements be implemented accordingly. However, FAR B14 was raised.			
<p>B.6.6. Are the QA/QC procedures appropriate sufficient to ensure the emission reductions achieved from the project activit can be reported ex-post and verified?</p> <p>(EB 55 Annex 1, § 124(b)) Please consider the description given in section B.7.2. Describe which QA/QC provisions are considered. Address Quality Management System provisions, calibration and maintenance of equipment. Address further any review procedures.</p>	<p><i>Description:</i> Refer to B.6.4 above</p> <p><i>Justification of evidences:</i> Refer to B.6.4 above</p> <p><i>Conclusion:</i> Refer to FAR B14</p>	/PDD/	FAR B14	FAR B14
<p>B.6.7. Are procedures identified for data management?</p> <p>(EB 55 Annex 1, § 124(b)) Check whether appropriate provisions are considered for data management including responsibilities, what records to keep, storage area of records and how to process performance documentation</p> <p>Check further the data archiving provisions for the project activity and ensure that provisions are made to archive data for the whole crediting period + 2 years.</p>	<p><i>Description:</i> Section B.7.2 and Annex 4 of the PDD has indentified data management. All data will be electronically archived for 2 years after expiry of the last crediting period.</p> <p><i>Justification of evidences:</i> The validation team has reviewed the respective section of the PDD and interview the project developer on data management. A brief organisation chart has been included in Section B.7.2 of the PDD indicating the data management of the project activity.</p> <p><i>Conclusion:</i> All necessary data management procedures will be developed and implemented as described in the PDD.</p>	/PDD/ /IM02/	FAR B14	FAR B14

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	Refer to FAR B14.			
<b>C. Duration of the Project/ Crediting Period</b> <i>It is assessed whether the temporary boundaries of the project are clearly defined.</i>				
<p>C.1. Is the project's operational lifetime clearly defined and evidenced?</p> <p><i>Check whether the project lifetime is correctly defined. Consider the guidance on the assessment of investment analysis (annex to the additionality tool).</i></p> <p><i>Check in case of phased implementation this has been reflected throughout the whole PDD incl. the financial assessment, if applicable.</i></p>	<p><i>Description:</i></p> <p>The project operational lifetime stated in Section C.1.2 of PDD as 40 years.</p> <p><i>Justification of evidences:</i></p> <p>Ministry of Industry Decision No.2014 has been submitted for review.</p> <p><i>Conclusion:</i></p> <p>Sufficient document has been provided.</p>	/PDD/ /B27/	OK	OK
<p>C.2. Is the start of the crediting period clearly defined and reasonable?</p> <p><i>Check whether the envisaged starting date of the crediting period is realistic, taking into consideration the times needed for validation and registration.</i></p>	<p><i>Description:</i></p> <p>The start of the crediting period stated in Section C.2.1.1 of PDD is 2010-01-01.</p> <p><i>Justification of evidences:</i></p> <p>From the on-site interview with project owners and review of project progress, the start date of the crediting period is not realistic.</p> <p><i>Conclusion:</i></p> <p>CAR C2 was raised.</p>	/PDD/	CAR C2	OK
<b>D. Environmental Impacts</b>				

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<i>Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the DOE.</i>				
D.1.1. Are there any Host Party requirements for an Environmental Impact Assessment (EIA)? (EB 55 Annex 1, §§ 131–133) <i>Check the host party regulations, regarding EIA.</i>	<i>Description:</i> An EIA is required for hydro power projects in the host country Viet Nam. <i>Justification of evidences:</i> The validation team has reviewed that an EIA has been conducted and approved by the local authorities. <i>Conclusion:</i> The project activity is in compliance with the host country environmental requirements.	/PDD/ /B22/ /B3/	OK	OK
D.1.2. In case an Environmental Impact Assessment (EIA) is requested by the host party, has it been carried out and if applicable duly approved? (EB 55 Annex 1, §§ 131–133) <i>Check the EIA and its approval, if applicable.</i>	<i>Description:</i> Refer above D.1.1 that an EIA is has been conducted by the project owner. <i>Justification of evidences:</i> The validation team has obtained a copy of the EIA approval during the on-site visit. <i>Conclusion:</i> The EIA is in compliance to host country requirements for the construction of hydro power plants.	/PDD /B3//	OK	OK

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>D.1.3. Has an analysis of the environmental impacts of the project activity been sufficiently described and in line with the host party environmental legislation?</p> <p>(EB 55 Annex 1, §§ 130–132)  <i>Check the PDD (section D). Check whether the project will create any adverse environmental effects.</i>  <i>Check the relevant national environmental legislation.</i></p>	<p><i>Description:</i>            Refer to D.1.1 and D1.2 above.</p> <p><i>Justification of evidences:</i>            Refer to D.1.1 and D.1.2 above</p> <p><i>Conclusion:</i>            Refer to D.1.1 and D.1.2 above</p>	<p>/PDD/ /B3/</p>	<p>OK</p>	<p>OK</p>
<p>D.1.4. Are transboundary environmental impacts considered in the analysis?</p> <p>(EB 55 Annex 1, §§ 131–133)  <i>Check the documents and local official sources / expertise regarding transboundary environmental impacts.</i></p>	<p><i>Description:</i>            There are no transboundary issues to the project activity. The hydro plants are constructed on streams and rivers that are not shared with any bordering countries.</p> <p><i>Justification of evidences:</i>            The validation tam has reviewed the project site map that indicates the location of the project is located inside the host country.</p> <p><i>Conclusion:</i>            The project activity is developed within the host country Vietnam.</p>	<p>/PDD/</p>	<p>OK</p>	<p>OK</p>
<p><b>E. Stakeholder Comments</b></p> <p><i>The DOE should ensure that stakeholder comments have been invited with appropriate media and that due account has been taken of any comments received.</i></p>				

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>E.1. Have relevant local stakeholders been invited to consultation prior to the publication of the PDD?</p> <p>(EB 55 Annex 1, § 128)</p> <p><i>Check by means of document review and interviews with local stakeholders if and when a local stakeholder consultation process has been carried out.</i></p>	<p><i>Description:</i></p> <p>Local stakeholder consultations have been conducted as stated in Section E.1 of the PDD. The stakeholders were invited by letter and distribution of posters. The participants were listed in Section E.1 of the PDD.</p> <p><i>Justification of evidences:</i></p> <p>The validation team has reviewed the minute of stakeholder meeting. Other supporting documents such as invitation letters, meeting presentation had been lost due to carelessness in office movement. Minutes of the stakeholders meetings were submitted to local authorities.</p> <p><i>Conclusion:</i></p> <p>CAR E1 was raised.</p>	<p>/PDD/ /unfccc/ /G1/ /G2.</p>	<p><del>CAR E1</del></p>	<p>OK</p>
<p>E.2. Can the local stakeholder consultation process be assessed as adequate?</p> <p>(EB 55 Annex 1, § 129(a)–(c))</p> <p><i>Describe what assessment steps have been undertaken to assess the adequacy of the stakeholder consultation process. Give a final opinion on the adequacy.</i></p> <p><i>Please consider the following requirements in this context:</i></p> <p><i>(a) Comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity, have been invited;</i></p> <p><i>(b) The summary of the comments received as provided in</i></p>	<p><i>Description:</i></p> <p>Refer to CAR E1</p> <p><i>Justification of evidences:</i></p> <p>During the on-site visit, the validation team had reviewed the relevant documents and conducted a stakeholder interview to obtain feedback from the community.</p> <p><i>Conclusion:</i></p> <p>This will be further assessed when CAR E1 is responded.</p>	<p>/PDD/ /G1/ /G2/</p>	<p><del>CAR E1</del></p>	<p>OK</p>



<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<i>the PDD is complete;</i>  <i>(c) The project participants have taken due account of any comments received and have described this process in the PDD.</i>				

## ANNEX 2: ASSESSMENT OF BASELINE IDENTIFICATION

**Table A-2:** Assessment of Baseline Identification (EB 55 Annex 1 §§83 – 86)

<input type="checkbox"/>	Baseline is not identified
<input checked="" type="checkbox"/>	Assessment of baseline see below

Baseline Alternatives identified	In line with the Methodology?	Eliminated	Reasons for elimination / non-elimination from list of alternatives	Evidence used	DOE Assessment	
					Appropriateness of elimination	Assessment of validation team (results and means of assessment)
The baseline of the project activity is the continuation of power generation using the current mixed fossil fuel.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not eliminated	/Onsite/ /VVM/ /ACM2/	<input checked="" type="checkbox"/>	As according to the VVM paragraph 104, if the approved methodology that is selected by the proposed CDM project activity prescribes the baseline scenario, no further analysis is required. The prescribed baseline scenario is stated in the methodology.

### ANNEX 3: ASSESSMENT OF FINANCIAL PARAMETERS

**Table A-3:** Assessment of Financial Parameters (EB 55 Annex 1, §§ 111, 112, 114/ in case financial parameters stem from FSR §113,)

<input type="checkbox"/> No financial parameters are used for additionality justification							
<input checked="" type="checkbox"/> Assessment of all financial parameters see below							
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT		
					Correctness of value applied	Appropriateness of information source	Comment
Benchmark	13.13	%	State bank of Vietnam Basic lending rate issued in February 2008 Civil code No. 33/2005/QH11 Financial excel spreadsheet	/sbv/ /B21/ /D34/ /PDD/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The benchmark value applied was 13.13%. The calculation of the benchmark was based on the prime interest rate issued by the State Bank of Vietnam multiplied by 150% which is the maximum limit for commercial lending rates for all local commercial banks as regulated by Article 476 of the Vietnam Civil Code No.33/2005/QH11. The web-link<sup>/sbv/</sup> to the publication of the prime interest rates in 2008-02 was checked. The values were 8.75% in 2008-02.</p> <p>The calculation of the benchmark was checked and it could be confirmed as in accordance with the local regulation of the host country.</p> <p>Furthermore, the validation team had compared the selected benchmark value with those of registered hydropower project activities in Vietnam on the similar timing of investment decision made (commercial lending rate). The list of project activities for comparison is as follows:</p>

							Project ID	Benchmark value (%)	Date of Investment Decision
							4417	13.3	5-Mar-08
							3396	13.13	3-Apr-08
							4656	13.13	14-Apr-08
							4720	13.86	2-Oct-08
							<b>Average</b>	<b>13.355</b>	
							<b>Project activity</b>	<b>13.13</b>	25-Feb-08
							<p>Source: <a href="http://cdm.unfccc.int/Projects/projsearch.html">http://cdm.unfccc.int/Projects/projsearch.html</a> (UNFCCC CDM website - registered hydropower project activities in Viet Nam)</p> <p>The investment date of the project activity was 2008-02-25. As compared with registered project activities with investment decision made in the same year, the selected benchmark of the project activity is slightly lower than the average value of 13.355%.</p> <p>In conclusion, the applied benchmark value by the PP is assessed as appropriate at the time of investment decision. The publicly available data used to calculate the value could be confirmed as valid. The benchmark value is also at similar height with some registered project activities at similar time of investment decision. The value applied by the project participant was conservative.</p>		
Annual gross power generation	135,640	MWh	Draft Technical Design 1, Main Report, page 3-14 Investment approval (revised investment license)	/C3/ /B12/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The annual gross electricity generation is 135,640 MWh.</p> <p>The value was derived from the technical design, summary report which was established by the "Consultancy Company of the University of Civil Engineering". The company has determined the output based on long term hydrological conditions from the project area. The mentioned entity is an engineering company which has the necessary expertise to determine the feasibility of hydro projects. The qualification</p>		

						<p>has been checked on its website:  <a href="http://www.ccu.vn/content/view/14/30/lang,en/">http://www.ccu.vn/content/view/14/30/lang,en/</a></p> <p>The validation team assessed the estimated gross electricity generation by the technical design developer as appropriate and acceptable as it was based on long-term data and the technical design report had been approved by local authorities of the host country.<sup>/B7/</sup></p> <p>As indicated in the PDD under the sensitivity analysis, when the amount of annual gross power output increases by 33.7%, the project IRR will touch the benchmark. The calculation has been checked and could be verified by replicating the results. Considering that the hydrological conditions are based on long term studies conducted and feasibility developer always takes full use of water availability on the project river, it is unlikely that the output will be increased by 33.7%. Hence, a significant improvement of the financial viability of the proposed project is unlikely.</p>	
Plant Load Factor	41.8	%	Draft Technical Design 1, main report, page 3-14 Experience of Technical Design 1	/C3/ /X2/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The project participant calculated the PLF based on gross electricity generation estimated by the technical design developer. The calculation was reflected in the financial spreadsheet as:</p> <p>PLF = gross electricity generation / (installed capacity * total hours of a year) = 41.8%.</p> <p>The validation team has checked the estimated gross electricity generation on page 3-14 of the draft technical design 1, main report, and reproduced the calculations. The value could be confirmed as correct.</p> <p>The technical design was developed by a licensed third party approved by local authorities. Based on the investigation by the validation team, the Consultancy Company of the University of Civil Engineering is among those engineering companies in the host country having the necessary expertise to conduct feasibilities studies. The legal status and business lines of the company was checked by visiting the company website:</p>

							<p><a href="http://www.ccu.vn/content/view/12/28/lang,en/">http://www.ccu.vn/content/view/12/28/lang,en/</a> (legal entity)</p> <p><a href="http://www.ccu.vn/content/view/14/30/lang,en/">http://www.ccu.vn/content/view/14/30/lang,en/</a> (business lines)</p> <p>The gross electricity generation (135,640 MWh) was aggregated by the feasibility study developer from multiple year observational data collected by observation stations located on the project river basin.</p> <p>The formula used to calculate the PLF is in accordance with the hydropower industry common practice.</p> <p>In conclusion, the PLF was correctly and appropriately calculated by the project participant.</p>							
Total investment cost	689.882	Million VND	<p>Draft Technical Design 1, Main Report, page 3-15</p> <p>State Bank of Vietnam (USD/VND exchange rate)</p> <p>Revised Investment Certificate</p> <p>CDMpipeline.org (<a href="http://uneprisoe.org/">http://uneprisoe.org/</a>)</p>	/C3/	/sbv/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>Description:</p> <p>The total investment was derived from the technical design, main report completed in 2008-02. To cross-check the value, the revised Investment License<sup>B12/</sup> (dated 2010-02-02) has been checked which was issued by Khanh Hoa Provincial People's Committee. The value mentioned in such investment license was inclusive of VAT and could be confirmed as correct.</p> <p>The amount of 689,882 million VND was derived from the draft technical design 1, main report, excluding the interest during construction and value added tax.</p> <p>A cross-check of capacity unit investment has been conducted with other registered hydro projects in Vietnam by the validation team. For this, the investment cost per MW of the project activity is compared with other hydro projects in similar type of investment as indicated in the table below.</p> <table border="1"> <thead> <tr> <th>Reg. No.</th> <th>Unit cost (apx) USD/kW</th> <th>Capacity (MW)</th> </tr> </thead> <tbody> <tr> <td>4537</td> <td>1319.0</td> <td>144.0</td> </tr> </tbody> </table>	Reg. No.	Unit cost (apx) USD/kW	Capacity (MW)	4537	1319.0	144.0
Reg. No.	Unit cost (apx) USD/kW	Capacity (MW)												
4537	1319.0	144.0												



							<p>With regards to the sensitivity analysis, the PP demonstrated in the PDD and the IRR calculation that the total investment needs to be decreased by 27.65% to reach the benchmark. Based on the industry experience and local knowledge of the validation team, TÜV-NORD assessed this decrease as unlikely in the context of increasing inflation rate in the host country. This was supported with the revised investment certificate with a higher amount than the draft TD 1, main report.<sup>/B12/</sup></p> <p>Conclusion:</p> <p>And thus the applied total investment is assessed as appropriate according to the hydropower industry situation in the host country.</p> <p>The report has not documented the information about the additionality</p>
Annual O&M Cost	0.5	%	Draft Technical Design 1, Main Report, page 3-15 Decision 2014/QD-BCN	/C3/ /B27/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>Description:</p> <p>The annual O&amp;M cost was calculated as 0.5% of the total investment cost, based on the technical design, summary report, dated 2008-02.<sup>/C3/</sup></p> <p>The report was done by the “Consultancy Company of the University of Civil Engineering”. The company has determined the output based on long term hydrological conditions at the project river basin. The mentioned entity is an engineering company which has the necessary expertise to determine the feasibility of hydro projects. The qualification has been checked on its website:</p> <p><a href="http://www.ccu.vn/content/view/14/30/lang,en/">http://www.ccu.vn/content/view/14/30/lang,en/</a></p> <p>Based on the local knowledge of the validation team with regard to hydropower plant projects, the O&amp;M cost are normally in between 0.5%-1% of the total investment cost. This was also in accordance with the local regulation Decision No.2014/QD-BCN. The value applied by the PP could be assessed as reasonable since it was derived from a licensed third party.</p> <p>Furthermore, from the sensitivity analysis, if the O&amp;M cost is reduced</p>



							by 763%, the project IRR will touch the benchmark. Such decrease in the O&M cost can be assessed as unlikely in light of the inflation trend in the host country in recent years.  Conclusion: Therefore, the cost is considered appropriate.																																																									
Power Tariff	595	VND/kWh	Power purchase agreement concluded between EVN and project owner UNFCCC CDM website (registered project activities in Vietnam) Vietnam local Decision No.2014/QD-BCN Avoided cost tariff scheme	/D1/ /unfccc/ /B27/ /B30/	☒	☒	Description: The tariff of 595 VND/kWh was taken from the Annex 6 of the power purchase agreement conducted between EVN and the project owner on 2006-03-01. <sup>/D2/</sup>  Justification: The validation team had compared the applied tariff rate with those of registered hydro projects in Vietnam <sup>/unfccc/</sup> ,  <table border="1"> <thead> <tr> <th>Reg. No.</th> <th>Tariff (apx) VND/kWh</th> <th>Capacity (MW)</th> </tr> </thead> <tbody> <tr><td>2367</td><td>602</td><td>5.6</td></tr> <tr><td>2371</td><td>595</td><td>2.4</td></tr> <tr><td>2368</td><td>585</td><td>5.5</td></tr> <tr><td>2372</td><td>592</td><td>8.7</td></tr> <tr><td>2891</td><td>521</td><td>3.6</td></tr> <tr><td>2878</td><td>604</td><td>15.6</td></tr> <tr><td>2971</td><td>605</td><td>20.0</td></tr> <tr><td>2897</td><td>602</td><td>18.0</td></tr> <tr><td>3051</td><td>603</td><td>19.5</td></tr> <tr><td>3255</td><td>602</td><td>6.4</td></tr> <tr><td>3256</td><td>602</td><td>7.5</td></tr> <tr><td>3514</td><td>601</td><td>2.4</td></tr> <tr><td>3442</td><td>602</td><td>32</td></tr> <tr><td>3872</td><td>603</td><td>72</td></tr> <tr><td>4117</td><td>573</td><td>8.1</td></tr> <tr><td>3034</td><td>606</td><td>14</td></tr> <tr><td>4259</td><td>603.79</td><td>19.5</td></tr> <tr><td>Average</td><td>594.2</td><td>-</td></tr> </tbody> </table>	Reg. No.	Tariff (apx) VND/kWh	Capacity (MW)	2367	602	5.6	2371	595	2.4	2368	585	5.5	2372	592	8.7	2891	521	3.6	2878	604	15.6	2971	605	20.0	2897	602	18.0	3051	603	19.5	3255	602	6.4	3256	602	7.5	3514	601	2.4	3442	602	32	3872	603	72	4117	573	8.1	3034	606	14	4259	603.79	19.5	Average	594.2	-
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Average	594.2	-																																																														

								Project activity	595.00	37
								<p>Source: UNFCCC CDM website (registered project activities)</p> <p>On average, the tariff applied by the PP for the project activity was at a similar height with those of registered hydropower project activities in Vietnam. Hence, TÜV NORD assessed the applied tariff of 595 VND/kWh as appropriate.</p> <p>In addition, the applied tariff in USD was estimated at approximately 3.6 UScent/kWh. The USD/VND exchange rate at time of investment decision is 16,089 taken from the website of the State Bank of Vietnam at time of investment decision made. This was still within the range of tariffs applied for large scale projects (more than 30MW) provided in Vietnam local Decision No.2014/QD-BCN, dated 2007-06-13 for both dry and wet seasons (dry: 2.50-5.00 UScent/kWh, wet: 2.00-4.70 UScent/kWh).</p> <p>Based on the local knowledge of the validation team, avoided cost tariff scheme, <sup>/HRC-6/</sup> where tariff offered to IPPs shall be issued annually by the Vietnam Electricity Regulatory Authority, has been implemented since 2009-01-01 and is applicable for projects with an installed capacity of equal or less than 30MW.</p> <p>However, since the project activity capacity is 37MW which is more than the threshold of the avoided cost tariff scheme, it is not applicable with the project activity. From the document review and interview with the project owner, the project activity will follow the fixed tariff scheme, which means the tariff is negotiated between the project owner and EVN company and normally fixed for almost 25 years.</p> <p>With regards to the sensitivity analysis, if the tariff increases by 32.8%, the project IRR will touch the benchmark. However, such increase in the tariff is unlikely as the project has an installed capacity of more than 30MW and therefore will follow a fixed tariff scheme.</p> <p>Conclusion:</p>		

							From the above justification and evidence reviewed by the validation team, it could be concluded that the applied tariff of 595 VND/kWh is appropriate and conservative at the time of board decision and can be considered as fixed throughout the project lifetime.
Natural Resources Tax	2,204	Million VND /y	Ordinance on Natural Resource Tax (Circular No. 42/2007/TT-BTC) Project IRR	/HRC-4/ /D34/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>Description:</p> <p>The natural resources tax was calculated as: Net electricity exported to grid * natural resources tax rate * unit tariff</p> <p>The natural resources tax rate of 2% was derived according to the Circular No.42/2007/TT-BTC dated 2007-04-27. A unit tariff of 750VND was applied in the calculation of the natural resources tax.</p> <p>The expected electricity exported to the grid is 134,962MWh.</p> <p>The annual resources tax was derived at 2,024 million VND. (134,962 x 750 x 2%)</p> <p>Conclusion:</p> <p>The validation team had checked the Circular and the calculations conducted by the project participant. The formula applied and calculations performed by the PP could be confirmed as correct and in accordance with the local requirements.</p>
Project lifetime	40	year	Draft Technical Design 1 Main Report, page 3-15 Vietnam local Decision No.2014/QD-BCN	/C3/ /B27/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>Description:</p> <p>The project participant has chosen a lifetime of 40 years to assess the cash flows for the project IRR based on the technical design, main of initial study. <sup>/C3/</sup></p> <p>Justification:</p> <p>The relevant page of the report was checked and it was found that the period applied by the project participant was correct.</p> <p>Furthermore, the validation team has also referred to the local regulation Decision No.2014/QD-NLKD, dated 2007-06-13 which recommends an average project lifetime of 40 years for an installed capacity of more</p>

							<p>than 30MW.</p> <p>Conclusion:</p> <p>Therefore, it can be concluded, the project lifetime is considered as correct in accordance to local regulations.</p>
Salvage value	28,981	Million VND	Project IRR	/D34/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>Description:</p> <p>The project participant had applied a pre-tax approach to demonstrate the project's additionality. The project lifetime of the project activity was 40 years. The investment period applied by the project participant for additionality demonstration was also 40 years. Therefore, at the end of the investment period, fixed asset depreciation would become zero.</p> <p>Justification:</p> <p>For conservativeness, the project participant had included an estimated 0.5% of the civil construction cost (343,982 million VND) and equipment cost (235,645 million VND). The value was derived at 28,981 million VND and included as a cash inflow in the last year of investment period of 40 years</p> <p>Conclusion:</p> <p>The validation team assessed such salvage value inclusion as appropriate and conservative.</p>

## ANNEX 4: ASSESSMENT OF BARRIER ANALYSIS

**Table A-4:** Assessment of Barrier Analysis (EB 55 Annex 1, §118)

<input checked="" type="checkbox"/>	No barrier parameters are used for additionality justification			
<input type="checkbox"/>	Assessment of barriers see below			
Kind of Barrier (invest, tech, other)	Description of Barrier	Evidence used	Assessment of validation team	
			Appropriateness of information source	Explanation of final result
			<input checked="" type="checkbox"/>	
			<input checked="" type="checkbox"/>	

## ANNEX 5: OUTCOME OF THE GSCP

**Table A-5:** Outcome of the Global Stakeholder Consultation Process (§§ 40-42, VVM Version 1.2)

<input checked="" type="checkbox"/>	No comments were received during the global stakeholder consultation period					
<input type="checkbox"/>	Comments were received during the global stakeholder consultation period. The comments (in unedited form) and the consideration/response of the validation team are presented below:					
Comment No.:	Comment by:	Inserted on:	Subject	Comment *)	Action taken by the validation team to take due account on the comment *)	Conclusion (incl. CARs CLs or FARs)

\*) In case clarifications have been requested by the validation team corresponding rows shall be added

**ANNEX 6: STATEMENTS OF COMPETENCE OF ALL INVOLVED PERSONNEL**

**TUV NORD**  
Certification

**Statement of Competence**  
Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

**Mr. Robert Cheong**

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor	2012-03-03
Validation, Verification		
VCS	Lead Assessor	2012-03-03

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewable Energies
2.1	Battery Classification
3.1	Energy Demand
13.1	Waste Handling and Disposal

128 – Rev. 1, Date: 2011-06-01

08\_001\_P002\_0110\_001\_wd 001\_P002\_wd/201004-10

**TUV NORD**  
Certification

**Statement of Competence**  
Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

**Mr. Nicholas Chee Yin Cheong**

SCHEME	STATUS	VALID UNTIL
CDM	Assessor	2012-08-19
Validation, Verification		
VCS	Assessor	2012-08-19

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
13.1	Waste handling and disposal

156 – Rev. 1, Date: 2011-07-12

16\_001\_P002\_201107\_02\_wd 001\_P002\_wd/201004-10

**TUV NORD**  
Certification

**Statement of Competence**  
Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

**Mr. Pham Van Trung**

SCHEME	STATUS	VALID UNTIL
CDM	Assessor	2014-07-08
Validation, Verification		
VCS	Assessor	2014-07-08

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewable Energies

201 – Rev. 2, Date: 2012-01-11

201\_001\_P002\_2012-01-11\_wd2\_wd 001\_P002\_wd/201004-10

**TUV NORD**  
Certification

**Statement of Competence**  
Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

**Ms. Büsran Grünenwald**

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor	2010-06-05
Validation, Verification		
VCS / ISO 14004:2	Lead Assessor	2010-06-05

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR INCLUDE CATEGORIES
1.2	Renewable energies	1.2.1 Hydrop 1.2.2 Wind 1.2.3 Geothermal 1.2.4 Solar 1.2.8 Total

245 – Rev. 2, Date: 2012-06-06

245\_001\_P002\_2012-06-06\_wd2\_wd 001\_P002\_wd/201004-10

**TUV NORD**  
Certification

**Statement of Competence**  
Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

**Mr. Dr. Jochen Schubert**

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor	2014-05-11
Validation, Verification		
VCS	Senior Assessor	2014-05-11
Validation, Verification		
	Technical Reviewer	

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR INCLUDE SUB-AREAS
1.2	Renewable Energies	1.2.1 Hydrop 1.2.2 Wind 1.2.3 Geothermal 1.2.4 Solar 1.2.5 OSE
13.1	Waste handling and disposal	13.1.1 Waste management 13.1.2 Waste water management

056 – Rev. 2, Date: 2011-07-29

056\_001\_P002\_2011-07-29\_wd 001\_P002\_wd/201004-10