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CDM Validation Report

Enterprise

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Service

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UNFCCC Scale:	Large Scale
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Date

02 May 2011

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Signature

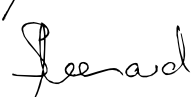


Table of Content

1	Introduction.....	3
1.1	Objective	3
1.2	Scope.....	3
1.3	Project description	3
1.4	Validation methodology.....	4
2	Validation Opinion	6
2.1	Summary of the validation conclusions	6
2.2	Summary of the validation methodology and process used and the validation criteria applied.....	6
2.3	Description of project components or issues not covered by the validation process	6
2.4	Statement on the validation of the expected emission reductions.....	6
2.5	Statement whether the proposed CDM project activity meets the stated criteria	6
3	Validation Findings	7
3.1	Approval.....	7
3.2	Participation.....	7
3.3	Project design document.....	7
3.4	Project description	7
3.5	Baseline and monitoring methodology	10
3.6	Additionality of project activity	13
3.7	Monitoring plan.....	23
3.8	Sustainable development	24
3.9	Local stakeholder consultation	24
3.10	Global stakeholder consultation	24
3.11	Environmental impacts.....	25
3.12	Validation protocol.....	25
4	List of Interviewees and Documents Reviewed	26
5	Validation Team and Reviewer.....	26
6	Quality Control.....	26
7	Appendix A: On-Site Visit Program.....	27
8	Appendix B: Interviews	28
9	Appendix C: Documents Reviewed	30
10	Appendix D: Certificates of Competence.....	34
11	Appendix E: Abbreviations	37
12	Appendix F: Validation Protocol	

1 Introduction

1.1 Objective

Bunge Emissions Holdings Sarl c/o Bunge SA has commissioned SQS to perform a validation of the “Thanh Thuy Hydropower Project” (hereafter called “the project”). The validation objective is an independent assessment by a Designated Operational Entity (DOE) of a proposed project activity against all defined criteria set for the registration under the Clean Development Mechanism (CDM). Validation is part of the CDM project cycle and will finally result in a conclusion by the executing DOE whether a project activity is valid and should be submitted for registration to the CDM Executive Board (CDM-EB). The ultimate decision on the registration of a proposed project activity rests at the CDM-EB and the Parties involved.

1.2 Scope

The validation scope is defined as an independent and objective review of the project design document (PDD). The PDD is reviewed against the criteria stated in

- The Kyoto Protocol, in particular § 12 and modalities and procedures for the CDM
- Decision 2/CMP1 and Decision 3/CMP.1 (Marrakech Accords)
- MODALITIES AND PROCEDURES FOR A CLEAN DEVELOPMENT MECHANISM
- CLEAN DEVELOPMENT MECHANISM VALIDATION AND VERIFICATION MANUAL (v 1.2)
- Decisions and specific guidance by the EB published under <http://cdm.unfccc.int>
- ACM002 “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” version 11, EB52
- Tool for the demonstration and assessment of additionality, version 5.2, EB 39/
- Combined tool to identify the baseline scenario and demonstrate additionality, version 2.2, EB28
- Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion, version 2, EB41
- Tool to calculate the emission factor for an electricity system, version 1.1, EB 35 annex 12 – at the time the baseline calculation was carried out by the DNA of Vietnam for the calculation of the official Grid Emission Factor, this version of the tool was the only one available.
- Guidelines on the Assessment of Investment Analysis, version 03.1

The validation team has used a risk-based approach focusing on the identification of significant risks for project implementation and the generation of CERs.

1.3 Project description

The objective of the “Thanh Thuy Hydropower Project”, Vietnam project activity is to build and operate a run-of-the-river hydropower plant without reservoirs and consists of 2 cascades each one with a weir, an intake, a force bay or pressure tank, a penstock, a powerhouse and a tailrace for both cascades shown in Fig. A.3. in the PDD. The lower installation – cascade 2 – is constructed first.

The whole project involves the installation of 3 Turbines for cascade 1 (2x4 MW, 1x2MW) and 3 Turbines for cascade 2 (2x3 MW, 1x2MW), all together a capacity of 18 MW, with a projected annual production of 19,856 MWh for the first year and of 44,676 MWh for the following years.

Project participants are Hoang Viet Long Industry Joint Stock Company (private entity) and Bunge Emissions Holdings Sarl (private entity). The project activity started at the signing of the first contract for civil works for the project dated 08/12/2008. The 7-year crediting period starts on 01/04/2011 or registration date whichever is later.

1.4 Validation methodology

The SQS auditors apply standard auditing techniques to assess the correctness of the information provided by the project participants, including, where appropriate, but not limited to:

- (a) Document review, involving: review of data and information to verify the correctness, credibility and interpretation of presented information and cross checks between information provided in the PDD and information from sources other than that used, if available, and if necessary independent background investigations.
- (b) Follow-up actions (on-site visit, telephone, email interviews), including: interviews with relevant stakeholders in the host country, personnel with knowledge of the project design and implementation and cross checks between information provided by interviewed personnel to ensure that no relevant information has been omitted from the validation.
- (c) Reference to available information relating to projects or technologies similar to the proposed CDM project activity under validation.
- (d) Review, based on the approved methodology being applied, of the appropriateness of formulae and correctness of calculations.

If, during the validation of a project activity, the auditor identifies issues that need to be further elaborated upon, researched or added to in order to confirm that the project activity meets the CDM requirements and can achieve credible emission reductions, the auditor shall ensure that these issues are correctly identified, discussed and concluded in the validation report.

The auditor shall raise a corrective action request (CAR) if one of the following occurs:

- (a) The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
- (b) The CDM requirements have not been met;
- (c) There is a risk that emission reductions cannot be monitored or calculated.

The auditor shall raise a clarification request (CL) if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

The auditor shall raise a forward action request (FAR) during validation to highlight issues related to project implementation that require review during the first verification of the project activity. FARs shall not relate to the CDM requirements for registration.

The auditor shall resolve or “close out” CARs and CLs only if the project participants modify the project design, rectify the PDD or provide adequate additional explanations or evidence that satisfies the SQS's concerns. If this is not done, the SQS shall not recommend the project activity for registration to the CDM Executive Board.

In order to ensure transparency, a validation protocol (CDM Validation Protocol) was customized for the project. The protocol shows, in a transparent manner, criteria (requirements), means of validation and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organizes, details and clarifies the requirements a CDM project is expected to meet;
- It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation;
- The validation protocol consists of several tables. The different columns in these tables are described in below figure.

The completed validation protocol is enclosed in appendix F to this report.

CDM Validation Protocol 1 - 2: Requirements	
<i>Requirement</i>	The requirements the project must meet.
<i>Ref.</i>	Reference to the PDD or documents.
<i>MoV (Means of Validation)</i>	Explains how conformance with the requirements is investigated. DR = Document Review, I = Interview, N/A = Not Applicable
<i>Comment</i>	The section is used to elaborate and discuss the conformance to the requirement.
<i>Draft Concl. / Final Concl. (Draft and/or Final Conclusion)</i>	OK = Conform, CAR = Corrective Action Request, CL = Clarification Request, FAR = Forward Action Request

CDM Validation Protocol 3: Summary of Requests	
<i>No.</i>	The requests (CAR, CL, FAR) are numbered and listed in this section.
<i>Ref.</i>	Reference to the requirement number in Protocol 1-2 where the request is explained.
<i>Validator request</i>	The section is used to elaborate and discuss the request. The auditor may give reference to the PDD or documents.
<i>Project participant response</i>	The responses given by the client or other project participants during the communications with the validation team should be summarized in this section.
<i>Validator conclusion</i>	This section should summarise the validation team's responses and final conclusions. The conclusions should also be included in Protocol 1-2, under "Final Conclusion".
<i>Date</i>	Date when request was closed.

2 Validation Opinion

2.1 Summary of the validation conclusions

It is SQS's opinion that the project "Thanh Thuy Hydropower Project" described in the PDD version 2.2 meets all relevant criteria of the listed references in paragraph 1.2. SQS confirms that the approved consolidated baseline and monitoring methodology ACM0002 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" Version 11, EB52 is applicable for this project activity and that the criteria are discussed in an exhaustive manner in the PDD and supported by the submitted documents. Furthermore, the approved methodology is correctly applied and therefore, SQS requests the registration of given CDM project.

2.2 Summary of the validation methodology and process used and the validation criteria applied

The validation process has been carried out using the methodology described in paragraph 1.4. This has included a desk review of the PDD and its annexes and additional documents listed in the Appendix C of this report, an on-site visit on 08/06/2010 and interviews (see Appendix B) and an inspection of the project site.

36 CLs were raised. All of them are closed.

10 CARs were raised and closed without exception.

4 FARs were raised and have been accepted by PP without exception.

2.3 Description of project components or issues not covered by the validation process

All project components were covered by the validation process.

2.4 Statement on the validation of the expected emission reductions

SQS confirms that the calculation of the expected emission reduction of 19,856 tCO₂ for the first year and 44,676 tCO₂ for the following years, in total 287,910 tCO_{2e} for the first 7 years crediting period, is carried out in a transparent and conservative manner – see SQS ref. [73], so that the calculated emission reductions are most likely to be achieved, given that the underlying assumptions do not change. SQS confirms that the starting date of the first crediting period is planned for 01/04/2011 or registration date, whichever is later.

2.5 Statement whether the proposed CDM project activity meets the stated criteria

Based on the observations made during the validation process, SQS concludes that the proposed project is accurate, conservative, relevant, complete, credible and reliable and meets the stated criteria.

3 Validation Findings

3.1 Approval

A letter of approval by the host country Vietnam was requested and issued on 24/08/2010, Ref: 31/2010/DMHCC-BCD, SQS ref. [60]. Switzerland, as the second party involved, has also issued a letter of approval, dated 27/09/2010, Ref: G514-3487, SQS ref. [61]. Both are considered as authentic without doubts and are unconditional. SQS received these letters from the project participant directly.

SQS confirms that the letters refer precisely to the proposed CDM project activity title in line with the title in the PDD “Thanh Thuy Hydropower Project”. In addition, the LoA statements are clear and unambiguous with respect to all required content such as Kyoto Protocol ratification status and voluntary participation. The Vietnamese LoA also confirms that the proposed CDM project activity contributes to the sustainable development of Vietnam.

SQS confirms that the approval of participation is valid for the proposed project participant – see [60] and [61]. The CL 22 related to the LOA issuance of the Host and Annex I Parties therefore is closed.

SQS considers the Letters of Approval are in accordance with paragraphs 45 – 48 of the VVM version 1.2 (EB 55, Annex 1, paragraph 49).

Raised:

CL 26: The LoAs have to be submitted to the auditors⇒ LoAs were submitted – CL 26 is closed.

3.2 Participation

The names of the two project participants “Viet Long Industry Joint Stock Company (private entity, Vietnam)” and “Bunge Emissions Holdings Sarl (Switzerland)” are listed in the PDD in tabular form in section A.3.

The participants are approved by means of the Letter of Approval of the host party. The letter of approval is issued, thus SQS’s confirmation of participation by a Party to the Kyoto Protocol can be given.

3.3 Project design document

The latest available version of the template: CLEAN DEVELOPMENT MECHANISM PROJECT DESIGN DOCUMENT FORM (CDM-PDD) version 03 – in effect as of: 28/07/2006 was used.

Raised

CL 1: The PDD shall have an unequivocal identification; name and version number. Current Name: CDM-Executive Board – it can be integrated in the foot-line so it is visible on every page and identified. ⇒ PP added in a first step a footer but due to latest experiences with EB, PP asked for deleting the footer in the PDD and to not change the template of the PDD at all. DOE accepted it. Therefore, CL 1 is closed.

3.4 Project description

The description of the project activity contained in the PDD is understandable and gives a good overview of the project. Its content was confirmed to be realistic by means of an on-site visit and interviews on 08/06/2010 with local project participants.

Main changes between the PDD (version 1.0, 06/04/2010) published for the 30 days stakeholder commenting period and the final version (version 2.2, 30/04/2011) submitted for registration are issues related to the CARs, CLs and FARs identified during validation. The key PDD changes are related to the Grid emission factor. Initially, the GEF was calculated by the PP. During the validation process, the PDD

GEF value has been adapted to the official Grid emission factor from the Department of Meteorology, Hydrology and Climate Change of Vietnam.

Raised:

CL 2: The source at reference 1 (Electricity of Vietnam) shall be referenced exactly. Document name and which table/page was used ⇒ Reference has been updated to refer to the Grid emission factor report published by the department of Meteorology, Hydrology and Climate change. – CL 2 is closed.

CL 3: In the case of the “lending rate”, the source of data shall be referenced exactly. Document name and which table/page was used. ⇒ Document is referenced and submitted – CL 3 is closed.

CL 4: The title Common practice analysis shall be introduced on top of the page. ⇒ Title is introduced – CL 4 is closed.

CL 5: In the case of “¹⁰ EVN data”, the document shall be referenced exactly. Document name and which table/page was used ⇒ Due to the use of the official Grid emission factor, the paragraph has been adapted – CL 5 is closed.

CL 6: In the case of the parameter NCV, the source of data shall be referenced exactly. Document name and which table was used. ⇒ Parameter is no longer used due to the use of the official Grid Emission Factor – CL 6 is closed.

CL 7: In the case of the parameter “Fi,j,y”, the source of data shall be referenced exactly. Document name and which table/page was used. Is the correct name of the parameter F_{Ci,y}? Please correct it. Which data in Annex 3 correspond to this parameter? In case of application of the Grid emission factor from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this parameter will not be used. ⇒ Parameter is no longer used due to the use of the official Grid Emission Factor – CL 7 is closed.

CL 8: In the case of the parameter “Installed Capacity”, the source of data shall be referenced exactly. Document name and which table/page was used. Which data in Annex 3 correspond to this parameter. In which formula do you need the parameter? In case of application of the Grid emission factor from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this parameter will not be used. ⇒ Parameter is no longer used due to the use of the official Grid emission factor – CL 8 is closed.

CL 9: In the case of the parameter “Electricity Generated”, the source of data shall be referenced exactly. Document name and which table/page was used. Is the correct name of the parameter is E_{Gy}? Please correct it. Which data in Annex 3 correspond to this parameter? In case of application of the Grid emission factor from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this parameter will not be used. ⇒ Parameter is no longer used due to the use of the official Grid emission factor – CL 9 is closed.

CL 10: In the case of the parameter “Internal Electricity Consumption”, the source of data shall be referenced exactly. Document name and which table/page was used. In which formula do you need the parameter? Which data in Annex 3 correspond to this parameter? In case of application of the Grid emission factor from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this parameter will not be used. ⇒ Parameter is no longer used due to the use of the official Grid Emission Factor – CL 10 is closed.

CL 11: In the case of the parameter EF_{CO_{2,i}} the source of data shall be referenced exactly. Document name and which table/page was used. In case of application of the Grid emission factor from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this parameter will not be used. ⇒ Parameter is no longer used due to the use of the official Grid Emission Factor – CL 11 is closed.

CL 12: The total of the estimated reduction has to be verified – it does not correspond to the sum of annual reductions. In case of application of the Grid emission factor from the Department of Meteorology, Hydrology and Climate Change of 12/2009, the Estimation of annual emission reduction has to be recalculated. ⇒ They have been recalculated and are now correct – CL 12 is closed.

CL 13: The mentioned study about hydropower projects in Vietnam (143 hydropower plants) shall be referenced correctly and submitted to the DOE. ⇒ Documents were submitted – CL 13 is closed.

CL 14: The Modalities of communication form shall be submitted to the DOE. ⇒ PP submitted MOC but

undated – see CL 31 – CL 14 is closed.

CL 15: The indicated plant “He bon” does not correspond to the actual project. Please verify consistence.
⇒ Has been modified – CL 15 is closed.

CL 19: Shall be mentioned the surface of the reservoir for considerations. ⇒ There is no reservoir associated with the project – CL 19 is closed.

CL 21: DOE requests more information about abbreviation used: . ⇒ TNB The entry was incorrect, and shall have stated EVN instead of TNB. The PDD was corrected CL 21 is closed.

CL 24: Shall be submitted to DOE the following documents:

- Feasibility study and EIA – relevant parts in VN and English version as
 - Bases for plant load factor
 - Generation capacity
 - Total of Investment
 - Loan: equity ratio
 - Approval connecting to the grid
 - Plant load factor
 - Operational hours
 - Loan repayment period
- Loan evidences for cascade 1
- Overview contract and/or investment situation
- EPC (Environment Protection Commitment) in VN and English version, EIA approval
- EVN regulations 2014/QD-BCN in VN and English version
- Law No 14/2008/QH12 dt 03/6/2008
- Decree No. 124/2008/ND-CP dt. 11/12/2008

⇒ PP submitted the documents - CL 24 is closed.

CL 29: PP shall mention only coordinates of the powerhouse cascade 2. Otherwise the project cannot be localized precisely. The coordinates have to be verified. ⇒ The coordinates were corrected. PDD was updated in section A.4.1.4. – CL 29 is closed.

CL 32: CER spreadsheet shall be submitted by the PP for the upload of the Website UNFCCC ⇒ PP included as last tab in IRR analysis – CL 32 is closed.

CL 34: PP has to correct Table A.4.4. and B.t6.4 – the years all start with 01/10/2010. ⇒ The PDD was corrected – CL 34 is closed.

CL 31: The MOC – SQS ref. [62] – has no date. PP has to submit a dated MOC. ⇒ PP submitted dated MOC – SQS ref. [69] – CL31 is closed.

CAR 1: The Internet link in reference 5 has to be corrected. ⇒ Link is updated – CAR 1 is closed.

CAR 2: The Internet link in reference 9 does not work – the link has to be corrected or the print screen has to be submitted. ⇒ The document is submitted electronically – CAR 2 is closed.

CAR 3: The required Vietnamese law for environment monitoring has to be submitted – also in an English version. ⇒ Legal aspects are in EIA – the document is submitted – CAR 3 is closed.

CAR 5: The indicated tension of the output (100 kV) is not consistent with Annex 4. It has to be corrected.
⇒ 100 kV is correct, PDD is corrected.

CL 35: The MOC – SQS ref. [69] – has no date in Annex 1. PP has to submit a dated MOC. ⇒ Dated MOC is submitted – CL 35 is closed.

CL 36: In IRR calculation, sheet Assumptions, SQS ref. [71] is referenced Feasibility Report as information source for the interest. The real source is SQS ref. [56] (CAR)_State bank of Vietnam interest rate. PP shall correct the source of information. ⇒ Referenced source has been corrected – CL 36 is closed.

The coordinates of the project activity mentioned in the PDD are:

Cascade 1 weir: latitude of 22°52'00"N and longitude of 104° 48'16"E

Cascade 2 weir : latitude of 22°52'32"N and longitude of 104° 48'23"E

The powerhouse for Cascade 2: latitude of 22°55'07"N and longitude of 104°51'35"E.
The powerhouse for Cascade 1: latitude of 22°52'32"N and longitude of 104°48'23"E.
The coordinates have been verified and are deemed correct.

It is SQS's opinion that the project description is accurate and complete.

3.5 Baseline and monitoring methodology

3.5.1 General requirement

The project applies a large-scale methodology:

- Approved consolidated baseline and monitoring methodology ACM0002 "Consolidated baseline methodology for grid-connected electricity generation
- from renewable sources" version 11, EB52

The project applies the following tools:

- Tool for the demonstration and assessment of additionality, version 5.2, EB 39
- Combined tool to identify the baseline scenario and demonstrate additionality, version 2.2, EB28
- Tool to calculate project or leakage CO2 emissions from fossil fuel combustion, version 2, EB41
- Tool to calculate the emission factor for an electricity system, version 1.1, EB 35 annex 12 – at the time the baseline calculation was carried out by the DNA of Vietnam for the calculation of the official Grid Emission Factor, this version of the tool was the only one available. Guidelines on the Assessment of Investment Analysis, version 03.1

3.5.2 Applicability of the selected methodology to the project activity

Applicability Criteria ACM0002	Project Activity as discussed in the PDD	Means of validation and Validation Opinion
The project activity is the installation or modification/retrofit 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 power plant/unit or tidal power plant/unit.	The project activity involves the installation of a new hydropower project without reservoir.	On-site visit, Construction schedule [65], Equipment contract [23], first contract [24]. See also Investment License [4] and Investment License 2 [5].
In case of hydro power plants, one of the following must apply: The project activity is implemented in an existing reservoir, with no change in the volume of the reservoir; or The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the power activity, as per definitions given in the Project Emissions section, is greater than 4 W/m2 or The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the Project Emissions section, is greater than 4 W/m2.	It's a run-of-river hydropower plant. There are no reservoirs for the project.	The two hydropower plants consist in construction of 2 cascades, each one with a weir. Power density is not calculated due to this fact. – also see EIA extract [40] and project Layout [41].
The geographic and system boundaries for the relevant electricity grid can be clearly identified and information on the characteristics of the grid is available.	This is the case, please refer to section B.4.	Consistency between ACM0002 and PDD has been verified and can be confirmed.

SQS confirms that the approved consolidated baseline and monitoring methodology ACM0002 “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” Version 11, EB52 is applicable for this project, that the criteria are discussed in an exhaustive manner in the PDD and supported by the submitted documents.

3.5.3 Project boundary

Requirements ACM0002	Sources of evidences	Validation Opinion
Project power plant	PDD, Section B.3. Figure B.1.	Figure B.1. includes Power plant – on-site visit on 08/06/2010 confirmed description in the PDD – requirements are fulfilled.
All power plants connected physically to the electricity system that the CDM project power plant is connected to.	PDD Section B.3., description of project boundary and Figure B.1. as well as section B.4.	Project boundary includes correct electricity system – in this case the national grid (EVN). Requirements are fulfilled.
Baseline Emissions: CO ₂ emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity <ul style="list-style-type: none"> CO₂ emission CH₄ N₂O 	PDD Section B.3. Table B.1. PDD Section B.3. Table B.1. PDD Section B.3. Table B.1.	CO ₂ emission is defined as main emission source CH ₄ is not included as defined in ACM0002 N ₂ O is not included as defined in ACM0002 validator conclusion: Requirements are fulfilled.
Project activity For hydropower plants, emission of CH ₄ from the reservoir <ul style="list-style-type: none"> CO₂ emission CH₄ N₂O 	PDD Section B.3. Table B.1. PDD Section B.3. Table B.1. PDD Section B.3. Table B.1.	CO ₂ is not included as defined in ACM0002 CH ₄ is included as defined in ACM0002 N ₂ O is not included as defined in ACM0002 validator conclusion: Requirements are fulfilled

The spatial and conceptual project boundary is defined in the PDD chapter B.3. The project boundary is shown in Figure B.1 in the PDD “The Project Boundary”. The definition is consistent with the methodologies of ACM0002. SQS’s lead auditor Hansruedi Bader conducted an on-site visit (08/06/2010). The boundary was verified during the on-site visit. The detailed plans, the construction schedule and the coordinates of the project have been consulted and verified. The choice of boundary, sources and gases corresponds to the methodology and is rated justified by SQS.

Raised:

CAR 6: The Project boundary must include the reservoir – even the CH₄ were not to be considered due to the power density ⇒ There is no reservoir so it has not to be mentioned in the project boundary – CAR 6 is closed.

3.5.4 Baseline identification

The Grid emission factor is calculated in accordance with ACM0002 and the Tool to calculate the emission factor for an electricity system, version 1.1, EB 35 annex 12. It is derived from the calculated combined margin (CM) according to the procedures prescribed in the “Tool to calculate the Emission Factor for an electricity system”. Simple OM is chosen and a proof for the correctness of the choice is given under B.6.1. All applicable steps are considered explained and proved in the PDD under B.6.1. and calculation under B.6.3. The Grid Emission Factor was verified by the DOE at the office of the Department of Meteorology, Hydrology and Climate Change in Hanoi and is deemed correct. The data sheets of the calculation of the Grid Emission Factor can only be consulted at the office of the Department of Meteorology, Hydrology and Climate Change in Hanoi. For this reason, the data sheets are not referenced in this report.

All the assumptions and data used by the project participants are listed in the PDD, including their references and sources.

All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD.

Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable.

The PDD also provides an accurate and auditable description of the baseline scenario which includes the continued use of fossil fuel power plants to supply electricity to the grid.

Raised

CAR4: The calculated Grid emission factor (0.602) is not conservative. The document “Study, definition of Vietnam Grid Emission Factor, 2010”

<http://www.noccop.org.vn/Data/vbpq/Airvariable_Idoc_vnHe%20so%20phat%20thai.pdf>” calculates a factor of 0.5764. The calculation of the GHG emission reductions must be recalculated. ⇒ PP introduced the Grid Emission Factor given in “Study, definition of Vietnam Grid Emission Factor” (DNA report on Grid Emission Factor), implemented by Ozone Layer Protection Centre, Department of Meteorology, Hydrology and Climate Change, 12/2009, SQS ref. [35] (English translation) and SQS ref. [64] (Vietnamese Version). PP adapted the PDD using the official Grid emission factor. The Grid emission factor was validated with a positive result by the DOE in the office of the Department of Meteorology, Hydrology and Climate Change in Hanoi on 16 and 17 November 2010. CAR 4 is closed.

CL 2: The source of reference 1 (Electricity of Vietnam) shall be referenced exactly. Document name and which table/page was used ⇒ The reference was updated to refer to the Grid emission factor report published by the Department of Meteorology, Hydrology and Climate Change of 12/2009. The reference table has also been provided – CL 2 is closed.

CL 17: The choice of option A1 (see PDD p.42) shall be mentioned clearly. In case of application of the Grid emission factor from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this part of the PDD has to be adapted. ⇒ The choice employed by the report from the Department of Meteorology, Hydrology and Climate Change from 12/2009 was documented – CL 17 is closed.

CL 18: The designation of the steps shall be verified. The Choice of Option A1 shall be mentioned clearly. In case of application of the Grid emission factor from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this part of the PDD has to be adapted. ⇒ The choice employed by the report from the Department of Meteorology, Hydrology and Climate Change from 12/2009 was documented – CL 18 is closed.

CL 22: The responsible person of Kyoto Energy shall be named ⇒ The name was added – CL 22 is closed.

CL 23: PP shall confirm that the listed projects are not CDM projects. In case of application of the Grid emission factor from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this part of the PDD has to be adapted ⇒ PP reviewed the UNFCCC website for registered CDM projects in Vietnam confirmed that none of the plants considered in the build margin are registered CDM projects. A

screenshot of registered CDM projects in Vietnam is provided – SQS ref. [42]. - CL 23 is closed.

CL 28: In the PDD Version 1.2, dated 30/06/2010, PP submitted the Emission factor of the grid as described in “Tool to calculate the emission factor for an electricity system” Version 02. DOE raised CAR 1. The official Grid emission factor of Vietnam published by the Department of Meteorology, Hydrology and Climate Change of 12/2009 is lower than the calculated Grid emission factor of the PP.

It is SQS's opinion that the use of official Grid emission factor is conservative – so applicable – if this factor is more conservative than the calculated factor through PP following “Tool to calculate the emission factor for an electricity system”

To satisfy EB, DOE see two possibilities:

To have access to the data used for the official Grid emission factor calculation to validate it following “Tool to calculate the emission factor for an electricity system” or

That PP introduces again its proper calculation of the Grid emission factor in a way that it can be validated against the “Tool to calculate the emission factor for an electricity system” to proof the conservativeness of the official Grid emission factor and choose then the official for conservativeness ⇒ DOE had access to the data used for the official Grid Emission factor. The Grid Emission Factor was validated with a positive result by the DOE in the office of the Department of Meteorology, Hydrology and Climate Change in Hanoi (which calculated the official Grid Emission Factor for the DNA) on 16 and 17 November 2010. – CL 28 is closed.

3.5.5 Algorithms and/or formulae used to determine emission reductions

The review was done in the office of the Department of Meteorology, Hydrology and Climate Change in Hanoi (which calculated the official Grid Emission Factor for the DNA) on 16 and 17 November 2010. The DNA report transparently lays out all the steps and methodological choices necessary to reach the final Grid Emission Factor. Our review showed that Mr. Quang (editor of the official document SQS ref. [34] (English translation) and SQS ref. [64] (Vietnamese Version)) applied the baseline methodology correctly to calculate project/baseline emissions, leakage and emission reductions. Data sources are referenced. The values used were found to be plausible and conservative.

SQS is satisfied that there are no project activity GHG emissions which will contribute more than 1% of the expected ER/year and which are not addressed in the applied methodology.

SQS concludes that the selected methodology, ACM0002 and Tool to calculate the emission factor for an electricity system, version 1.1, EB 35 annex 12 was the only available version at the time of the calculation, the methodology is applied and selected correctly.

Parameters, options selected and the mathematical operations used for the ex-ante estimation of the project's emission reductions are correct, plausible and conservative as per the methodology applied. As ex-ante option is selected, monitoring is not required.

All assumptions and data used by the DNA in preparing the Study are listed in the PDD, including their references and sources.

All estimates of the baseline emissions are reasonable, correctly quoted and could be replicated using the data and parameter values provided in the PDD during interview with the DNA.

3.6 Additionality of project activity

Following “Tool for the demonstration and assessment of additionality, version 5.2, EB 39”, PP identified at step 1 three alternatives:

- a. The proposed project activity undertaken without being registered as a CDM project activity;
- b. Construction of a fossil-fuel fired power plant or any other type of energy renewable power plant with equivalent amount of annual electricity generation;
- c. Continuation of the current situation (no project activity or other alternatives undertaken).

Alternative a is not credible and realistic, without assistance of CDM the project is not attractive.

Alternative b: Viet Long Industry JSC only has experience in the field of hydropower project development and, therefore, a coal fired power station or wind farm is not an option.

Alternative c: Only alternative c is judged credible and realistic. Also the PP has no experience with fossil fuel power stations.

The main barrier identified is the investment barrier. This is clearly described in section B.5. in the PDD and DOE confirms that this is appropriate.

3.6.1 *Prior consideration of the clean development mechanism*

Evidence to assess prior consideration of the project and start date was assessed at the project site during the validation visit. Documentation was confirmed as authentic since original company stamped documents were supplied. A crosscheck was performed by interview with PP and comparison with other documents was made (such as construction schedule and approval dates).

Was consulted the original of the Board resolution dated 20/04/2008 SQS ref. [8] and [66]. This date is after the publication of the FSR (Feasibility Study report) SQS ref. [9], [10], [30], [43], [44] and [45], dated March 2008 (latest figures in the FSR).

Has been consulted the Carbon Asset management Agreement between Viet Long Industrial JSC and Kyoto Energy Pty Ltd (Singapore) signed at 26/06/2008 – see SQS ref. [13].

Start date of the project activity was set to 08/12/2008 which is the date when the contract for civil works for the project was signed – see SQS ref. [24].

Has been submitted to UNFCCC the Notification of prior consideration of the CDM the 06/05/2009 – SQS ref. [6].

Prior consideration of the CDM was shown during the interview on site visit with a chronological milestone list considering CDM with documentary proof and board resolution dated 20/04/2008 – SQS ref. [8] and [66] which states that the project is not feasible without CDM. As further means of authenticating documentation, the signatory of the resolution participated in the onsite verification (see appendix A and B of this report).

The CDM activity complies with the requirement of EB41 Annex 46 because the project activity started prior to validation and after 02/08/2008 and is thus considered a new project activity in line with EB 49 Annex 22. The request for notification of prior consideration of the CDM was sent on 06/05/2009 to UNFCCC secretariat so PP respected the 6 months timeline in accordance to VVM.

Evidences for continued actions to secure CDM status is evidenced with Carbon Asset Management Agreement between Viet Long Industrial JSC and KYOTO Energy Pty Ltd passed at 25/06/2008 – SQS ref. [13] and CDM Emission Reductions Purchase Agreement between Viet Long Industrial JSC and Bunge Emissions Holding SARL at 22/12/2008 – SQS ref. [14].

SQS confirms that this is appropriate.

Raised:

CL 33: PP shall submit the English translation of the document “Board resolution” dated 20/04/2008 ⇒ PP submitted the Vietnamese document with English annotations – CL 33 is closed.

3.6.2 *Identification of alternatives*

In identifying alternatives to the proposed project, three possibilities were identified, including the proposed project activity undertaken without being registered as a CDM project activity. The project proponent provided the explanation of how second option, i.e. construction of a fossil-fuel fired power plant or any

other energy renewable power plants with equivalent amount of annual electricity generation, has been eliminated. The explanation is deemed reasonable and complete, in line with the Tool for the demonstration and assessment of additionality (version 05.2).

3.6.3 Investment analysis

The financial returns of the proposed project are insufficient to justify the investment according to the validated IRR of 9.45% compared to a benchmark of 12.54%.

Accuracy of the key parameters was assessed by looking at original copies of feasibility study reports, the same which were presented to local authorities to obtain planning permission for the project. This evidence was cross-checked by interviews with (for example) the Project Proponent's Director and Chief of Planning. Please see Appendix B of validation report. The Feasibility Study Report was completed in March 2008, so before the decision for the proceeding with the project had been taken, – signing the first contract for civil works on 8 December 2008 – SQS ref. [24] and also within an acceptable timeframe so that the data would still be valid. DOE can confirm that values in the PDD are fully consistent with the Feasibility Study Report (FSR). The Feasibility Study Report was established by a third independent party, the Rural Construction Consultancy JSC in Hanoi, Mr. C.N Cong Trinh. It can also be confirmed that the parameters applied were available valid and applicable at the time of decision. The following table lists the issues mentioned in "Guidelines on the assessment of Investment Analysis" version 03.1.

EB Guideline	Project	Validation
3: Period of assessment	The period of assessment taken is 30 years. This is in accordance with the technical lifetime of the equipment used in the project. This is also more than the official depreciation time which is 10 years for hydropower equipment and 20 years for construction facilities based on the present practice in Vietnam and Feasibility Report and Decision 2014/QĐ-BCN.	The Decision 203/2009/TT-BTC [21] of the ministry of finance has been consulted and confirms the statement of the PP. The chosen lifespan can be considered as appropriate. Decision 2014/QĐ-BCN Technical life and O&M costs [25] supports the chosen lifespan.
4: Salvage value	Salvage value: The technical lifetime is taken and a salvage value is included.	The financial analysis is calculated over a period of 30 years – the technical lifetime – see Doc financial spreadsheet. DOE can confirm that the fair value is calculated. A final salvage value of 5% of the total project cost has been provided – this is conservative.
5: Depreciation and other non-cash items	Depreciation and other non-cash items such as amortization are not included when calculating the IRR.	Can be confirmed by the DOE. Depreciation and interest on term loan is added back to the profit after tax to calculate the net cash flow.
6: Time of assessment	All calculations are based on data available as of December 2007 i.e. before project start but within two years of decision to proceed.	Project start is 08/12/2008 – date of signature of the contract for civil works – see SQS ref. [24]. DOE confirms that the listed input values are consistently applied in all calculations and the gap between publication of the feasibility study and start date of the project is short enough that input values would still be valid when the project activity began.
7: Cessation of implementation	Not relevant for project	Can be confirmed by the DOE.
8: Provision of spreadsheet	Spreadsheet is provided	Spreadsheet - SQS ref. [73] IRR_Thanh Thuy-IRR Version 2.3 contains all investment analysis. DOE confirms that the results can be reproduced. The spreadsheet will be available to the executive Board, UNFCCC Secretariat and others contracted.
9: Finance expenditures	Financing expenditures are not included when calculating the project IRR.	DOE has verified Financial analysis and can confirm that the costs of financing expenditures

		are not included in the calculation of project IRR.
10: Equity IRR	The project IRR and not equity IRR is calculated.	DOE has verified the Financial analysis and can confirm that project, and not equity IRR is calculated.
11: Tax	The project IRR is post-tax.	DOE has verified the Financial Analysis and confirms that actual interest rate has been used in the calculation of income tax as per guidance Taxes have been calculated accordingly to Government DECREE 14/2008/QH12 SQS ref. [51].
12: Benchmark selection	The project IRR is calculated and therefore the local commercial lending rate is applied as benchmark. The appropriateness of the commercial lending rate is given as the company will finance the investment with a commercial credit. The usage of this benchmark also corresponds to the Annex Guidance on the Assessment of Investment Analysis of the Additionality tool point 11: "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."	DOE has verified project IRR through official documents provided – Average base rate SQS ref. [17], IRR_Thanh-Thuy 2.2 [71], Lending-rates State Bank of Vietnam [54], and Print-out Website State Bank of Vietnam Lending rates [56]. As proved through State Bank of Vietnam Base Interest rate SQS ref. [56] and Average Base Rate SQS ref. [17], – the weighted average base rate in the period approaching the decision to proceed was 8.35%. Therefore, according to the country's civil code, commercial interest rate being 150% of the base rate, 12.54% is the benchmark used (according to the decision of the State Bank of Vietnam and the Vietnamese Civil Law codes Article 476 SQS ref. [67]). The benchmark is chosen according to the Guideline.
13: Benchmark validation	The benchmark is based on publicly available data sources.	The data sources have been provided by the PP and proved online by the DOE and can be confirmed as correct. See references in Benchmark selection.
14: Internal company benchmarks	Not applied by project.	Not applicable
15: Risk premiums	No risk premiums are applied by the project.	Not applicable
16: Benchmark analysis	A benchmark analysis is made (see identification of appropriate analysis method above)	Comparison analysis is not applicable to the project.
17 and 18: Sensitivity analysis	Sensitivity analysis is made assuming 10% changes of project costs, Plant load factor, O&M cost and tariff (change of energy sales). The incidence of operational costs is low; however their variation is included as they are the only annual operational cost factor. These are the variables which constitute more than 20% of cost respectively revenue.	Sensitivity analysis is shown in IRR_Thanh-Thuy 2.3 [73]. The parameters chosen are correct, the variation chosen is 10%, all has been verified on the sheet and the IRR is never higher than 10.93% – so lower than the Benchmark of 12.54%. The likelihood of conditions, such as decrease in construction/operational costs, will only ever go up in a normal economic cycle. Vietnam is experiencing high inflation. So drop in costs is unlikely. PLF is unlikely to change as it is based on hydrological study going which takes rainfall date in that specific region over several years. Three conditions are fulfilled: The data is Government/official approved (State Bank and Decision of State Bank); it is used for investment decisions; and data sources are publicly available.

Parameter	Value applied	Unit	Source of information	SQS ref. Document	DOE assessment				
					Correctness of value applied	Appropriateness of information source	Comment		
Benchmark	12.54	%	State Bank of Vietnam + legally mandated mark up	[17], [73], [54], [56]	OK	OK	According to the country's civil code, commercial interest rate being 150% of the base rate, 12.54% is the benchmark used (according to the decision of the State Bank of Vietnam and the Vietnamese Civil Law codes Article 476 SQS ref. [67]). The benchmark is chosen according to the Guideline. The calculation of the benchmark has been compared with recent registered projects and the correctness is confirmed.		
Depreciation	5 (civils)	%	Decree 203/2009/TT-BTC from the Ministry of Finance Decision 2014/QD-BCN Technical Life and O&M costs	[21] [25]	OK	OK	According to the Decree 203/2009/TT-BTC from the Ministry of Finance PP has chosen 5 % for civil works and 10% for equipment as is it also present practice in Vietnam.		
	10 (equipment)	%							
Generation capacity	18	MW	Project feasibility study	[43]	OK	OK	The generation capacity is consistent with Feasibility Study [43]. It is also consistent with Equipment contract [23].		
Plant load factor	50.16	%	Project feasibility study	[43]	OK	OK	Based on feasibility study, in accordance with EB 48 Annex 11 “Guidelines For The Reporting And Validation Of Plant Load Factors“ II.3.b [43].		
Electricity generated per annum	79,090	MWh	Calculated	[73]	OK	OK	SQS confirms that the product of the annual operation hours with the generation capacity is correctly calculated and verified.		
Auxiliary consumption	2.0	%	Estimated	[73]	OK	OK	The value and has been crosschecked with other registered projects and is confirmed as conservative. – see Project 3389 : Dak Srong 2 and Project 3396 : Chau Thon Hydropower Project.		
Electricity sold to the grid	77,508	MWh	Calculated	[73]	OK	OK	SQS confirms that the Electricity generated minus auxiliary consumption is correctly calculated and verified.		

Tarif price	675.27	VND/ kWh	Project feasibility study	[30]	OK	OK	<p>The Tariff price is defined in the Project feasibility study [30] with 4.1 Cent/kWh (USD). PP applies the correct value.</p> <p>This was cross-checked against the Tentative Decisions on Assessment of Economy and Finance for Electricity Generation Projects (Decision 2014/QD-BCN – SQS ref. [50]) as announced by the Ministry of Industry (13/06/2007) stating that hydropower projects' power purchase price are in the range of 2.7 to 5.2 cent/kWh during the dry season and 2.5 to 5.0 cent/kWh during the rainy season respectively. Thus, it is both appropriate as well as conservative as it is on the higher side of the applicable range. It should also be noted that according to the Electricity Law 2005, electricity generators will have the right to sell electricity under a definite-term contract.</p> <p>The experienced inflation during the last years in Vietnam has devaluated the Vietnam Dong significantly against the US-Dollar – currency used in Decision 2014/QD-BCN.</p> <p>The Tariff price of Thanh Thuy has been assessed against recent registered large scale projects as well, and it was found to be more conservative. e.g.</p> <p>Project 4236: Ban Coc Hydropower Project: 590 VND/kWh, Project 3532 : Song Chung Hydropower Project: 607 VND/kWh</p> <p>DOE confirms that PP applies the correct value.</p>
Income Tax	0 / 12.5 / 25	%	DECREE 14/2008/ QH12	[51]	OK	OK	<p>According to Decree No 14_2008_QH12, INCOME TAX,[51] new enterprises have tax exemption for 4 years.</p> <p>The plant falls under List A domains as defined in Law No 14/QH/2008 [51] and Decree 164/2003/ND-CP [51] so it's eligible for investment preferences. The base tax is 25%.</p> <p>The project is located in List C of the tax law – it's in an area with special economic difficulties, so for 5 years, the project profits from a tax reduction of 50%.</p>
Insurance	0.25	%	Estimate	[75]	OK	OK	<p>The value has been crosschecked with SQS ref. [75] – Decision of Minister of Finance. DOE confirms that PP chose a conservative value.</p>
Interest rate on term loan	12.54	%	State Bank of Viet Nam + legally mandated mark up	[17], [54], [56], [67]	OK	OK	<p>According to the country's civil code, commercial interest rate being 150% of the base rate, SQS ref. [67]).</p>

Natural resource tax	2	%	Decision 16/2008/QD-BTC	[22]	OK	OK	Is accordingly to the government decision 16/2008/QD-BTC [22]
Operation and Maintenance costs	0.75	%	Decision 2014 QD-BCN 2007	[50]	OK	OK	Decision 2014QD-BCN, 2007, O&M COST [50] defines O&M costs for hydropower projects ≤ 30 MW in the range of 1-2% of the investment costs – PP has chosen the most conservative value.
Project investment costs in general	Cascade 1 10 MW: 256,677,878 Cascade 2 8 MW: 174,913,885, in total 431,591,764	000's VND	Project feasibility study	[44]	OK	OK	The investment costs are estimated in the Project feasibility study [44]. As Vietnam knows high inflation the last years, the investment costs will be higher than estimated. The appropriateness of the cost has cross-checked by reviewing the Vietnamese Master plan for Electricity production, "National Development Plan for Electricity, Period 2006-2015, Vision 2025 (June 2006)" which states that per kW investment costs for hydropower projects in Vietnam have a range of 15 million VND/kW to 25 million VND/kW. As the per kW cost of this project is found to be a little under 24 million VND/kW, and there are two cascades in a very mountainous region, it was deemed that the overall investment cost is reasonable and correctly applied. Since the FSR had been approved by the Ministry of Industry, SQS assumes that the cost is appropriate.
Project investment costs: Construction costs	Cascade 1 10 MW: 137,850,615 Cascade 2 8 MW: 91'311'805, in total 229,162,420	000's VND	Project feasibility study	[44] [48]	OK	OK	The construction costs are estimated in the Project feasibility study [44]. As Vietnam knows high inflation the last years, the investment costs will be higher than estimated. Has been verified the contract overview of Cascade 2 –SQS ref. [48](Construction costs). It shows that the contract costs are at least 6% higher than initially planned. Cascade 2 is constructed first. As cascade 1 is constructed later, the costs will even be higher. It can be confirmed that the construction cost are reasonable and correctly applied. Contract overview cascade 2 (main contracts) Chanel and its structure 47,561,802 Administration house 1,240,334 Road construction 3,964,623 Weir and divert structure 11,266,833 Pressure tank 12,510,684 Power house and tailrace 11,235,883 Penstock 9,100,000 in total 96,880,159 compared to the planned costs for construction of 91,311,805 – it results an escalation of 6%. Since the FSR had been approved by the Ministry of Industry, SQS assumes that the cost is appropriate.

Project investment costs: Equipment costs	Cascade 1 10 MW: 60,850,700 Cascade 2 8 MW: 42,115,150, in total 102,972,850	000's VND	Project feasibility study	[44] [48]	OK	OK	<p>The equipment costs are estimated in the Project feasibility study [44]. As equipment is imported and due to inflation the VND has been devalued therefore and price of imported goods is raising, the investment costs will be higher than estimated.</p> <p>The contract overview of Cascade 2 has been verified – SQS ref. [48] (equipment costs). It shows that the contract costs are at least 7,7% higher than initially planned. Cascade 2 is constructed first. As cascade 1 is constructed later, the costs will even be higher. It can be confirmed that the construction cost are reasonable and correctly applied.</p> <p>Equipment for power house 31,173,100 110 kV substation equipment 14,205,100 In Total 45,378,200 compared to the planned costs for and equipment of 42'115'150 – it results an escalation of 7.7%. Since the FSR had been approved by the Ministry of Industry, SQS assumes that the cost is appropriate.</p>
Project investment costs: Costs for compensation land clearance & resettlement	Cascade 1 10 MW: 1,000,000 Cascade 2 8 MW: 1,000,000, in total 2,000,000	000's VND	Project feasibility study	[44]	OK	OK	<p>The investment costs are estimated in the Project feasibility study [44].</p> <p>In general the compensation and resettlement costs are higher than planned due to the fact that the value of compensated land is higher than planned. Has been crosschecked SQS ref. [78], Approval of plan on compensation by Peoples committee of Ha Giang Province for cascade 2 which states compensation costs of a total of 1,310,391. Compared to the planned costs of 1,000,000 it results an excess of over 30%. The values are conservative and appropriate. Since the FSR had been approved by the Ministry of Industry, SQS assumes that the cost is appropriate.</p>
Project investment costs: Administration Costs	Cascade 1 10 MW: 2,926,393 Cascade 2 8 MW: 1,993,103, in total 4,919,496	000's VND	Project feasibility study	[44]	OK	OK	<p>The Administration costs are estimated in the Project feasibility study [44].</p> <p>They represent around 1.5 % of the total of Construction, Equipment, Compensation, land clearance and resettlement costs. It has been crosschecked with other registered projects e.g. Project 3872 : Ngoi Phat Hydropower Project which has administration costs around 2.9%.</p> <p>The value can be confirmed as reasonable and conservative. Since the FSR had been approved by the Ministry of Industry, SQS assumes that the cost is appropriate.</p>

Project investment costs Contingency	Cascade 1 10 MW: 23,848,077 Cascade 2 8 MW: 16,273,828, in total 40,121,905	000's VND	Project feasibility study	[44], [77]	OK	OK	The contingency costs are estimated in the Project feasibility study [44]. They represent less than 10% of the total of the investment Costs. The real costs will be higher than estimated due to inflation and longer construction time than planned.. The circular 05/2007/TT-BXD, GUIDING THE FORMULATION AND MANAGEMENT OF WORK CONSTRUCTION INVESTMENT EXPENDITURES of 25/07/2007 edited by the MINISTRY OF CONSTRUCTION – SQS ref. [77] states that contingency expenses for projects with an execution duration of up to 2 years are equal to 10% of the total of construction expenses, ground clearance, compensation and resettlement expenses, project management expenses, construction investment consultancy expenses and other expenses. The value can be confirmed as appropriate and conservative. Since the FSR had been approved by the Ministry of Industry, SQS assumes that the cost is appropriate.
Project investment costs Loan Interest	Cascade 1 10 MW: 17,053,902 Cascade 2 8 MW: 11,637,511 in total 28,691,413	000's VND	Project feasibility study	[44]	OK	OK	The loan interest costs are estimated in the Project feasibility study [44]. The real costs will be higher than estimated due to inflation and longer construction time than planned. Compared to others hydropower project, the value can be confirmed as appropriate and conservative. Since the FSR had been approved by the Ministry of Industry, SQS assumes that the cost is appropriate.
Residual value	0	%	Conservative value added	N/a	OK	OK	The financial analysis is calculated over a period of 30 years – the technical lifetime - see Doc financial spreadsheet [73]. DOE can confirm that the fair value is calculated. Since the depreciation period is 20 years, which is shorter than the project lifetime, the choosing of zero residual value is considered suitable.

Raised:

CL 30: In income statement an income from CERs over a period of 30 years is counted. Chosen 3 periods of 7 years crediting period. Financial analysis has to be adapted ⇒ CER tables in section A and B revised, as is accompanying IRR sheet. Additional sheet “CER Calc” in IRR calculation – CL 30 is closed.

CAR 9: PP informs DOE that lending rate 14.4% of the State Bank of Vietnam has to be corrected. PP shall submit the correct lending rate with proofs. ⇒ The correct lending rate (12.54%) is supported by the following supporting document: CAR9 State Bank of VN lending rates.xls – CAR 9 is closed.

DOE has used its local and sectoral experience to confirm that the underlying assumptions are accurate and appropriate and the financial calculations are correct.

CAR 12: Escalation in O&M costs are estimation and shall be supported with documentary proofs or be removed from the calculation. If it will be removed, IRR has to be recalculated and resubmitted and Table B.3. Key-Input Parameters has to be adapted. ⇒ PP removed escalation of O&M costs – CAR 12 is closed

3.6.4 Barrier analysis

Step 3 (Barrier analysis) is not performed according to the choice of Step 2 (Investment analysis).

SQS confirms that there is no obligation to proceed to step 3 if step 2 is chosen.

CAR 11: PP shall submit supporting data for Barrier Analysis or indicate a clear statement that barrier analysis is not performed according to the choice of Step 2 (Investment analysis). ⇒ As this step is optional as per additionality tool, PP removed this step from section B5 of the PDD for simplicity – CAR 11 is closed.

3.6.5 Common practice analysis

The chosen geographical scope of the common practice analysis is the whole of Vietnam. This is deemed reasonable because EVN makes no distinction in policy between power plants in the North or South. There are no sub-grids, for example. So selecting the whole grid as geographical scope is appropriate. This is was validated by consulting official documentation (i.e. 6th National Power Development (Master) Plan).

Are considered all existing and planned plants in Vietnam from 2006-2008 listed in EVN Masterplan 2006 for electricity production 2006-2015 – SQS ref. [38] and Overview of Policy Instruments for the Promotion of Renewable Energy and energy efficiency in Vietnam, 2005 – SQS ref. [39] and the VN Scoping Report – SQS ref. [76], Table A.1.3.

Categorization of plants was done in two ways: List all plants which are government/state involved and then separate by size. All projects less than 15MW are considered small scale and are not comparable. Categorization is considered appropriate because government backed projects are very different as the state owned/involved projects have better access to funding, human resource and are not built with the need for shareholder return. Land use are easier (in Vietnam no-one outside of the state can truly own land due to Socialist political system). This is confirmed by the use of local knowledge by the DOE (e.g. through interview with the DNA and other project owners beyond those of the proposed project).

PP statistically demonstrates that 107 or 88% (of 121) of the hydro power plants are developed by the State in the form of state owned IPPs, EVN ownership or by the state taking a shareholding in the power producer – SQS ref. [57], [58] and [59].

Are considered privately owned 14 or 12%. For those plants for which no information was publically found, it has been conservatively assumed that there is private ownership.

Excluding the small scale plants there is still 1 project left. This one was built in 1943 – so not comparable. This was validated by reading websites about this project.

The PP supplemented the common practice analysis following the issue of new data by the DNA since the PDD for global stakeholder consultation. DNA has produced grid emission factor data which shows all power plants commissioned in Vietnam, including IPP but not CDM projects to calculate build margin in SQS ref. [34]. This confirms that since 2005, the only hydroelectric plants built in Vietnam since 2005 are state-owned (EVN) or involve state funding (State owned IPP), shown in PDD table B7. 2005 is highlighted by the PP as the year when the two key documents of this decade with respect to power development (one of which covers policy until 2015) were introduced. One is the 6th National Development Power Plan (NPDP or Electricity Masterplan) which covers period 2005-2015, the other is the Electricity Law of 2005. It is validated by desk research into NPDP 6 and Electricity Law 2005, through local knowledge and in interview (with DNA and other project owners beyond the PP) that the information presented about the new law and 6th NPDP in the PDD (table B6 are accurate). This methodology is used by registered PDDs in China, which conclude that projects developed after the landmark Chinese National Development and Reform Commission, Separate Power Plants from Network and Compete in Price to Enter Network, April 11, 2002, (http://www.ndrc.gov.cn/xwfb/t20050708_28096.htm) are not comparable to projects that came before 2002.

It is confirmed that the proposed project cannot be compared with state owned plants by using local expertise, gained through validation other projects in Vietnam and by talking to government officials. State owned plants are not financed using commercial debt and are not subject to commercial lending rates fluctuations, debt service, covenant restrictions etc. The motivation for state owned power plant construction is national infrastructure and economic development rather than shareholder profit. DOE also consulted "A study on project success factors in large construction projects in Vietnam" – SQS ref. [81] which concludes that access to funding and skilled labour in a socialist country such as Vietnam the size and role of the state means better funding and access to skilled labor is more likely to be attracted by Government owned projects

Finally, the common practice analysis was cross-checked as a credibility check against other registered projects in Vietnam. It is found that a similar approach was taken: categorization firstly by size and then by type of ownership. The result is the same as in other PDDs: large scale hydro development is provided by the state and there are no comparable projects to the proposed project.

In summary, DOE has validated the common practice analysis using:

- Official sources: DNA GEF report, National Power Development Plan 6 and Electricity Law 2005.
- Third party/academic sources: [Scoping report]/[EU report]/[A study on project success factors in large construction projects in Vietnam (2004)]
- Local knowledge partly gained through interviews with DNA and project developers in addition to those from the proposed project.

Raised:

CL 23: PP shall confirm that the listed projects are not CDM projects. In case of application of the Grid Emission Factor from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this part of the PDD must be adapted. ⇒ A review of the UNFCCC website for registered CDM projects in Vietnam confirmed that none of the plants considered in the build margin are registered CDM projects. A screenshot of registered CDM projects in Vietnam is provided. (Please see document CL23 Registered CDM Projects.pdf).

DOE can confirm that the proposed CDM project activity is not common practice – CL 23 is closed.

3.7 Monitoring plan

The monitoring plan described in the PDD was checked by desk-review and on-site.

Raised:

CL 16: The name of the functions, tasks and responsibilities shall be synchronized. In Annex 4, the names of person shall be completed. ⇒ It was synchronized – CL 16 is closed.

CL 19: Shall be mentioned the surface of the reservoir for considerations ⇒ As per the project design, this project does not have a reservoir associated with it – CL 19 is closed.

CL 20: "Value of date" cannot be filled out – it can be filled out after a first monitoring period. ⇒ The content has been modified – CL 20 is closed.

CL 25: The monitoring system shall be described more in details. Do the EVN receipts show the net amount of electricity delivered to the grid? Is on-site metering placed at output to the grid? Does it exclude internal consumption? An electric scheme could be useful. ⇒ Further details will be included in detailed monitoring plan finalized after registration – see FAR 4 – CL 25 is closed.

CL 27: ACM0002 has to be analyzed about parameter to monitor. E.g. Under B.7.1 Parameter Cap_{PJ}, A_{PJ} has to be integrated, ACM0002 p.17. ⇒ Monitoring of these parameters is not necessary as there is no

reservoir. – CL 27 is closed.

CAR 10: The point of measurement has to be described to assure that energy loss of transformers is integrated in the monitoring. This could be integrated in Figure B.1. Project boundary. ⇒ Will be verified on a later stage – CAR 10 is closed – see FAR 4.

FAR 1: The calibration status of Monitoring equipments has to be submitted to DOE. ⇒ To be concluded at the verification stage.

FAR 2: The Monitoring manual has to be established ⇒ To be concluded at the verification stage.

FAR 3: The training plan and the training proofs have to be submitted to the DOE ⇒ To be concluded at the verification stage.

FAR 4: The monitoring system shall be described in more detail. Do the EVN receipts show the net amount of electricity delivered to the grid? Is on-site metering placed at output to the grid? Does it exclude internal consumption? An electric scheme could be useful. ⇒ To be concluded at the verification stage.

DOE confirms the compliance of the monitoring plan with the requirements of the methodology and that it is feasible to be implemented. This was assessed by interview with the Chief of Planning for the project (see below). Also, the PP has experience of building another hydropower project earlier on. It hopes, therefore, to bring the gained experience into the new project.

3.8 Sustainable development

The Letters of Approval are issued. The confirmation of sustainable development by the host party DNA is confirmed – see SQS ref. [60] and [61].

The host Party's DNA confirmed the contribution of the project to the sustainable development of the host Party.

3.9 Local stakeholder consultation

The stakeholder groups that had been identified and that were interviewed, are local residents, farmers, affected persons and local political authorities. Staff members from the local environment protection agency also attended. In SQS's opinion, these are the groups affected by the project, and the project participants selected the right groups. The stakeholder meeting for Thanh Thuy was held starting at 08:30 AM on 28/07/2009 at the Administrative Building of Thanh Thuy Commune People's Committee, Vi Xuyen District, Ha Giang Province. SQS ref. [28 TT Invitation Express (local press), SQS ref. [26] TT attendance list and SQS ref. [29] TT Stakeholder opinion (evaluations of the presents).

At the starting session of the on-site visit (which also started in the Building of People's Committee) the Chairwoman of Peoples Committee and a delegation of the population were present and were questioned about the impacts and actions of the project owner. The project owner acts to the population's satisfaction and people who have to be compensated are satisfied.

During Stakeholder consultation of 28/07/2009, different questions were raised. These were properly answered. PP was able to give positive answers. The questions mostly concerned safety and security aspects.

During the on-site visit, the validator was able to verify that a safe and professional solution will be implemented and that the project participants have responded properly to that issue. SQS is satisfied with the manner that the consultation of local stakeholders was conducted.

3.10 Global stakeholder consultation

The PDD (version 1.0, dated 06/04/2010) was published from 13/05/2010 to the 11/06/2010 on the UNFCCC website. No comments were received.

3.11 Environmental impacts

According to Vietnamese law, hydropower plants need to have their environmental impacts assessed with an Environmental Impact Assessment (EIA), Environmental Impact Evaluation (EIE) or Environment Protection Commitment. The requirement as to which is required depends on the specific project (generally determined based on its reservoir size). The Thanh Thuy Hydropower project has undergone an EIA – SQS ref. [2] and [3] EIA- Thanh Thuy_VN and EN. This EIA was approved by the relevant local authorities, Vi Xuyen People's Committee, on 30/06/2008, SQS ref. [49] CL24 g EPC approval. In EPC several impact sources are listed during construction phase and Operation phase. PP discusses the list of impacts in PDD Section D1 in detail and actions are described.

Were defined in EIA as main sources due to the project activity:

During Construction:

- Impacts on air quality (including Noise)
- Impacts on water quality
- Solid waste
- Soil environment

During operation;

- Impact on water
- Impact on ecosystems

PP has defined and realized actions and methods to reduce negative impacts. During the on-site visit, the validator verified that these actions have been realized.

3.12 Validation protocol

In order to ensure transparency and organize the corrective or additional information and measures, a validation protocol was established for the project (see appendix F). The protocol shows in transparent manner the criteria (requirements), the means of validation and the results from validating the identified criteria including any resulting CAR, FAR and CL.

4 List of Interviewees and Documents Reviewed

The on-site audit and interviews were done according to the on-site visit program (see appendix A) which was communicated to the project owner in advance of the audit.

The following stakeholders were interviewed during the validation (see appendix B).

The following documents were assessed during the validation (see appendix C).

5 Validation Team and Reviewer

The following matrix shows the names and roles of the members of the validation team and the reviewer. The reviewer is not a member of the validation team. Certificates of competence for each validation team member and of the reviewer are included in appendix D to this report.

Name	Role (1)	Country	Duties				
			Desk review	On-site audit	Resolution of CAR & CL	Report	Technical review
Hansruedi Bader	LA	Switzerland	X	X	X	X	
Rudolf Brodbeck	TM	Switzerland	X				
Jürg Liechti	TR	Switzerland					X

(1) LA = Lead auditor/assessor; TM = Team member; TE = Technical expert (if any); TR = Technical reviewer

6 Quality Control

Cross checks and/or other plausibility checks undertaken during validation are mentioned in the report or in the protocol. The draft validation report, including the initial validation findings, undergoes an internal review (by a member of the validation team) before being submitted to the project participants. The final validation report undergoes a review for final approval carried out by a reviewer (not a member of the validation team) before requesting registration of the project activity. The reviewer is qualified in accordance with SQS' qualification scheme for CDM validation and verification.

7 Appendix A: On-Site Visit Program

Time from	Time to	Subject	Function Department	Person(s) to contact
08/06/2010		Peoples Committee House Thanh Thuy Commune		
13.30	14.30	Meet & greet,	Viet Long Industry JSC, Chairman Viet Long Industry JSC, Technical Manager Thanh Thuy Commune Chairman Thanh Thuy Commune affected person Thanh Thuy Commune affected person Thanh Thuy Commune affected person Thanh Thuy Commune local person Thanh Thuy Commune local person Thanh Thuy Commune local person Thanh Thuy Commune local person Thanh Thuy Commune local person Thanh Thuy Commune local person Thanh Thuy Commune local person Thanh Thuy Commune local person Kyoto Energy, Project Executive Kyoto Energy, Project Manager	Mr. Luc Quang Mung Mr. Nguyen Van Mo Mrs Le Thi Thiet Mr. Nguyen Viet y Mr. Hoang Van Thach Mr. Tan Tan Sai Mr. Ly Van Thuc Mr. Trang Van Sang Mr. Phan Thi Tinh Mr. Hoang Van Dam Mr. Trang Van Truong Mr. Phan Van Anh Mr. Song Van Son Mr. Sung Van Long Mr. Bui Thanh Binh Mr. Antony Abraham
14.30	15.30	Review PDD Monitoring VVM Requirements, Financial Audit	Viet Long Industry JSC, Chairman Viet Long Industry JSC, Technical Manager Kyoto Energy, Project Executive Kyoto Energy, Project Manager	Mr. Luc Quang Mung Mr. Nguyen Van Mo Mr. Bui Thanh Binh Mr. Antony Abraham
15.30	18.30	Visit Building site	Viet Long Industry JSC, Chairman Viet Long Industry JSC, Technical Manager Kyoto Energy, Project Executive Kyoto Energy, Project Manager	Mr. Luc Quang Mung Mr. Nguyen Van Mo Mr. Bui Thanh Binh Mr. Antony Abraham

8 Appendix B: Interviews

Family Name	First Name	Organization	Function	Issues
Mrs. Le	Thi Thiet	Thanh Thuy Commune	Chairwoman	Environment Impacts, actions undertaken by PP, Compensation, working conditions
Mr. Nguyen	Viet Y	Thanh Thuy Commune	Affected person	Environment Impacts, actions undertaken by PP, Compensation, working conditions
Mr. Hoang	Van Thach	Thanh Thuy Commune	Affected person	Environment Impacts, actions undertaken by PP, Compensation, working conditions
Mr. Tan	Tan Sai	Thanh Thuy Commune	Affected person	Environment Impacts, actions undertaken by PP, Compensation, working conditions
Mr. Ly	Van thuc	Thanh Thuy Commune	Local person	Environment Impacts, actions undertaken by PP, Compensation, working conditions
Mr. Trang	Van sang	Thanh Thuy Commune	Local person	Environment Impacts, actions undertaken by PP, Compensation, working conditions
Mr. Phan	Thi Tinh	Thanh Thuy Commune	Local person	Environment Impacts, actions undertaken by PP, Compensation, working conditions
Mr. Song	Van son	Thanh Thuy Commune	Local person	Environment Impacts, actions undertaken by PP, Compensation, working conditions
Mr. Sung	Van Long	Thanh Thuy Commune	Local person	Environment Impacts, actions undertaken by PP, Compensation, working conditions
Mr. Bui	Thanh Binh	Thanh Thuy Commune	Local person	Environment Impacts, actions undertaken by PP, Compensation, working conditions
Mr. Luc	Quang Mung	Viet Long Industry JSC	Chairman	Prior considerations, board decisions, financial and technical aspects of the project.
Mr. Nguyen	Van Mo	Viet Long Industry JSC	Technical Manager	Construction schedule, environment impacts, management of the building site Contract list, invoices, contract management
Mr. Bui	Thanh Binh	Kyoto Energy Pte. Ltd., CDM Carbon asset Manager	Project Executive	Additionality, Methodology, Project development, PDD, Requests

Mr. Antony	Abraham	Kyoto Energy Pte. Ltd., CDM Carbon asset Manager	Project Manager	Additionality, Methodology, Project development, PDD, Requests
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9 Appendix C: Documents Reviewed

SQS Reference	PP Reference	Issuance and/or submission date	Title/Type of Document	Author/Editor/ Issuer
[01]	PDD_Thanh_Thuy	06/04/2010 Version 1.0	Project Design Document	PP
[02]	PDD_Thanh_Thuy	30/06/2010 Version 1.2	Project Design Document	PP
[03]	PDD_Thanh_Thuy	30/06/2010	Project Design Document	PP
[04]	PDD_Thanh_Thuy	28/08/2010 Version 1.4	Project Design Document	PP
[05]	PDD_Thanh_Thuy	29/09/2010 Version 1.6	Project Design Document	PP
[06]	PDD_Thanh_Thuy	12/12/2010 Version 1.7	Project Design Document	PP
[07]	PDD_Thanh_Thuy	12/12/2010 Version 1.8	Project Design Document	PP
[08]	PDD_Thanh_Thuy	14/12/2010 Version 1.9	Project Design Document	PP
[09]	PDD_Thanh_Thuy	20/12/2010 Version 1.91	Project Design Document	PP
[010]	PDD_Thanh_Thuy	05/04/2011 Version 1.2	Project Design Document	PP
[011]	PDD_Thanh_Thuy	17/04/2011 Version 2.1	Project Design Document	PP
[012]	PDD_Thanh_Thuy	30/04/2011 Version 2.2	Project Design Document	PP
[1]	1. TT Business License	-	TT Business License	
[2]	3 b EIA translation of Thanh Thuy	-	EIA translation of Thanh Thuy	
[3]	3a EIA- Thanh Thuy		EIA- Thanh Thuy Vietnamese Edition	
[4]	4,13a. TT Investment License	28/11/2008	Investment License 1	
[5]	4,13b. TT Investment License 2	28/11/2008	Investment License 2	
[6]	6,12. TT Prior Consideration	06/05/2009	Prior Consideration	VIET LONG INDUSTRY JSC.
[7]	6_5. TT Land use approval	28/07/2009	Land use approval	
[8]	8. TT Board resolution	20/04/2008	Board resolution	
[9]	10a. TT Main Report	03/2008	Feasibility Study Main Report	
[10]	10a., 38, 39 TT Main Report	03/2008	Feasibility Study Main Report	
[11]	10b.TT Hydraulic Energy Economy	03/2008	Feasibility Study Main Report Chapter 5	
[12]	10c. TT Total Estimation	03/2008	Feasibility Study Main Report Chapter 7	
[13]	11a CAM_Thanh Thuy	26/06/2008	Carbon Asset Management Agreement	Kyoto Energy Pte. Ltd.
[14]	11b Thanh_Thuy_ERPA	22/12/2008	CDM Emission Reductions Purchase Agreement	BUNGE EMISSIONS HOLDING SARL
[15]	14. TT bank loan	23/07/2009		
[16]	15, 16 Thanh Thuy-IRR	-		Kyoto Energy Pte. Ltd.
[17]	17,36 Average Base Rate - Thanh Thuy	-		Kyoto Energy Pte. Ltd.

[18]	18. TT No ODA	29/12/2009		VIET LONG INDUSTRY JSC.
[19]	19. TT Connection permission	17/01/2008		
[20]	20. TT Power Purchasing Approval	04/01/2008		
[21]	21. Depreciation	20/10/2009		Government
[22]	22. water tax 2008BTC	14/04/2008		Government
[23]	24. TT Equipment contract	18/05/2009		
[24]	25. TT construction contract	08/12/2008		
[25]	27.40. Technical life and O and M	13/06/2007	. Technical life and O&M	Government
[26]	28a. TT attendance list 1	28/07/2009		
[27]	28b. TT Invitation on Express	-	Invitation on Express	Public press
[28]	TT SM minutes_0001	28/07/2009	Meeting minute stakeholder-consultation	
[29]	28d. TT Stakeholder opinion	-	Stakeholder opinion	
[30]	37 Feasibility Study Tariff	-	Feasibility Study	
[31]	43. TT EPC (Environmental)	30/06/2008	EPC (Environmental)	
[32]	44. Overview of Policy Instruments for the Promotion	-	Overview of Policy Instruments for the Promotion	
[34]	EF5 calculation report.160610	12/2009	EF5 calculation report.160610	Ozone Layer Protection Centre, Department of Meteorology, Hydrology and Climate Change
[35]	DECREE No 164-2003-ND-CP List C	22/12/2003	DECREE No 164-2003-ND-CP List C	Government
[36]	PDD p.15 reference 5 Asia Times Online Southeast Asia news		Asia Times Online Southeast Asia news: Inflation tests Vietnam's growth	Asia Times online www.atimes.com
[37]	CL13 a Common Practice Analysis	10/08/2010	Common Practice Analysis	Kyoto Energy Pte. Ltd.
[38]	CL13 b National Power Development Masterplan in the period of 2006-2015	11/2006	National Power Development Masterplan in the period of 2006-2015	Ministry of Industry, EVN Energy Institute, Vietnam
[39]	CL13 c Overview Policy Renewable Energy Vietnam	-	Overview Policy Renewable Energy Vietnam	
[40]	CL19 a EIA extract	03/2008	EIA extract page 21	
[41]	CL19 b Project Layout	08/2007	Project Layout	
[42]	CL23 Registered CDM Projects	04/08/2010	Registered CDM Projects	Webpage UNFCCC
[43]	CL24 a Feasibility Study Main Report	03/2008	Feasibility Study Main Report	
[44]	CL24 b Feasibility Study Total estimation	03/2008	Feasibility Study Total estimation	
[45]	CL24 c Feasibility Study Hydraulic Economy	03/2008	Feasibility Study Hydraulic Economy	
[46]	CL24 d Connection Approval	17/01/2008	Connection Approval	
[47]	CL24 e Loan contract	23/07/2009	Loan contract	
[48]	CL24 f Contract overview		Contract overview	
[49]	CL24 g EPC Approval	30/06/2008	EPC Approval Environment Protection Commitment Confirmation	
[50]	CL24 h 2014QDBCN	13/06/2007	Decision No. 2014QDBCN	
[51]	CL24 i 142008QH12	03/06/2008	Law on Enterprise income Tax No. 14/2008/QH12	Government
[52]	CL24 j 1242008NDCP	11/12/2008	Decree 124/2008/NDCP	Government
[53]	CL24 k 3837QDBCN in Power Master Plan	11/2006	Power Master Plan	Ministry of Industry, EVN Energy Institute, Vietnam

[54]	CAR9 State Bank of VN lending rates		State Bank of VN lending rates	
[55]	Thanh Thuy-IRR_1_9	28/08/2010	Thanh Thuy-IRR_1_9	Kyoto Energy Pte. Ltd.
[56]	CAR9_state bank of Vietnam interest rate	-	state bank of Vietnam interest rate – printout website State Bank of Vietnam	Webpage State bank of Vietnam
[57]	CL13 d Common practice_updated_clean	17/10/2010		Kyoto Energy Pte. Ltd.
[58]	CL13 e Common practice_updated_annotated	17/10/2010	Common practice_updated_annotated	Kyoto Energy Pte. Ltd.
[59]	CL13 f Common practice_updated_notes	17/10/2010	Common practice_updated_notes	Kyoto Energy Pte. Ltd.
[60]	CL26 a Host Country Letter of Approval	24/08/2010	Vietnam DNA's Letter of Approval for the Thanh Thuy Hydropower Project	DNA Vietnam
[61]	CL26 b Annex 1 Letter of Approval	27/09/2010	Letter of approval for a project under article 12 of the Kyoto Protocol (CDM)	DNA Switzerland
[62]	MOC_Thanh Thuy	-	MOC_Thanh Thuy	PP
[63]	build-margin - update projects	17/11/2010	build-margin - update projects	PP
[64]	EF5 Grid Emission Factor calculation VN	26/03/2010	EF5 Grid Emission Factor calculation VN	Ozone Layer Protection Centre, Department of Meteorology, Hydrology and Climate Change
[65]	Construction Schedule	-	Construction Schedule	Photo taken at site visit
[66]	8-TT-BoardResolution+Minutes (5)	24/04/2008	Board resolution with English annotations	PP
[67]	Vietnamese Civil Law codes	14/06/2005	Vietnamese Civil Law codes	Government
[68]	Thanh Thuy-IRR-2 0	13/12/2010	Thanh Thuy-IRR-2 0	PP
[69]	MOC_ThanhThuy_13122010	13/12/2010	MOC_ThanhThuy_13122010	PP
[70]	Thanh Thuy-IRR-2 .1	14/12/2010	Thanh Thuy-IRR-2 .1	PP
[71]	Thanh Thuy-IRR-2 .2	14/12/2010	Thanh Thuy-IRR-2 .2	PP
[72]	MOC_ThanhThuy_13122010	24/12/2010	MOC_ThanhThuy_13122010	PP
[73]	Thanh Thuy-IRR-2 .3	24/12/2010	Thanh Thuy-IRR-2 .3	PP
[73]	Thanh Thuy-IRR-2.4	17/04/2011	Thanh Thuy-IRR-2.4	
[74]	MOC_Thanh Thuy_dated	27/12/2010	MOC_Thanh Thuy	PP
[75]	33/2004/QĐ-BTC	12/04/2004	Decision of Minister of Finance promulgating construction...insurance...	Government
[76]	VN Scoping Report	10/2007	STRATEGIC ENVIRONMENTAL ASSESSMENT OF THE HYDROPOWER MASTER PLAN IN THE CONTEXT OF THE PDP VI	Asian Development Bank, Stockholm Environment Institute
[77]	Circular 05/2007/TT-BXD	25/07/2007	CIRCULAR 05/2007/TT-BXD OF JULY 25, 2007, GUIDING THE FORMULATION AND MANAGEMENT OF WORK CONSTRUCTION INVESTMENT EXPENDITURES	CONSTRUCTION MINISTRY
[78]	Decision 2188-QĐ-UBND	10/07/2009	Approval of plan on compensation, support and resettlement for occupied land by Thanh Thuy Hydropower	Peoples Committee of Ha Giang Province

			Project	
[79]	SD48 PhyMy_Distribution loss Report	2008	Field Survey Phu My Thermal Power Plant Project	The Japan Economic Research Institute
[80]	FS_author	03/2008	Feasibility Study Report, Front page	Rural Construction Consultancy JSC in Hanoi, Mr. C.N Cong Trinh
[81]	Study on Project Success Factors_Vietnam	2004	A study on project success factors in large construction projects in Vietnam	Long Duy Nguyen Stephen O. Ogunlana and Do Thi Xuan Lan

10 Appendix D: Certificates of Competence

Name: Hansruedi Bader

Scopes of expertise:		
1	Energy industries (renewable/non-renewable sources) TA 1.1: Thermal energy generation from fossil fuels as well as thermal energy from solar TA 1.2: Energy generation from renewable energy sources TA 1.3: Other energy industries	X X X <input type="checkbox"/>
2	Energy distribution TA 2.1: Electricity distribution TA 2.2: Heat distribution	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3	Energy demand TA 3: Energy demand	<input type="checkbox"/> <input type="checkbox"/>
4	Manufacturing industries TA 4.1: Cement sector TA 4.2: Aluminium TA 4.3: Iron and steel TA 4.4: Refinery TA 4.5: Other manufacturing industries	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
5	Chemical industry TA 5.1: Chemical process industries	<input type="checkbox"/> <input type="checkbox"/>
6	Construction TA 6.1: Construction	X X
7	Transport TA 7.1: Transport	<input type="checkbox"/> <input type="checkbox"/>
8	Mining/mineral production TA 8.1: Mining and mineral processes, excluding those included in TA 8.2 below TA 8.2: Oil and gas industry, coal mine methane recovery and use	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
9	Metal production TA 9.1: Metal production	<input type="checkbox"/> <input type="checkbox"/>
10	Fugitive emissions from fuels TA 10.1: Mining and mineral processes, excluding those included in TA 10.2 below TA 10.2: Oil and gas industry, coal mine methane recovery and use	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
11	Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride TA 11.1: Chemical process industries	<input type="checkbox"/> <input type="checkbox"/>
12	Solvent use TA 12.1: Chemical process industries	<input type="checkbox"/> <input type="checkbox"/>
13	Waste handling and disposal TA 13.1: Waste handling and disposal	X X
14	Afforestation and reforestation TA 14.1: Forestry	<input type="checkbox"/> <input type="checkbox"/>
15	Agriculture TA 15.1: Agriculture	<input type="checkbox"/> <input type="checkbox"/>

Name: Mr. Rudolf Brodbeck

Scopes of expertise:

1	Energy industries (renewable/non-renewable sources)	X
	TA 1.1: Thermal energy generation from fossil fuels as well as thermal energy from solar	<input type="checkbox"/>
	TA 1.2: Energy generation from renewable energy sources	X
	TA 1.3: Other energy industries	X
2	Energy distribution	<input type="checkbox"/>
	TA 2.1: Electricity distribution	<input type="checkbox"/>
	TA 2.2: Heat distribution	<input type="checkbox"/>
3	Energy demand	<input type="checkbox"/>
	TA 3: Energy demand	<input type="checkbox"/>
4	Manufacturing industries	X
	TA 4.1: Cement sector	<input type="checkbox"/>
	TA 4.2: Aluminium	<input type="checkbox"/>
	TA 4.3: Iron and steel	<input type="checkbox"/>
	TA 4.4: Refinery	<input type="checkbox"/>
	TA 4.5: Other manufacturing industries	X
5	Chemical industry	X
	TA 5.1: Chemical process industries	X
6	Construction	<input type="checkbox"/>
	TA 6.1: Construction	<input type="checkbox"/>
7	Transport	X
	TA 7.1: Transport	X
8	Mining/mineral production	<input type="checkbox"/>
	TA 8.1: Mining and mineral processes, excluding those included in TA 8.2 below	<input type="checkbox"/>
	TA 8.2: Oil and gas industry, coal mine methane recovery and use	<input type="checkbox"/>
9	Metal production	<input type="checkbox"/>
	TA 9.1: Metal production	<input type="checkbox"/>
10	Fugitive emissions from fuels	<input type="checkbox"/>
	TA 10.1: Mining and mineral processes, excluding those included in TA 10.2 below	<input type="checkbox"/>
	TA 10.2: Oil and gas industry, coal mine methane recovery and use	<input type="checkbox"/>
11	Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride	<input type="checkbox"/>
	TA 11.1: Chemical process industries	<input type="checkbox"/>
12	Solvent use	X
	TA 12.1: Chemical process industries	X
13	Waste handling and disposal	<input type="checkbox"/>
	TA 13.1: Waste handling and disposal	<input type="checkbox"/>
14	Afforestation and reforestation	<input type="checkbox"/>
	TA 14.1: Forestry	<input type="checkbox"/>
15	Agriculture	X
	TA 15.1: Agriculture	X

Name: Mr Jürg Liechti, PhD

Scopes of expertise:

1	Energy industries (renewable/non-renewable sources)	X
	TA 1.1: Thermal energy generation from fossil fuels as well as thermal energy from solar	X
	TA 1.2: Energy generation from renewable energy sources	X
	TA 1.3: Other energy industries	X
2	Energy distribution	X
	TA 2.1: Electricity distribution	X
	TA 2.2: Heat distribution	X
3	Energy demand	X
	TA 3: Energy demand	X
4	Manufacturing industries	X
	TA 4.1: Cement sector	X
	TA 4.2: Aluminium	X
	TA 4.3: Iron and steel	X
	TA 4.4: Refinery	<input type="checkbox"/>
	TA 4.5: Other manufacturing industries	X
5	Chemical industry	X
	TA 5.1: Chemical process industries	X
6	Construction	<input type="checkbox"/>
	TA 6.1: Construction	<input type="checkbox"/>
7	Transport	X
	TA 7.1: Transport	X
8	Mining/mineral production	<input type="checkbox"/>
	TA 8.1: Mining and mineral processes, excluding those included in TA 8.2 below	<input type="checkbox"/>
	TA 8.2: Oil and gas industry, coal mine methane recovery and use	<input type="checkbox"/>
9	Metal production	X
	TA 9.1: Metal production	X
10	Fugitive emissions from fuels	<input type="checkbox"/>
	TA 10.1: Mining and mineral processes, excluding those included in TA 10.2 below	<input type="checkbox"/>
	TA 10.2: Oil and gas industry, coal mine methane recovery and use	<input type="checkbox"/>
11	Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride	X
	TA 11.1: Chemical process industries	X
12	Solvent use	X
	TA 12.1: Chemical process industries	X
13	Waste handling and disposal	X
	TA 13.1: Waste handling and disposal	X
14	Afforestation and reforestation	<input type="checkbox"/>
	TA 14.1: Forestry	<input type="checkbox"/>
15	Agriculture	X
	TA 15.1: Agriculture	X

11 Appendix E: Abbreviations

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEF	Carbon Emission Factor
CER	Certified Emission Reduction
CH ₄	Methane
CL	Clarification Request
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
DNA	Designated National Authority
EVN	Electricity of Vietnam
FAR	Forward Action Request
GEF	Grid Emission Factor
GHG	Greenhouse gas(es)
GWP	Global Warming Potential
IEE	Initial Environmental Examination
IPCC	Intergovernmental Panel on Climate Change
IPP	Independent Power Projects
MP	Monitoring Plan
MVP	Monitoring and Verification Plan
N ₂ O	Nitrous oxide
NGO	Non-governmental Organisation
ODA	Official Development Assistance
PDD	Project Design Document
SQS	Swiss Association for Quality and Management Systems
UNFCCC	United Nations Framework Convention on Climate Change

**Swiss Association for Quality and
Management Systems (SQS)**

B e r n s t r a s s e 1 0 3
P . O . B o x 6 8 6
C H - 3 0 5 2 Z o l l i k o f e n
T e l . + 4 1 3 1 9 1 0 3 5 3 5
F a x . + 4 1 3 1 9 1 0 3 5 4 5
h e a d o f f i c e @ s q s . c h
w w w . s q s . c h

Appendix F: CDM Validation Protocol

Enterprise

Business account:	320631
Company:	Bunge Emissions Holdings Sarl c/o Bunge SA
Address:	13, Route de Florissant P.O. Box 518 CH-1206 Geneva
Phone:	+4122 59 29 621
Fax:	+4122 58 03 360
E-Mail:	Navin.mathur@bunge.com
Contact Person:	Mr Navin Mathur

Service

Audit/Assessment:	CDM Validation
Audit/Assessment beginning/end:	28/04/2010 – 22/04/2011
Project name:	Thanh Thuy Hydropower Project
GBZ/Report-No.:	320633/P29492.33
UNFCCC Scope(s)/Technical area(s):	1/TA 1.2
UNFCCC Methodology:	ACM0002 Consolidated Methodology for Grid Connected Electricity Generation from Renewable Sources Version 11
UNFCCC Scale:	Large Scale
Audit team:	Mr Hansruedi Bader Mr Rudolf Brodbeck

Index

Introduction	2
Normative References	2
Protocol 1: General CDM requirements	3
VALIDATION REQUIREMENTS BASED ON PARAGRAPH 37 OF THE CDM MODALITIES AND PROCEDURES	3
SPECIFIC VALIDATION ACTIVITIES VVM V1.2 SECTION F, PARAGRAPH 134 TO 171 NOT APPLICABLE	16
Protocol 2: Methodological requirements (incl. tools)	17
METHODOLOGY ACM0002 VERSION 11	17
TOOL TO CALCULATE THE EMISSION FACTOR FOR AN ELECTRICITY SYSTEM	23
Protocol 3: Summary of requests	28

Introduction

Objective of CDM validation ([1] 26)

The purpose of validation is to ensure a thorough, independent assessment of proposed project activities submitted for registration as a proposed CDM project activity against the applicable CDM requirements.

Requests ([1] 35-37)

- The DOE shall raise a corrective action request (CAR) if one of the following occurs:
 - (a) The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
 - (b) The CDM requirements have not been met;
 - (c) There is a risk that emission reductions cannot be monitored or calculated.
- The DOE shall raise a clarification request (CL) if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.
- The DOE shall raise a forward action request (FAR) during validation to highlight issues related to project implementation that require review during the first verification of the project activity. FARs shall not relate to the CDM requirements for registration.

Normative References

No.	Title	Version
[1]	CLEAN DEVELOPMENT MECHANISM VALIDATION AND VERIFICATION MANUAL	01.2
[2]	GUIDELINES ON THE DEMONSTRATION AND ASSESSMENT OF PRIOR CONSIDERATION OF THE CDM	03
[3]	GUIDANCE ON THE ASSESSMENT OF INVESTMENT ANALYSIS	02.1
[4]	GLOSSARY OF CDM TERMS	05
[5]	MODALITIES AND PROCEDURES FOR A CLEAN DEVELOPMENT MECHANISM	unedited

Protocol 1: General CDM requirements

	Topic / Question	Ref	MoV	Draft Concl	Final Concl
1	Validation requirements based on paragraph 37 of the CDM modalities and procedures				
1.1	APPROVAL				
(i)	All Parties involved have approved the project activity.	[1] 44	DR	CL	Ok
	Comment / Cross Reference: CL see below.				
1.1.1	The DOE shall determine whether the DNA of each Party indicated as being involved in the proposed CDM project activity in section A.3 of the PDD has provided a written letter of approval. 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.	[1] 45	DR	CL-26	Ok
	Comment / Cross Reference: CL 26 The LoAs have to be submitted to the auditors				
1.1.2	The DOE shall determine whether the letter(s) of approval is unconditional with respect to (a) to (d) above.	[1] 46	DR	CL-26	Ok
	Comment / Cross Reference: See CL 22; see 1.1.1				
1.1.3	The DOE shall determine whether the letter(s) of approval has been issued by the respective Party's designated national authority (DNA) and if in doubt, shall verify with the DNA that the letter of approval is valid for the proposed CDM project activity under validation. A list of DNAs is available on the UNFCCC CDM website.	[1] 47	DR	CL-26	Ok
	Comment / Cross Reference: Indicate whether the DOE received this letter from the project participants or directly from the DNA; CL 26; see 1.1.1				
1.1.4	If the DOE doubts the authenticity of the letter of approval, the DOE shall verify with the DNA that the letter of approval is authentic.	[1] 48	DR	CL-26	Ok
	Comment / Cross Reference: Indicate the means of validation employed to assess the authenticity if paragraph 48 above applies; CL 26, see 1.1.1				
1.2	PARTICIPATION				
(i)	All project participants have been listed in a consistent manner in the project documentation, and their participation in the project activity has been approved by a Party to the Kyoto Protocol.	[1] 51	DR	CL-26	Ok
	Comment / Cross Reference: CL 26 The LoAs have to be submitted to the auditors.				
1.2.1	The DOE shall confirm that the project participants are listed in tabular form in section A.3 of the PDD and that this information is consistent with the contact details provided in annex 1 of the PDD. The DOE shall determine whether the participation of each project participant has been approved by at least one Party involved, either in a letter of approval or in a separate letter specifically to approve participation. The DOE shall confirm that no entities other than those approved as project participants are included in these sections of the PDD.	[1] 52	DR	CL-26	Ok

Date:
03.05.2011

Report-No:
P29492.33

Page:
4 of 37

	Topic / Question	Ref	MoV	Draft Concl	Final Concl
	Comment / Cross Reference: CL 26 The LoAs have to be submitted to the auditors.				
1.2.2	The DOE shall ensure that the approval of participation has been issued from the relevant DNA and if in doubt shall verify with the DNA that the approval of participation is valid for the proposed project participant.	[1] 53	DR	CL-26	Ok
	Comment / Cross Reference: CL see 1.1.1				
1.3	PROJECT DESIGN DOCUMENT				
(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.	[1] 55	DR	Ok	Ok
	Comment / Cross Reference:				
1.3.1	The DOE shall determine whether the PDD is in accordance with the applicable CDM requirements for completing PDDs.	[1] 56	DR	CL-1	Ok
	Comment / Cross Reference: PDD form used is Version 03. CL 1: The PDD shall have an unequivocal identification; name and version number. Current name: CDM-Executive Board – it can be integrated in the foot-line so it is visible on every page and identified.				
1.4	PROJECT DESCRIPTION				
(i)	The PDD shall contain a clear description of the project activity that provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation.	[1] 58	DR	Ok	Ok
	Comment / Cross Reference:				
1.4.1	The DOE shall confirm that the description of the proposed CDM project activity as contained in the PDD sufficiently covers all relevant elements, is accurate and that it provides the reader with a clear understanding of the nature of the proposed CDM project activity.	[1] 59	DR	CL-2 CL-3 CL-4 CL-5 CL-6 CL-7 CL-8 CL-9 CL-10 CL-11 CL-12 CL-13 CL-14 CL-15 CL-19 CL-20 CAR-1 CAR-2 CAR-3 CAR-5	Ok
	Comment / Cross Reference CL 2: The source at reference 1 (Electricity of Vietnam) shall be referenced exactly. Document name and which table/page was used CL 3: In the case of the "lending rate", the source of data shall be referenced exact. Document name and which table/page was used. CL 4: The title Common practice analysis shall be introduced on top of the page. CL 5: In the case of "10 EVN data", the document shall be referenced exactly. Document name and which table/page was used.				

Date:
03.05.2011

Report-No:
P29492.33

Page:
5 of 37

	Topic / Question	Ref	MoV	Draft Concl	Final Concl
	<p>CL 6: In the case of the parameter NCV the source of data shall be referenced exactly. Document name and which table was used.</p> <p>CL 7: In the case of the parameter "Fi,j,y", the source of data shall be referenced exactly. Document name and which table/page was used.</p> <p>Is the correct name of the parameter Fci,y? Please correct it.</p> <p>Which data in Annex 3 correspond to this parameter? In case of application of the GEF from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this parameter will not be used.</p> <p>CL 8: In the case of the parameter "Installed Capacity", the source of data shall be referenced exactly. Document name and which table/page was used. Which data in Annex 3 correspond to this parameter? In witch formula do you need the parameter? In case of application of the GEF from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this parameter will not be used.</p> <p>CL 9: In the case of the parameter "Electricity Generated", the source of data shall be referenced exactly. Document name and which table/page was used. Is the correct name of the parameter is EGy? Please correct it. Which data in Annex 3 correspond to this parameter? In case of application of the GEF from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this parameter will not be used.</p> <p>CL 10: In the case of the parameter "Internal Electricity Consumption", the source of data shall be referenced exactly. Document name and which table/page was used. In which formula do you need the parameter? Which data in Annex 3 correspond to this parameter? In case of application of the GEF from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this parameter will not be used.</p> <p>Comment / Cross Reference: CL 11: In the case of the parameter EF_{CO2,I}, the source of data shall be referenced exactly. Document name and which table/page was used.</p> <p>In case of application of the GEF from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this parameter will not be used.</p> <p>CL 12: The total of the estimated reduction has to be verified – it does not correspond to the sum of annual reductions. In case of application of the GEF from the Department of Meteorology, Hydrology and Climate Change of 12/2009, the Estimation of annual emission reduction has to be recalculated.</p> <p>CL 13: The mentioned study about hydropower projects in Vietnam (143 hydropower plants) shall be referenced correctly and submitted to the DOE.</p> <p>CL 14: The Modalities of communication form shall be submitted to the DOE.</p> <p>CL 15: The indicated plant "He bon" does not correspond to the actual project. Pleas verify consistence.</p> <p>CL 19: Shall be mentioned the surface of the reservoir for considerations.</p> <p>CL 29: PP shall mention only coordinates of the powerhouse cascade 2. Otherwise, the project cannot be localized precisely.</p> <p>CAR 1: The Internet link in reference 5 has to be corrected.</p> <p>CAR 2: The Internet link in reference 9 does not work. The link has to be corrected or the print screen has to be submitted.</p> <p>CAR 3: The required Vietnamese law for environment monitoring has to be submitted – also in an English version.</p> <p>CAR 5: The indicated tension of the output (100 kV) is not consistent with Annex 4. It has to be corrected.</p>				
1.4.2	<p>For proposed CDM project activities in existing facilities or utilizing existing equipments, the DOE shall conduct a physical site inspection to confirm that the description in the PDD reflects the proposed CDM project activity for the following types of CDM project activities unless other means are specified in the methodology:</p> <p>(a) Large scale projects;</p> <p>(b) Non-bundled small scale projects with emission reductions exceeding 15,000 tonnes per year;</p> <p>(c) Bundled small scale projects, each with emission reductions not exceeding 15,000 tonnes per year; in such case the number of physical site visits may however be based on sampling, if the sampling size is appropriately justified</p>	[1] 60	DR	n/a	n/a

MoV = Means of Validation, DR = Document Review, I = Interview, N/A = Not Applicable

CAR = Corrective Action Request, CL = Clarification Request, FAR = Forward Action Request

Date:
03.05.2011

Report-No:
P29492.33

Page:
6 of 37

	Topic / Question	Ref	MoV	Draft Concl	Final Concl
	through statistical analysis.				
	Comment / Cross Reference: Not applicable				
1.4.3	For other individual proposed small scale CDM project activities with emission reductions not exceeding 15,000 tonnes per year the DOE may conduct a physical site visit as appropriate.	[1] 61	DR	n/a	n/a
	Comment / Cross Reference:				
1.4.4	For all other proposed CDM project activities not referred to in paragraphs 59 - 61, the DOE shall undertake the validation by reviewing available designs and feasibility studies and may conduct comparison analysis to equivalent projects, as appropriate. The DOE may conduct physical site visit to assess the plan. For proposed CDM project activities for which the DOE does not undertake a physical site inspection this shall be appropriately justified.	[1] 62	DR	Ok	Ok
	Comment / Cross Reference: A physical on-site visit has been made on 06/06/2010.				
1.4.5	If the proposed CDM project activity involves the alteration of an existing installation or process, the DOE shall ensure that the project description clearly states the differences resulting from the project activity compared to the pre-project situation.	[1] 63	DR	n/a	Ok
	Comment / Cross Reference:				
1.5	BASELINE AND MONITORING METHODOLOGY				
1.5 (a)	General requirement				
1.5 (a) 1	The DOE shall ensure that the baseline and monitoring methodologies selected by the project participants comply with the methodologies previously approved by the CDM Executive Board.	[1] 65	DR	Ok	Ok
	Comment / Cross Reference: See also Protocol 2 Methodology ACM0002				
1.5 (a) 2	To ensure that the project activity meets this general requirement, the DOE shall determine whether: (a) The selected methodology is applicable to the project activity; (b) The selected methodology had been correctly applied.	[1] 66	DR	Ok	Ok
	Comment / Cross Reference: Selected methodology is applicable. Methodology has correctly been applied.				
1.5 (a) 3	The DOE shall ensure that the selected methodology applies to the project activity and has been correctly applied with respect to following: (a) Project boundary; (b) Baseline identification; (c) Algorithms and/or formulae used to determine emission reductions; (d) Additionality; (e) Monitoring methodology.	[1] 67	DR	CL-24 CL-25 CL-27	Ok
	<p>CL 24: Shall be submitted to DOE the following documents:</p> <ul style="list-style-type: none"> Feasibility study and EIA – relevant parts in VN and English version as <ul style="list-style-type: none"> Bases for plant load factor Installed capacity Total of Investment Loan: equity ratio Approval connecting to the grid Plant load factor Operational hours <p>Comment / Cross Reference:</p>				

Date:
03.05.2011

Report-No:
P29492.33

Page:
7 of 37

	Topic / Question	Ref	MoV	Draft Concl	Final Concl
	<ul style="list-style-type: none"> Loan repayment period <ul style="list-style-type: none"> Loan evidences for cascade 1 Overview contract and/or investment situation EPC (Environment Protection Commitment) in VN and English version, EIA approval EVN regulations 3014/QD-BCN in VN and English version Law No 14/2008/QH12 dt 03/6/2008 Decree No. 124/2008/ND-CP dt. 11/12/2008 <p>Decision No. 3739QD/BCN on 22/11/2005 (p 17).of Ministry of Industry in VN and English translation.</p> <p>CL 25: The monitoring system shall be described more in details. Do the EVN receipts show the net amount of electricity delivered to the grid? Is on-site metering placed at output to the grid? Does it exclude internal consumption? An electric scheme could be use full.</p> <p>CL 27: ACM0002 has to be analyzed about parameter to monitor. E.g. Under B. 7.1 Parameter C_{app}, A_{PJ} has to be integrated, ACM0002 p.17.</p>				
1.5 (b)	Applicability of the selected methodology to the project activity				
(i)	The DOE shall validate that the selected baseline and monitoring methodology previously approved by the CDM Executive Board, is applicable to the project activity.	[1] 68	DR	Ok	Ok
	Comment / Cross Reference:				
1.5 (b) 1	The DOE shall determine whether the methodology is correctly quoted and applied by comparing it with the actual text of the applicable version of the methodology available on the UNFCCC CDM website.	[1] 69	DR	Ok	Ok
	Comment / Cross Reference: ACM0002 is correctly applied.				
1.5 (b) 2	A selected approved methodology applies to the project activity if the applicability conditions of the methodology are met and the project activity is not expected to result in emissions other than those allowed by the methodology. The DOE shall determine whether the choice of methodology is justified and the project participants have shown that the project activity meets each of the applicability conditions of the approved methodology or any tool or other methodology component referred to therein. This shall be done by validating the documentation referred to in the PDD and by verifying that its content is correctly quoted and interpreted in the PDD. If the DOE, based on local and sectoral knowledge, is aware that comparable information is available from sources other than that used in the PDD, then the DOE shall cross check the PDD against the other sources to confirm that the project activity meets the applicability conditions of the methodology.	[1] 70	DR	Ok	Ok
	Comment / Cross Reference: See protocol 2 Methodology ACM0002.				
1.5 (b) 3	If the DOE cannot make a determination regarding the applicability of the selected methodology to the proposed CDM project activity then the DOE shall request clarification of the methodology in accordance with the guidance provided by the CDM Executive Board.	[1] 71	DR	n/a	n/a
	Comment / Cross Reference:				
1.5 (b) 4	If the DOE determines that the proposed CDM project activity does not comply with the applicability conditions of the methodology the DOE may proceed by means of requesting revision to or deviation from the methodology in accordance with the guidance provided by the CDM Executive Board.	[1] 72	DR	n/a	n/a
	Comment / Cross Reference:				

MoV = Means of Validation, DR = Document Review, I = Interview, N/A = Not Applicable

CAR = Corrective Action Request, CL = Clarification Request, FAR = Forward Action Request

Date:
03.05.2011

Report-No:
P29492.33

Page:
8 of 37

	Topic / Question	Ref	MoV	Draft Concl	Final Concl
1.5 (b) 5	If the DOE has requested clarification of, revision to or deviation from a methodology, the DOE shall not submit a request for registration until the CDM Executive Board has approved the proposed deviation or revision.	[1] 73	DR	n/a	n/a
	Comment / Cross Reference:				
1.5 (b) 6	Under no circumstance shall the DOE consider the submission of a request for registration as a means of seeking clarification from the CDM Executive Board on the applicability of a methodology.	[1] 74	DR	n/a	n/a
	Comment / Cross Reference:				
1.5 (c)	Project boundary				
(i)	The PDD shall correctly describe the project boundary, including the physical delineation of the proposed CDM project activity included within the project boundary for the purpose of calculating project and baseline emissions for the proposed CDM project activity.	[1] 77			
	Comment / Cross Reference: The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to.				
1.5 (c) 1	Based on documented evidence and corroborated by a site visit where required by paragraphs 59-62 above, the DOE shall determine whether the delineation in the PDD of the project boundary is correct and meets the requirements of the selected baseline methodology. The DOE also shall confirm that all sources and GHGs required by the methodology have been included within the project boundary. If the methodology allows project participants to choose whether a source or gas is to be included within the project boundary, the DOE shall determine whether the project participants have justified that choice. The DOE shall confirm that the justification provided is reasonable, based on assessment of supporting documented evidence provided by the project participants and corroborated by observations if required.	[1] 78	DR	CAR-6	Ok
	Comment / Cross Reference: CAR 6: The Project boundary must include the reservoir – even the CH ₄ do not have to be considered due to the power density.				
1.5 (d)	Baseline identification				
(i)	The PDD shall identify the baseline for the proposed CDM project activity, defined as the scenario that reasonably represents the anthropogenic emissions by sources of GHGs that would occur in the absence of the proposed CDM project activity.	[1] 80	DR	Ok	Ok
	Comment / Cross Reference: The project is a Greenfield project. As baseline, existing power plants would provide electricity to the grid. The baseline is identified correctly and sufficiently.				
(ii)	The DOE shall confirm that any procedure contained in the methodology to identify the most reasonable baseline scenario, has been correctly applied. If the selected methodology requires use of tools (such as the “Tool for the demonstration and assessment of additionality” and the “Combined tool to identify the baseline scenario and demonstrate additionality”) to establish the baseline scenario, the DOE shall consult the methodology on the application of these tools. In such cases, the guidance in the methodology shall supersede the tool. The DOE shall check each step in the procedure described in the PDD against the requirements of the methodology.	[1] 81	DR	CL-23 CAR-4	Ok
	Comment / Cross Reference: CL 23 The evidences that construction of electric power plants falls under List A domains shall be submitted to DOE. CL 18: PP shall confirm that the listed projects are not CDM projects. In case of application of the GEF from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this part of the PDD has to be adapted CAR 4: The calculated emission factor (0.602) is not conservative. The document “Ministry of Natural Resources and Environment, 2010				

Date:
03.05.2011

Report-No:
P29492.33

Page:
9 of 37

	Topic / Question	Ref	MoV	Draft Concl	Final Concl
	<p><http://www.noccop.org.vn/Data/vbpq/Airvariable_Idoc_vnHe%20so%20phat%20thai.pdf> calculates a factor of 0.5764.</p> <p>The calculation of the GHG emission reductions must be recalculated..</p>				
1.5 (d) 1	<p>If the methodology requires several alternative scenarios to be considered in the identification of the most reasonable baseline scenario, the DOE shall, based on financial expertise and local and sectoral knowledge, determine whether all scenarios that are considered by the project participants and are supplementary to those required by the methodology, are reasonable in the context of the proposed CDM project activity and that no reasonable alternative scenario has been excluded.</p> <p>Comment / Cross Reference: See protocol 2 – AMC0002</p>	[1] 82	DR	Ok	Ok
1.5 (d) 2	<p>The DOE shall determine whether the baseline scenario identified is reasonable by validating the assumptions, calculations and rationales used, as described in the PDD. It shall ensure that documents and sources referred to in the PDD are correctly quoted and interpreted. The DOE shall cross check the information provided in the PDD with other verifiable and credible sources, such as local expert opinion, if available.</p> <p>Comment / Cross Reference: See protocol 3</p>	[1] 83	DR	Ok	Ok
1.5 (d) 3	<p>The DOE shall determine whether all applicable CDM requirements have been taken into account in the identification of the baseline scenario for the proposed CDM project activity, including "relevant national and/or sectoral policies and circumstances." Drawing on its knowledge of the sector and/or advice from local experts, the DOE shall confirm that all relevant policies and circumstances have been identified and correctly considered in the PDD, in accordance with the guidance by the CDM Executive Board.</p> <p>Comment / Cross Reference: Relevant national and/or sectoral policies and circumstances are considered and listed in the PDD and in submitted documents.</p>	[1] 84	DR	Ok	Ok
1.5 (d) 4	<p>The DOE shall determine whether the PDD provides a verifiable 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.</p> <p>Comment / Cross Reference: CL 17: The choice of option A1 (see PDD p.42) shall be mentioned clearly. In case of application of the GEF from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this part of the PDD has to be adapted. CL 18: The designation of the steps shall be verified. The Choice of Option A1 shall be mentioned clearly. In case of application of the GEF from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this part of the PDD has to be adapted.</p>	[1] 85	DR	CL 17 CL 18	Ok
1.5 (e)	Algorithms and/or formulae used to determine emission reductions				
(i)	<p>The steps taken and equations applied to calculate project emissions, baseline emissions, leakage and emission reductions shall comply with the requirements of the selected baseline and monitoring methodology.</p> <p>Comment / Cross Reference:</p>	[1] 88	DR	Ok	Ok
1.5 (e) 1	<p>The DOE shall determine whether the equations and parameters in the PDD have been correctly applied by comparing them to those in the selected approved methodology. If the methodology provides for selection between different options for equations or parameters, the DOE shall confirm that adequate justification has been provided (based on the choice of the baseline scenario, context of the proposed CDM project activity and other evidence provided) and that the correct equations and parameters have been used, in accordance with the methodology selected.</p>	[1] 89	DR	OK	Ok

Date:
03.05.2011

Report-No:
P29492.33

Page:
10 of 37

	Topic / Question	Ref	MoV	Draft Concl	Final Concl
	Comment / Equations were applied and options chosen correctly. Equations and parameters are in Cross Reference: accordance with AMC0002.				
1.5 (e) 2	The DOE shall verify the justification given in the PDD for the choice of data and parameters used in the equations. If data and parameters will not be monitored throughout the crediting period of the proposed CDM project activity but have already been determined and will remain fixed throughout the crediting period, the DOE shall assess that all data sources and assumptions are appropriate and calculations are correct, applicable to the proposed CDM project activity and will result in a conservative estimate of the emission reductions. If data and parameters will be monitored on implementation and hence become available only after validation of the project activity, the DOE shall confirm that the estimates provided in the PDD for these data and parameters are reasonable. All values used in the PDD are considered reasonable in the context of the proposed CDM project activity. Comment / The baseline methodology was applied correctly to calculate project emissions, baseline Cross Reference: emissions, leakage and emission reductions. All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD.	[1] 90	DR	Ok	Ok
1.6	ADDITIONALITY OF A PROJECT ACTIVITY				
(i)	The PDD shall describe how a proposed CDM project activity is additional. Comment / Cross Reference:	[1] 93	DR, I	Ok	Ok
1.6.1	The DOE shall assess and verify the reliability and credibility of all data, rationales, assumptions, justifications and documentation provided by project participants to support the demonstration of additionality. This requires the DOE to critically assess the presented evidence, using local knowledge and sectoral and financial expertise. The validation report shall clearly describe all steps taken and sources of information used by the DOE to cross-check the information contained in the PDD in this matter. The validation Comment / Cross Reference: report shall contain information regarding how the DOE has determined that the documentation assessed is authentic, where appropriate.	[1] 93	DR,I	Ok	Ok
1.6.2	The DOE shall consider tools and documents provided by the CDM Executive Board to demonstrate the additionality of proposed CDM project activities, as well as specific complementary or alternative requirements included in approved CDM methodology. Comment / Cross Reference: The additionality was shown by means of investment barrier.	[1] 94	DR,I	Ok	ok
1.6 (a)	Prior consideration of the clean development mechanism				
(i)	If the projects activity start date is prior to the date of publication of the PDD for stakeholder comments it shall be demonstrated that the CDM benefits were considered necessary in the decision to undertake the project as a proposed CDM project activity. Comment / Cross Reference:	[1] 96	DR	Ok	ok
1.6 (a) 1	The DOE shall confirm that the start date of the project activity, reported in the PDD, is in accordance with the "Glossary of CDM terms". If the reported date is not in accordance with the glossary, the DOE shall raise a CAR to ensure that the start date is correctly reported in a revised PDD. In particular, for project activities that require construction, retrofit or other modifications, the date of commissioning cannot be considered the project activity start date.	[1] 97	DR	Ok	ok

Date:
03.05.2011

Report-No:
P29492.33

Page:
11 of 37

	Topic / Question	Ref	MoV	Draft Concl	Final Concl										
	Comment / Cross Reference: Start date is in accordance with the “Glossary of CDM terms”. Start date is defined as the date on which the contract of civil works was signed (08/12/2008).														
1.6 (a) 2	The DOE, in accordance with the guidance from the Board [2], shall determine whether it is a new project activity (project activities with starting date on or after 02 August 2008) or an existing project activity (project activities with a start date before 02 August 2008).	[1] 98	DR, I	Ok	ok										
	Comment / Cross Reference: Starting date is after 02/08/2008. As per guidance of EB Meeting report, annex 22, the PP notified the UNFCCC of the intent to implement the project as CDM project activity within six months and his notification was accordingly acknowledged as received on 06/05/2009.														
1.6 (a) 3	For a new project activity with a start date on or after 2 August 2008 and for which PDD has not been published for global stakeholder consultation or a new methodology proposed to the Executive Board before the project activity start date, the DOE shall ensure by means of confirmation from the DNA or UNFCCC secretariat that PPs had informed the Host Party DNA and/or the UNFCCC secretariat in writing of the commencement of the project activity and of their intention to seek CDM status. If such a notification has not been provided by the project participants the DOE shall determine that the CDM was not seriously considered in the decision to implement the project activity.	[1] 99	DR, I	Ok	ok										
	Comment / Cross Reference: Starting date is after 02/08/2008. As per guidance of EB Meeting report, annex 22, the PP notified the UNFCCC of the intent to implement the project as CDM project activity within six months and his notification was accordingly acknowledged as received on 06/05/2009.														
1.6 (a) 4	For an existing project activity with a start date before 2 August 2008, for which the start date is prior to the date of publication of the PDD for global stakeholder consultation, the DOE shall assess the project participant’s prior consideration of the CDM through document reviews and shall satisfy following requirements: (a) Evidence that must indicate that awareness of the CDM prior to the project activity start date, and that the benefits of the CDM were a decisive factor in the decision to proceed with the project. Evidence to support this would include, inter alia, minutes and/or notes related to the consideration of the decision by the Board of Directors, or equivalent, of the project participant, to undertake the project as a proposed CDM project activity. (b) Reliable evidence from project participants that must indicate that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation. Evidence to support this shall include, inter alia, contracts with consultants for CDM/PDD/methodology services, Emission Reduction Purchase Agreements or other documentation related to the sale of the potential CERs (including correspondence with multilateral financial institutions or carbon funds), evidence of agreements or negotiations with a DOE for validation services, submission of a new methodology to the CDM Executive Board, publication in newspaper, interviews with DNA, earlier correspondence on the project with the DNA or the UNFCCC secretariat.	[1] 100	DR	n/a	n/a										
	<table><tr><th>Evidence for prior consideration of CDM</th><th>Yes / No</th></tr><tr><td>Evidence of awareness of the CDM prior to the projects activity start date.</td><td>Yes</td></tr><tr><td>Evidence that the benefits of the CDM were a decisive factor in the decision to proceed with the project,</td><td>Yes</td></tr><tr><td>Reliable evidence from project participants that must indicate that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation</td><td>Yes</td></tr><tr><td></td><td></td></tr></table>	Evidence for prior consideration of CDM	Yes / No	Evidence of awareness of the CDM prior to the projects activity start date.	Yes	Evidence that the benefits of the CDM were a decisive factor in the decision to proceed with the project,	Yes	Reliable evidence from project participants that must indicate that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation	Yes						
Evidence for prior consideration of CDM	Yes / No														
Evidence of awareness of the CDM prior to the projects activity start date.	Yes														
Evidence that the benefits of the CDM were a decisive factor in the decision to proceed with the project,	Yes														
Reliable evidence from project participants that must indicate that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation	Yes														
	Comment / Cross Reference:														
1.6 (a) 5	If evidence to support the serious prior consideration of the CDM as indicated above is not available, the DOE shall determine that the CDM was not	[1] 101	DR	n/a	n/a										

Date:
03.05.2011

Report-No:
P29492.33

Page:
12 of 37

	Topic / Question	Ref	MoV	Draft Concl	Final Concl
	considered in the decision to implement the project activity.				
	Comment / Cross Reference:				
1.6 (b)	Identification of alternatives				
(i)	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 (e.g., methodology ACM0002).	[1] 103	DR	Ok	ok
	Comment / Cross Reference: Also see protocol 2				
1.6 (b) 1	The DOE shall assess the list of alternatives given in the PDD and ensure that: (a) The list of alternatives includes as one of the options that the project activity is undertaken without being registered as a proposed CDM project activity; (b) The list contains all plausible alternatives that the DOE, on the basis of its local and sectoral knowledge, considers to be viable means of supplying the outputs or services that are to be supplied by the proposed CDM project activity; (c) The alternatives comply with all applicable and enforced legislation.	[1] 104	DR	Ok	ok
	Comment / Cross Reference: Also see protocol 2				
1.6 (c)	Investment analysis				
(i)	If investment analysis has been used to demonstrate the additionality of the proposed CDM project activity, the PDD shall provide evidence that the proposed CDM project activity would not be: (a) The most economically or financially attractive alternative; or (b) Economically or financially feasible, without the revenue from the sale of certified emission reductions (CERs).	[1] 106	DR	Ok	ok
	Comment / Cross Reference: Evidence (b) is sufficiently given in the PDD.				
(ii)	Project participants can show this through one of the following approaches: (a) Demonstrate that the proposed CDM project activity would produce no financial or economic benefits other than CDM-related income. Document the costs associated with the proposed CDM project activity and the alternatives identified and demonstrate that there is at least one alternative which is less costly than the proposed CDM project activity; (b) The proposed CDM project activity is less economically or financially attractive than at least one other credible and realistic alternative; (c) The financial returns of the proposed CDM project activity would be insufficient to justify the required investment.	[1] 107	DR	CL-27 CL-36 CAR-8 CAR-9 CAR-12	ok
	Comment / Cross Reference: CAR 8: The grid price of 4.1 ct/kWh has to be corrected and proofs for the right grid price have to be submitted to DOE. CAR 9: PP informs DOE that lending rate 14.4% of the State Bank of Vietnam has to be corrected. PP shall submit the correct lending rate with proofs. CAR 12: Escalation in O&M costs is an estimation and shall be supported with documentary proofs or be removed from the calculation. If it will be removed, IRR has to be recalculated and resubmitted and Table B.3. Key-Input Parameters has to be adapted. CL 30: In income statement is counted an income from CER's over a period of 30 years. Is chosen 3 periods of 7 years. Financial analysis has to be adapted. CL 36: In IRR calculation, sheet Assumptions, SQS ref. [71] is referenced Feasibility Report as information source for the interest. The real source is SQS ref. [56] (CAR)_State bank of Vietnam interest rate. PP shall correct the source of information.				

Date:
03.05.2011

Report-No:
P29492.33

Page:
13 of 37

	Topic / Question	Ref	MoV	Draft Concl	Final Concl
(iii)	The DOE shall comply with the latest version of the "Guidance on the Assessment of Investment Analysis" as provided by the CDM Executive Board.	[1] 108	DR	Ok	ok
	Comment / Investment analysis compiles with the "Guidance on the Assessment of Investment Analyses" Cross Reference: version 3.				
1.6 (c) 1	To verify the accuracy of financial calculations carried out for any investment analysis, the DOE shall: (a) Conduct a thorough assessment of all parameters and assumptions used in calculating the relevant financial indicator, and determine the accuracy and suitability of these parameters using the available evidence and expertise in relevant accounting practices; (b) Cross-check the parameters against third-party or publicly available sources, such as invoices or price indices; (c) Review feasibility reports, public announcements and annual financial reports related to the proposed CDM project activity and the project participants; (d) Assess the correctness of computations carried out and documented by the project participants; (e) Assess the sensitivity analysis by the project participants to determine under what conditions variations in the result would occur, and the likelihood of these conditions.	[1] 109	DR	Ok	ok
	Comment / See Validation Report Cross Reference:				
1.6 (c) 2	To confirm the suitability of any benchmark applied in the investment analysis, the DOE shall: (a) Determine whether the type of benchmark applied is suitable for the type of financial indicator presented; (b) Ensure that any risk premiums applied in determining the benchmark reflect the risks associated with the project type or activity; (c) Determine whether it is reasonable to assume that no investment would be made at a rate of return lower than the benchmark by, for example, assessing previous investment decisions by the project participants involved and determining whether the same benchmark has been applied or if there are verifiable circumstances that have led to a change in the benchmark.	[1] 110	DR	Ok	ok
	Comment / (a) Determination of type of Benchmark is done by means of data provided by the State Bank of Vietnam. Benchmark applied is deemed suitable by the auditors. Cross Reference: Also see Validation Report.				
1.6 (c) 3	The Board clarified that in cases where project participants rely on values from Feasibility Study Reports (FSR) that are approved by national authorities for proposed project activities, DOEs are required to ensure that: (a) The FSR has been the basis of the decision to proceed with the investment in the project, i.e. that the period of time between the finalization of the FSR and the investment decision is sufficiently short for the DOE to confirm that it is unlikely in the context of the underlying project activity that the input values would have materially changed; (b) The values used in the PDD and associated annexes are fully consistent with the FSR, and where inconsistencies occur the DOE shall validate the appropriateness of the values; (c) On the basis of its specific local and sectoral expertise, confirmation is provided, by cross-checking or other appropriate manner, that the input values from the FSR are valid and applicable at the time of the investment decision.	[1] 111	DR	Ok	Ok
	Comment / Underlying assumptions are appropriate and the financial calculations are correct. Cross Reference:				
1.6 (d)	Barrier analysis				
(i)	If barrier analysis has been used to demonstrate the additionality of the proposed CDM project activity, the PDD shall demonstrate that the proposed	[1] 113	DR	CAR 11	n/a

MoV = Means of Validation, DR = Document Review, I = Interview, N/A = Not Applicable

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Date:
03.05.2011

Report-No:
P29492.33

Page:
14 of 37

	Topic / Question	Ref	MoV	Draft Concl	Final Concl
	CDM project activity faces barriers that: (a) Prevent the implementation of this type of proposed CDM project activity; (b) Do not prevent the implementation of at least one of the alternatives.				
	Comment / Cross Reference: CAR 11: PP shall submit supporting data for Barrier Analysis or indicate a clear statement that barrier analysis is not performed according to the choice of Step 2 (investment analysis)..				
1.6 (d) 1	Issues that have a clear direct impact on the financial returns of the project activity cannot be considered barriers and shall be assessed by investment analysis. This does not refer to either (a) Risk related barriers, for example risk of technical failure, that could have negative effects on financial performance, or (b) Barriers related to the unavailability of sources of finance for the project activity.	[1] 114	DR	n/a	n/a
	Comment / Cross Reference:				
1.6 (d) 2	The DOE shall apply a two-step process to assessing the barrier analysis performed, as follows: (a) <i>Determine whether the barriers are real.</i> The DOE shall assess the available evidence and/or undertake interviews with relevant individuals (including members of industry associations, government officials or local experts if necessary) to determine whether the barriers listed in the PDD exist. The DOE shall ensure that existence of barriers is substantiated by independent sources of data such as relevant national legislation, surveys of local conditions and national or international statistics. If existence of a barrier is substantiated only by the opinions of the project participants, the DOE shall not consider this barrier to be adequately substantiated. If the DOE considers, on the basis of its sectoral or local expertise, that a barrier is not real or is not supported by sufficient evidence, it shall raise a CAR to have reference to this barrier removed from the project documentation; (b) <i>Determine whether the barriers prevent the implementation of the project activity but not the implementation of at least one of the possible alternatives.</i> Since not all barriers present an insurmountable hurdle to a project activity being implemented, the DOE shall apply its local and sectoral expertise to judge whether a barrier or set of barriers would prevent the implementation of the proposed CDM project activity and would not equally prevent implementation of <i>at least one of the possible alternatives</i> , in particular the identified baseline scenario.	[1] 115	DR	n/a	n/a
	Comment / Cross Reference:				
1.6 (e)	Common practice analysis				
(i)	For large-scale CDM project activities, unless the proposed project type is first-of-its kind, common practice analysis shall be carried out as a credibility check of the other available evidence used by the project participants to demonstrate additionality. This is a test to complement the investment analysis (Step 2 of the additionality tool) or barrier analysis (Step 3 of the additionality tool) to confirm that the project activity is not widely observed and commonly carried out in the region.	[1] 117	DR	n/a	n/a
	Comment / Cross Reference:				
1.6 (e) 1	The DOE shall use its local and sectoral expertise to: (a) Assess whether the geographical scope (e.g. the defined region) of the common practice analysis is appropriate for the assessment of common practice related to the project activity's technology or industry type. For certain technologies the relevant region for assessment will be local and for others it may be transnational / global. If a region other than the entire host country is	[1] 118	DR	n/a	n/a

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Date:
03.05.2011

Report-No:
P29492.33

Page:
15 of 37

	Topic / Question	Ref	MoV	Draft Concl	Final Concl
	<p>chosen, the DOE shall assess the explanation why this region is more appropriate;</p> <p>(b) Using official sources and local and industry expertise, determine to what extent similar and operational projects (e.g., using similar technology or practice), other than CDM project activities, have been undertaken in the defined region;</p> <p>(c) If similar and operational projects, other than CDM project activities, are already "widely observed and commonly carried out" in the defined region, assess whether there are essential distinctions between the proposed CDM project activity and the other similar activities.</p> <p>Comment / Cross Reference:</p>				
1.7	MONITORING PLAN				
(i)	<p>The PDD shall include a monitoring plan. This monitoring plan shall be based on the approved monitoring methodology applied to the proposed CDM project activity.</p> <p>Comment / Cross Reference:</p>	[1] 120	DR	Ok	ok
1.7.1	<p>The DOE shall apply a two-step process to assessing compliance with this requirement, as follows:</p> <p>(a) <i>Compliance of the monitoring plan with the approved methodology.</i> The DOE shall:</p> <p>(i) By means of document review, identify the list of parameters required by the selected approved methodology;</p> <p>(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 methodology;</p> <p>(b) <i>Implementation of the plan.</i> The DOE shall, by means of review of the documented procedures, interviews with relevant personnel, project plans and any physical inspection of the proposed CDM project activity site in accordance with paragraphs 59-62, assess whether:</p> <p>(i) The monitoring arrangements described in the monitoring plan are feasible within the project design;</p> <p>(ii) The means of implementation of the monitoring plan, including the data management and quality assurance and quality control procedures, are sufficient to ensure that the emission reductions achieved by/resulting from the proposed CDM project activity can be reported ex post and verified.</p> <p>Comment / Cross Reference:</p> <p>CL 16: The name of the functions, tasks and responsibilities shall be synchronized. In Annex 4, the names of person shall be completed.</p> <p>CL 20: "Value of date" can't be filled out – it can be filled out after a first monitoring period.</p> <p>CL 21: DOE requests more information about abbreviation used: TNB</p> <p>CL 22: The responsible person of Kyoto Energy shall be named.</p> <p>CL 25: The monitoring system shall be described more in details. Do the EVN receipts show the net amount of electricity delivered to the grid?</p> <p>Is on-site metering placed at output to the grid? Does it exclude internal consumption? An electric scheme could be use full.</p> <p>CL 27: ACM0002 has to be analyzed about parameter to monitor. E.g. Under B. 7.1 Parameter Cap_{FD}, A_{FD} has to be integrated, ACM0002 p.17.</p> <p>CAR 10 The point of measurement has to be described to assure that energy loss of transformers is integrated in the monitoring. This could be integrated in Figure B.1. Project boundary</p> <p>FAR 1: The calibration status of Monitoring equipments has to be submitted to DOE.</p> <p>FAR 2: The Monitoring manual has to be established</p> <p>FAR 3: The training plan and the training proofs have to be submitted to the DOE.</p> <p>FAR 4: The monitoring system shall be described more in details. Do the EVN receipts show the</p>	[1] 121	DR	CL 16 CL 20 CL 21 CL 22 CL 25 CL 27 FAR 1 FAR 2 FAR 3 FAR 4	ok

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Date:
03.05.2011

Report-No:
P29492.33

Page:
16 of 37

	Topic / Question	Ref	MoV	Draft Concl	Final Concl
	<p>net amount of electricity delivered to the grid? Is on-site metering placed at output to the grid? Does it exclude internal consumption? An electric scheme could be use full.</p> <p>The monitoring plan is in accordance with the methodology, monitoring arrangements are feasible and project participants able to implement the monitoring plan.</p>				
1.8	SUSTAINABLE DEVELOPMENT				
(i)	CDM project activities shall assist Parties not included in Annex I to the Convention in achieving sustainable development.	[1] 123	DR, I	CL	ok
	Comment / Cross Reference: See CL below				
1.8.1	The DOE shall determine whether the letter of approval by the DNA of the host Party confirms the contribution of the proposed CDM project activity to the sustainable development of the host Party.	[1] 124	DR, I	CL-26	ok
	Comment / Cross Reference: CL 26: Letter of approval has not yet been issued.				
1.9	LOCAL STAKEHOLDER CONSULTATION				
(i)	Local stakeholders [4] shall be invited by the PPs to comment on the proposed CDM project activity prior to the publication of the PDD on the UNFCCC website.	[1] 126	DR, I	Ok	ok
	Comment / Cross Reference:				
1.9.1	The DOE shall, by means of document review and interviews with local stakeholders as appropriate, determine whether: (a) Comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity, have been invited; (b) The summary of the comments received as provided in the PDD is complete; (c) The project participants have taken due account of any comments received and have described this process in the PDD.	[1] 127	DR, I	Ok	ok
	Comment / Cross Reference: A stakeholder consultation was conducted, and the actions taken/answers given were deemed appropriate by the audit team.				
1.10	ENVIRONMENTAL IMPACTS				
(i)	Project participants shall submit documentation to the DOE on the analysis of the environmental impacts of the project activity in accordance with paragraph 37(c) of the CDM modalities and procedures [5].	[1] 129	DR, I	Ok	ok
	Comment / Cross Reference:				
1.10.1	The DOE shall confirm, by means of a document review and/or using local official sources and expertise, whether the project participants have undertaken an analysis of environmental impacts and, if required by the host Party, an environmental impact assessment.	[1] 130	DR, I	Ok	ok
	Comment / Cross Reference: The validation report shall describe whether the project participants have undertaken an analysis of environmental impacts and, if required by the host Party, an environmental impact assessment in accordance with procedures as required by the host Party.				
2	Specific validation activities VVM V1.2 Section F, paragraph 134 to 171 not applicable				

Protocol 2: Methodological requirements (incl. tools)

	Topic / Question	Ref	MoV	Draft Concl	Final Concl												
3	Methodology ACM0002 version 11																
3.1	General applicability																
3.1.1	<p>This methodology is applicable to grid-connected renewable power generation project activities that</p> <p>(a) install a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (greenfield plant)</p> <p>(b) involve a capacity addition</p> <p>(c) involve a retrofit of (an) existing plant(s)</p> <p>(d) involve a replacement of (an) existing plant(s).</p> <table><tr><th>Applicability checklist</th><th>Yes / No / NA</th></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td></td><td></td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr><tr><td>Is the option correctly presented and confirmed?</td><td>Yes</td></tr></table> <p>Comment / Cross Reference: It is a new power plant.</p>	Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?	Yes			Compliance provable?	Yes	Compliance verified?	Yes	Is the option correctly presented and confirmed?	Yes		DR	Ok	ok
Applicability checklist	Yes / No / NA																
Criterion discussed in the PDD?	Yes																
Compliance provable?	Yes																
Compliance verified?	Yes																
Is the option correctly presented and confirmed?	Yes																
3.1.2	<p>Applicability Criterion 1: The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types:</p> <ul style="list-style-type: none">- 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 power plant/unit or tidal power plant/unit; <table><tr><th>Applicability checklist</th><th>Yes / No / NA</th></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr><tr><td></td><td></td></tr></table> <p>Comment / Cross Reference: Project activity is the installation of a new hydro power plant with reservoir.</p>	Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes				DR	Ok	ok		
Applicability checklist	Yes / No / NA																
Criterion discussed in the PDD?	Yes																
Compliance provable?	Yes																
Compliance verified?	Yes																
3.1.3	<p>Applicability Criterion 2: In the case of capacity additions, retrofits or replacements (except for wind, solar, wave or tidal power capacity addition projects which use to calculate the parameter $EG_{PJ,y}$): 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>		DR	n/a	n/a												

Date:
03.05.2011

Report-No:
P29492.33

Page:
18 of 37

Topic / Question		Ref	MoV	Draft Concl	Final Concl										
	<table border="1"> <tr> <td>Applicability checklist</td> <td>Yes / No / NA</td> </tr> <tr> <td>Criterion discussed in the PDD?</td> <td>Yes</td> </tr> <tr> <td>Compliance provable?</td> <td>Yes</td> </tr> <tr> <td>Compliance verified?</td> <td>Yes</td> </tr> <tr> <td></td> <td></td> </tr> </table>	Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes						
	Applicability checklist	Yes / No / NA													
	Criterion discussed in the PDD?	Yes													
	Compliance provable?	Yes													
	Compliance verified?	Yes													
Comment / Cross Reference:															
3.1.3	Applicability Criterion 3 In case of hydro power plants, one of the following conditions must apply: <table border="1"> <tr> <td>Applicability checklist</td> <td>Yes / No / NA</td> </tr> <tr> <td>The project activity is implemented in an existing reservoir, with no change in the volume of reservoir</td> <td>NA</td> </tr> <tr> <td>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/m²</td> <td>NA</td> </tr> <tr> <td>The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the Project Emissions section, is greater than 4 W/m²</td> <td>Yes</td> </tr> </table>	Applicability checklist	Yes / No / NA	The project activity is implemented in an existing reservoir, with no change in the volume of reservoir	NA	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 ²	NA	The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the Project Emissions section, is greater than 4 W/m ²	Yes		DR	Ok	OK		
	Applicability checklist	Yes / No / NA													
	The project activity is implemented in an existing reservoir, with no change in the volume of reservoir	NA													
	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 ²	NA													
	The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the Project Emissions section, is greater than 4 W/m ²	Yes													
Comment / Cross Reference:															
3.1.3	Applicability Criterion 4 In the case of retrofits, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is "the continuation of the current situation, i.e. to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance. <table border="1"> <tr> <td>Applicability checklist</td> <td>Yes / No / NA</td> </tr> <tr> <td>Criterion discussed in the PDD?</td> <td></td> </tr> <tr> <td>Compliance provable?</td> <td></td> </tr> <tr> <td>Compliance verified?</td> <td></td> </tr> </table>	Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?		Compliance provable?		Compliance verified?			DR	n/a	n/a		
	Applicability checklist	Yes / No / NA													
	Criterion discussed in the PDD?														
	Compliance provable?														
	Compliance verified?														
Comment / Cross Reference:															
3.2 Description of the sources and gases included in the project boundary															
Integrate the required amount of sub-checklists for sources and gases as given by the methodology applied and comment on at least every line answered with "No"															
3.2.1	Baseline CO ₂ emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity.		DR	n/a	n/a										
	<table border="1"> <tr> <td>Boundary checklist</td> <td>Yes / No</td> </tr> </table>	Boundary checklist	Yes / No												
Boundary checklist	Yes / No														

Date:
03.05.2011

Report-No:
P29492.33

Page:
19 of 37

	Topic / Question	Ref	MoV	Draft Concl	Final Concl										
	<table><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table> <p>Comment / Cross Reference:</p>	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes						
Source and gas(es) discussed in the PDD?	Yes														
Inclusion / exclusion justified?	Yes														
Explanation / Justification sufficient?	Yes														
Consistency with monitoring plan?	Yes														
3.2.2	<p>Project Activity</p> <p>For geothermal power plants, fugitive emissions of CH₄ and CO₂ from non-condensable gases contained in geothermal steam.</p> <table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td></td></tr><tr><td>Inclusion / exclusion justified?</td><td></td></tr><tr><td>Explanation / Justification sufficient?</td><td></td></tr><tr><td>Consistency with monitoring plan?</td><td></td></tr></table> <p>Comment / Cross Reference:</p>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?		Inclusion / exclusion justified?		Explanation / Justification sufficient?		Consistency with monitoring plan?			DR	n/a	n/a
Boundary checklist	Yes / No														
Source and gas(es) discussed in the PDD?															
Inclusion / exclusion justified?															
Explanation / Justification sufficient?															
Consistency with monitoring plan?															
3.2.3	<p>Project Activity</p> <p>CO₂ emissions from combustion of fossil fuels for electricity generation in solar thermal power plants and geothermal power plants.</p> <table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td></td></tr><tr><td>Inclusion / exclusion justified?</td><td></td></tr><tr><td>Explanation / Justification sufficient?</td><td></td></tr><tr><td>Consistency with monitoring plan?</td><td></td></tr></table> <p>Comment / Cross Reference:</p>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?		Inclusion / exclusion justified?		Explanation / Justification sufficient?		Consistency with monitoring plan?			DR	n/a	n/a
Boundary checklist	Yes / No														
Source and gas(es) discussed in the PDD?															
Inclusion / exclusion justified?															
Explanation / Justification sufficient?															
Consistency with monitoring plan?															
3.2.3	<p>Project Activity</p> <p>For hydro power plants, emissions of CH₄ from the reservoir.</p> <table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table> <p>Comment / Cross Reference:</p>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes		DR	OK	ok
Boundary checklist	Yes / No														
Source and gas(es) discussed in the PDD?	Yes														
Inclusion / exclusion justified?	Yes														
Explanation / Justification sufficient?	Yes														
Consistency with monitoring plan?	Yes														
3.3	Description of how the baseline scenario is identified and description of the identified baseline scenario														
3.3.1	<p>If the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following:</p> <table><tr><td>Baseline identification checklist</td><td>Yes / No</td></tr><tr><td>Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants 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".</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr></table>	Baseline identification checklist	Yes / No	Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants 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".	Yes	Explanation / Justification sufficient?	Yes		DR	CL-17 CL-18 CAR-7 CL-28	ok				
Baseline identification checklist	Yes / No														
Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants 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".	Yes														
Explanation / Justification sufficient?	Yes														

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Date:
03.05.2011

Report-No:
P29492.33

Page:
20 of 37

Topic / Question		Ref	MoV	Draft Concl	Final Concl
<p>Compliance provable? <input type="checkbox"/> Yes <input type="checkbox"/></p>					
<p>Comment / Cross Reference:</p> <p>CL 17: The choice of option A1 (see PDD p.42) shall be mentioned clearly. In case of application of the GEF from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this part of the PDD has to be adapted.</p> <p>CL 18: The designation of the steps shall be verified. The Choice of Option A1 shall be mentioned clearly. In case of application of the GEF from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this part of the PDD has to be adapted.</p> <p>CAR 4: The calculated emission factor (0.602) is not conservative. The document "Ministry of Natural Resources and Environment, 2010 <http://www.noccop.org.vn/Data/vbpq/Airvariable_Idoc_vnHe%20so%20phat%20thai.pdf>" calculates a factor of 0.5764.</p> <p>The calculation of the GHG emission reductions must be recalculated.</p> <p>CAR 7: The designation of the steps 5 (in PDD 4) to 8 (in PDD 7) have to be corrected. In case of application of the GEF from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this part of the PDD has to be adapted.</p> <p>CL 28: In the PDD Version 1.0, dated 06/04/2010, PP submitted the Emission factor of the grid as described in "Tool to calculate the emission factor for an electricity system" Version 02. DOE raised CAR 1. The official Grid emission factor of Vietnam published by the Department of Meteorology, Hydrology and Climate Change of 12/2009 is lower than the calculated Grid emission factor of the PP.</p> <p>It is SQS's opinion that the use of official GF is conservative – so applicable – if this factor is more conservative than the calculated factor through PP following "Tool to calculate the emission factor for an electricity system".</p> <p>To meet the requirements of the EB, the DOE sees two possibilities: To have access to the data used for the official GF calculation to validate it following "Tool to calculate the emission factor for an electricity system" or that PP introduces again his proper calculation of the GF in a way that it can be validated against the "Tool to calculate the emission factor for an electricity system" to proof the conservativeness of the official GF and choose then the official for conservativeness.</p>					
3.3.2	<p>If the project activity is a capacity addition to existing grid-connected renewable power plant/unit, the baseline scenario is the following:</p>				
	Baseline identification checklist	Yes / No			
	<p>In the absence of the CDM project activity, the existing facility would continue to supply electricity to the grid at historical levels, until the time at which the generation facility would likely be replaced or retrofitted (DATE_{BaselineRetrofit}). From that point of time onwards, the baseline scenario is assumed to correspond to the project activity, and no emission reductions are assumed to occur.</p>				
	Explanation / Justification sufficient?				
	Compliance provable?				
<p>Comment / Cross Reference:</p>					
3.3.3	<p>If the project activity is the retrofit or replacement of existing grid-connected renewable power plant/unit(s) at the project site, the following step-wise procedure to identify the baseline scenario shall be applied:</p>				
	Step 1 realistic and credible alternative baseline scenarios for power generation	Yes / No			
	<p>Is Step 1 to identify realistic and credible alternative baseline scenarios for power generation correctly applied using the "Combined tool to identify the baseline scenario and demonstrate additionality?"</p>				

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Date:
03.05.2011

Report-No:
P29492.33

Page:
21 of 37

	Topic / Question	Ref	MoV	Draft Concl	Final Concl				
	Do the options considered include P1, P2 and P3?								
	Explanation / Justification sufficient?								
	Compliance provable?								
	Step 2 Barrier Analysis					Yes / No			
	Is Step 2 correctly applied by using Step 2 of the “Combined tool to identify the baseline scenario and demonstrate additionality”?								
	Explanation / Justification sufficient?								
	Compliance provable?								
	Step 3 Investment Analysis					Yes / No			
	Apply an investment comparison analysis, if more than one alternative is remaining after Step 2 and if the remaining alternatives include scenarios P1 and P3.								
	Has the investment comparison analysis been applied following Step 3 of the “Combined tool to identify the baseline scenario and demonstrate additionality”?								
	Apply a benchmark analysis, if more than one alternative is remaining after Step 2 and if the remaining alternatives include scenarios P1 and P2.								
	Has the benchmark analysis been applied following Step 2b of the “Tool for the demonstration and assessment of additionality”?								
	Comment / Cross Reference:								
	3.3.4					In case of any modification or retrofit of existing facilities: Is data available to determine the historic production level?		DR, I	n/a
Comment / Cross Reference:									
3.3.5	In case of any modification or retrofit of existing facilities: Have conservative assumptions been applied in order to estimate the point in time when the existing equipment needs to be replaced?		DR, I	n/a	n/a				
Comment / Cross Reference:									
3.3.6	Describe why the alternative scenarios are credible and realistic?		DR, I	Ok	ok				
Comment / Cross Reference: See PDD B4.									
3.3.7	Can the list of alternatives considered to be complete, why? Is as baseline scenario the project activity without being registered as CDM project included?		DR	Ok	ok				
Comment / Cross Reference:									
3.3.8	In case several different facilities, technologies, outputs or services are present in the project, are separately alternative scenarios for each of them included? Have realistic combinations been considered as project scenario?		DR	n/a	n/a				
Comment / Cross Reference:									
3.3.9	Does the project identify correctly and exclude those options not in line with regulatory or legal requirements?		DR	Ok	ok				
Comment / Cross Reference:									

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Date:
03.05.2011

Report-No:
P29492.33

Page:
22 of 37

	Topic / Question	Ref	MoV	Draft Concl	Final Concl
3.3.10	If a scenario does not comply with the mandatory laws and regulations; it is clearly demonstrated that the law and/or regulation is systematically not enforced in the country?		DR	Ok	ok
	Comment / Cross Reference:				
3.3.11	Changes are required for methodology implementation in 2nd and 3rd crediting periods: Has the continued validity of the baseline been correctly assessed?		DR	n/a	n/a
	Comment / Cross Reference:				

Tool to calculate the emission factor for an electricity system

According to ACM0002 baseline emissions include only CO₂ emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity. The methodology assumes that all project electricity generation above baseline levels would have been generated by existing grid-connected power plants and the addition of new grid-connected power plants. Thus ACM0002 requires the use of the "Tool to calculate the emission factor for an electricity system" to determine the combined margin (CM) CO₂ emission factor.

	Topic / Question	Ref	MoV	Draft Concl	Final Concl				
4	Tool to calculate the emission factor for an electricity system								
4.1	Justification of the choice of the tool and why it is applicable to the project activity.								
4.1.1	Is the applied tool considered the most appropriate one?								
	Comment / Cross Reference: The tool required by ACM0002.								
4.1.1	Criterion 1: Is the tool used for the purpose of calculating baseline emissions where a project activity supplies electricity to a grid?		DR	Ok	Ok				
	<table><tr><th>Applicability checklist</th><th>Yes / No</th></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>	Applicability checklist				Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?
Applicability checklist	Yes / No								
Criterion discussed in the PDD?	Yes								
Compliance provable?	Yes								
Compliance verified?	Yes								
	Comment / Cross Reference:								
4.1.1	Criterion 2: Is the tool used for the purpose of calculating baseline emissions for a project activity that results in savings of electricity that would have been provided by the grid?		DR	Ok	Ok				
	<table><tr><th>Applicability checklist</th><th>Yes / No</th></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>yes</td></tr></table>	Applicability checklist				Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?
Applicability checklist	Yes / No								
Criterion discussed in the PDD?	Yes								
Compliance provable?	Yes								
Compliance verified?	yes								
	Comment / Cross Reference:								
4.1.1	Criterion 3: Is the tool used for the purpose of calculating project and leakage emissions in case where a project activity consumes electricity from the grid or results in increase of consumption of electricity from the grid outside the project boundary?		DR	n/a	n/a				
	<table><tr><th>Applicability checklist</th><th>Yes / No</th></tr><tr><td>Criterion discussed in the PDD?</td><td>yes</td></tr><tr><td>Compliance provable?</td><td>yes</td></tr><tr><td>Compliance verified?</td><td>yes</td></tr></table>	Applicability checklist				Yes / No	Criterion discussed in the PDD?	yes	Compliance provable?
Applicability checklist	Yes / No								
Criterion discussed in the PDD?	yes								
Compliance provable?	yes								
Compliance verified?	yes								
	Comment / Cross Reference:								

Date:
03.05.2011

Report-No:
P29492.33

Page:
24 of 37

	Topic / Question	Ref	MoV	Draft Concl	Final Concl										
4.2	Description of the parameters included in the tool														
	Integrate the required amount of sub-checklists for parameters as given by the tool applied and comment on at least every line answered with "No"														
4.2.1	<div>Parameter: EF_{grid,CM,y}</div> <div>Combined margin CO2 emission factor for grid connected power generation in year y</div> <div>Unit: tCO2/MWh</div> <div>Type: calculated</div> <table><tr><th>Boundary checklist</th><th>Yes / No</th></tr><tr><td>Parameter discussed in the PDD?</td><td>yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>yes</td></tr></table> <div>Comment / Cross Reference:</div>	Boundary checklist	Yes / No	Parameter discussed in the PDD?	yes	Inclusion / exclusion justified?	yes	Explanation / Justification sufficient?	yes	Consistency with monitoring plan?	yes		DR	Ok	Ok
Boundary checklist	Yes / No														
Parameter discussed in the PDD?	yes														
Inclusion / exclusion justified?	yes														
Explanation / Justification sufficient?	yes														
Consistency with monitoring plan?	yes														
4.2.2	<div>Parameter: EF_{grid,BM,y}</div> <div>Build margin CO2 emission factor for grid connected power generation in year y</div> <div>Unit: tCO2/MWh</div> <div>Type: calculated</div> <table><tr><th>Boundary checklist</th><th>Yes / No</th></tr><tr><td>Parameter discussed in the PDD?</td><td>yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table> <div>Comment / Cross Reference: CL 23 PP shall confirm that the listed projects are not CDM projects. In case of application of the GEF from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this part of the PDD has to be adapted.</div>	Boundary checklist	Yes / No	Parameter discussed in the PDD?	yes	Inclusion / exclusion justified?	yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes		DR	CL-23	Ok
Boundary checklist	Yes / No														
Parameter discussed in the PDD?	yes														
Inclusion / exclusion justified?	yes														
Explanation / Justification sufficient?	Yes														
Consistency with monitoring plan?	Yes														
4.2.3	<div>Parameter: EF_{grid,OM,y}</div> <div>Operating margin CO2 emission factor for grid connected power generation in year y</div> <div>Unit: tCO2/MWh</div> <div>Type: calculated</div> <table><tr><th>Boundary checklist</th><th>Yes / No</th></tr><tr><td>Parameter discussed in the PDD?</td><td>yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>yes</td></tr></table> <div>Comment / Cross Reference:</div>	Boundary checklist	Yes / No	Parameter discussed in the PDD?	yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	yes		DR	Ok	Ok
Boundary checklist	Yes / No														
Parameter discussed in the PDD?	yes														
Inclusion / exclusion justified?	Yes														
Explanation / Justification sufficient?	Yes														
Consistency with monitoring plan?	yes														
4.2.4	<div>Parameter: FC_{i,m,y}, FC_{i,y}, FC_{i,j,y}, FC_{i,k,y}, FC_{i,n,y} and FC_{i,n,h}</div> <div>Amount of fossil fuel type i consumed by power plant / unit m, j, k or n (or in the project electricity system in case of FC_{i,v}) in year v or hour h</div>		DR	n/a	n/a										

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Date:
03.05.2011

Report-No:
P29492.33

Page:
25 of 37

	Topic / Question	Ref	MoV	Draft Concl	Final Concl										
	<div>Unit: mass or volume unit</div> <div>Type: official publication</div> <table><tr><th>Boundary checklist</th><th>Yes / No</th></tr><tr><td>Parameter discussed in the PDD?</td><td></td></tr><tr><td>Inclusion / exclusion justified?</td><td></td></tr><tr><td>Explanation / Justification sufficient?</td><td></td></tr><tr><td>Consistency with monitoring plan?</td><td></td></tr></table>	Boundary checklist	Yes / No	Parameter discussed in the PDD?		Inclusion / exclusion justified?		Explanation / Justification sufficient?		Consistency with monitoring plan?					
Boundary checklist	Yes / No														
Parameter discussed in the PDD?															
Inclusion / exclusion justified?															
Explanation / Justification sufficient?															
Consistency with monitoring plan?															
	<div>Comment /</div> <div>Cross Reference:</div>														
4.2.5	<div>Parameter: $EF_{CO_2,i,y}$</div> <div>CO2 emission factor of fossil fuel type i in year y</div> <div>Unit: tCO2/GJ</div> <div>Type:</div> <table><tr><th>Boundary checklist</th><th>Yes / No</th></tr><tr><td>Parameter discussed in the PDD?</td><td>Y</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Y</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Y</td></tr><tr><td>Consistency with monitoring plan?</td><td>Y</td></tr></table>	Boundary checklist	Yes / No	Parameter discussed in the PDD?	Y	Inclusion / exclusion justified?	Y	Explanation / Justification sufficient?	Y	Consistency with monitoring plan?	Y		DR	n/a	n/a
Boundary checklist	Yes / No														
Parameter discussed in the PDD?	Y														
Inclusion / exclusion justified?	Y														
Explanation / Justification sufficient?	Y														
Consistency with monitoring plan?	Y														
	<div>Comment /</div> <div>Cross Reference:</div>														
4.2.6	<div>Parameter: $EG_{m,y}$, EG_y, $EG_{j,y}$, $EG_{k,y}$ and $EG_{n,h}$</div> <div>Net electricity generated and delivered to the grid by power plant / unit m, j, k or n (or in the project electricity system in case of EG_y) in year y or hour h</div> <div>Unit: MWh</div> <div>Type: monitored</div> <table><tr><th>Boundary checklist</th><th>Yes / No</th></tr><tr><td>Parameter discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>	Boundary checklist	Yes / No	Parameter discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes		DR	Ok	Ok
Boundary checklist	Yes / No														
Parameter discussed in the PDD?	Yes														
Inclusion / exclusion justified?	Yes														
Explanation / Justification sufficient?	Yes														
Consistency with monitoring plan?	Yes														
	<div>Comment /</div> <div>Cross Reference:</div>														
4.2.7	<div>Parameter (only for dispatch data OM): $EGP_{j,h}$</div> <div>Electricity displaced by the project activity in hours h of year y</div> <div>Unit: MWh</div> <div>Type: Monitored</div> <table><tr><th>Boundary checklist</th><th>Yes / No</th></tr><tr><td>Parameter discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>	Boundary checklist	Yes / No	Parameter discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes		DR	Ok	Ok
Boundary checklist	Yes / No														
Parameter discussed in the PDD?	Yes														
Inclusion / exclusion justified?	Yes														
Explanation / Justification sufficient?	Yes														
Consistency with monitoring plan?	Yes														

Date:
03.05.2011

Report-No:
P29492.33

Page:
26 of 37

	Topic / Question	Ref	MoV	Draft Concl	Final Concl	
	Comment / Cross Reference:					
4.2.8	Parameter: (only for dispatch data OM) $\eta_{m,y}$		DR	Ok	Ok	
	Average net energy conversion efficiency of power unit m in year y					
	Unit: - Type:					
	Boundary checklist					Yes / No
	Parameter discussed in the PDD?					Yes
	Inclusion / exclusion justified?					Yes
Explanation / Justification sufficient?	Yes					
Consistency w th monitoring plan?	Yes					
	Comment / Cross Reference:					
4.2.9	Do the spatial and technological boundaries as verified on-site comply with the discussion provided by / indication included to the PDD?					
	Comment / Cross Reference:					
4.3	Description of how the baseline methodology procedure is identified and description of the identified baseline procedure					
4.3.1	Is every selection of options offered by the tool correctly justified and is this justification in line with the situation verified on-site?		DR	Ok	Ok	
	Comment / Cross Reference:					
4.3.2	Are the formulae required for the determination of the Operating Margin correctly presented, enabling a complete identification of parameter to be used and / or monitored?		DR	Ok	Ok	
	Comment / Cross Reference:					
4.3.3	Is the method to calculate the Operating Margin (Simple OM, Simple Adjusted OM, Dispatch data OM, or Average OM), the most appropriated one?		DR	Ok	Ok	
	Comment / Cross Reference:					
4.3.4	Are the formulae required for the determination of the Build Margin correctly presented, enabling a complete identification of parameter to be used and / or monitored?		DR	Ok	Ok	
	Comment / Cross Reference:					
4.3.5	Is the set of power units (the set of five power units that have been built most recently, or the set of power capacity additions in the electricity system that comprise 20% of the system generation (in MWh) and that have been built most recently), comprising the larger annual generation?		DR	Ok	Ok	
	Comment / Cross Reference:					
4.3.6	Are the formulae required for the determination of the Combined Margin correctly presented, enabling a complete identification of parameter to be used and / or monitored?		DR	Ok	Ok	

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Date:
03.05.2011

Report-No:
P29492.33

Page:
27 of 37

	Topic / Question	Ref	MoV	Draft Concl	Final Concl
	Comment / Cross Reference:				
4.3.7	Are the values used for w_{OM} and w_{BM} correctly applied?		DR	Ok	Ok
	Comment / Cross Reference:				
4.3.8	Is the calculation of the operating margin and build margin emission factors documented electronically in a spreadsheet attached to the CDM-PDD. This shall include all data used to calculate the emission factors		DR	Ok	Ok
	Comment / Cross Reference:	The Grid Emission Factor has been verified by the DOE at the office of the Department of Meteorology, Hydrology and Climate Change in Hanoi and is deemed correct. The data sheets of the calculation of the Grid Emission Factor can only be consulted at the office of the Department of Meteorology, Hydrology and Climate Change in Hanoi. For this reason the data sheets are not referenced in this report.			
4.3.9	Are the default efficiency factors for power plants used according to annex I of the tool?		DR	Ok	Ok
	Comment / Cross Reference:				

Protocol 3: Summary of requests

No.:	CL 1	Reference:	PDD in general
Validator request:	The PDD shall have an unequivocal identification; name and version number. Current name: CDM-Executive Board – it can be integrated in the foot-line so it's visible on every page and identified.		
Project owner response:	Project Name and PDD version number were added into the footer and are now visible on each page.		
Validator conclusion:	DOE agrees – CL 1 is closed.	Date:	24/08/2010
Project owner response:	Due to latest experiences with EB, PP will delete the footer in the PDD to not change the Template of the PDD at all.		
Validator conclusion:	DOE can accept it - CL 1 is closed.	Date:	12/12/2010

No.:	CL 2	Reference:	PDD p.11
Validator request:	The source at reference 1 (Electricity of Vietnam) shall be referenced exactly. Document name and which table/page was used.		
Project owner response:	The reference has now been updated to refer to the GRID EMISSION FACTOR report published by the Department of Meteorology, Hydrology and Climate Change of 12/2009. The reference table has also been provided.		
Validator conclusion:	DOE agrees – CL 2 is closed	Date:	24/08/2010

No.:	CL 3	Reference:	PDD p.13
Validator request:	In the case of the "lending rate", the source of data shall be referenced exact. Document name and which table/page was used.		
Project owner response:	Document is submitted to DOE, calculation sheet "Average Base Rate – Thanh Thuy.xls"		
Validator conclusion:	DOE agrees, CL is closed	Date:	29/07/2010

No.:	CL 4	Reference:	PDD p.18
Validator request:	The title Common practice analysis shall be introduced on top of the page.		
Project owner response:	Format adjusted on PDD page 17 and 18 as requested.		
Validator conclusion:	DOE agrees – CL 4 is closed.	Date:	24/08/2010

No.:	CL 5	Reference:	PDD p.21
Validator request:	In the case of "10 EVN data" the document shall be referenced exactly. Document name and which table/page was used.		
Project owner response:	This has been modified with the application of GRID EMISSION FACTOR data from the report published by the Department of Meteorology, Hydrology and Climate Change.		
Validator conclusion:	DOE agrees – CL 5 is closed.	Date:	24/08/2010

No.:	CL 6	Reference:	PDD p.26
Validator request:	In the case of the parameter NCV, the source of data shall be referenced exactly. Document name and which table was used.		
Project owner response:	This parameter is no longer used (with the introduction of the GRID EMISSION FACTOR data from the report published by the Department of Meteorology, Hydrology and Climate Change), and has hence been removed.		
Validator conclusion:	DOE agrees – CL 6 is closed	Date:	24/08/2010

Date:
03.05.2011

Report-No:
P29492.33

Page:
29 of 37

No.:	CL 7	Reference:	PDD p.26
Validator request:	<p>In the case of the parameter “Fi,j,y”, the source of data shall be referenced exactly. Document name and which table/page was used. Is the correct name of the parameter F<i>C</i>_{i,y}? Please correct it. Which data in Annex 3 correspond to this parameter? In case of application of the GRID EMISSION FACTOR from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this parameter will not be used.</p>		
Project owner response:	<p>This parameter is no longer used (with the introduction of the GRID EMISSION FACTOR data from the report published by the Department of Meteorology, Hydrology and Climate Change), and has hence been removed.</p>		
Validator conclusion:	DOE agrees – CL 7 is closed.	Date:	24/08/2010

No.:	CL 8	Reference:	PDD p.26
Validator request:	<p>In the case of the parameter “Installed Capacity”, the source of data shall be referenced exactly. Document name and which table/page was used. Which data in Annex 3 correspond to this parameter. In witch formula do you need the parameter? In case of application of the GRID EMISSION FACTOR from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this parameter will not be used.</p>		
Project owner response:	<p>This parameter is no longer used (with the introduction of the GRID EMISSION FACTOR data from the report published by the Department of Meteorology, Hydrology and Climate Change), and has hence been removed.</p>		
Validator conclusion:	DOE agrees – CL 8 is closed.	Date:	24/08/2010

No.:	CL 9	Reference:	PDD p.27
Validator request:	<p>In the case of the parameter “Electricity Generated”, the source of data shall be referenced exactly. Document name and which table/page was used. Is the correct name of the parameter E<i>G</i>_y? Please correct it. Which data in Annex 3 correspond to this parameter? In case of application of the GRID EMISSION FACTOR from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this parameter will not be used.</p>		
Project owner response:	<p>This parameter is no longer used (with the introduction of the GRID EMISSION FACTOR data from the report published by the Department of Meteorology, Hydrology and Climate Change), and has hence been removed.</p>		
Validator conclusion:	DOE agrees – CL 9 is closed.	Date:	24/08/2010.

No.:	CL 10	Reference:	PDD p.27
Validator request:	<p>In the case of the parameter “Internal Electricity Consumption”, the source of data shall be referenced exactly. Document name and which table/page was used. In which formula do you need the parameter? Which data in Annex 3 correspond to this parameter? In case of application of the GRID EMISSION FACTOR from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this parameter will not be used.</p>		
Project owner response:	<p>This parameter is no longer used (with the introduction of the GRID EMISSION FACTOR data from the report published by the Department of Meteorology, Hydrology and Climate Change), and has hence been removed.</p>		
Validator conclusion:	DOE agrees – CL 10 is closed.	Date:	24/08/2010

Date:
03.05.2011

Report-No:
P29492.33

Page:
30 of 37

No.:	CL 11	Reference:	PDD p.27
Validator request:	In the case of the parameter EF _{CO2,I} , the source of data shall be referenced exactly. Document name and which table/page was used. In case of application of the GRID EMISSION FACTOR from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this parameter will not be used.		
Project owner response:	This parameter is no longer used (with the introduction of the GRID EMISSION FACTOR data from the report published by the Department of Meteorology, Hydrology and Climate Change), and has hence been removed.		
Validator conclusion:	DOE agrees – CL 11 is closed.	Date:	24/08/2010

No.:	CL 12	Reference:	PDD p.8
Validator request:	The total of the estimated reduction has to be verified – it does not correspond to the sum of annual reductions. In case of application of the GRID EMISSION FACTOR from the Department of Meteorology, Hydrology and Climate Change of 12/2009, the Estimation of annual emission reduction has to be recalculated.		
Project owner response:	The annual reductions were recalculated based on the updated GRID EMISSION FACTOR.		
Validator conclusion:	DOE agrees – CL 12 is closed.	Date:	24/08/2010

No.:	CL 13	Reference:	PDD p. 18
Validator request:	The mentioned study about hydropower projects in Vietnam (143 hydropower plants) shall be referenced correctly and submitted to the DOE.		
Project owner response:	The following documents are provided to the DOE: a. The study - common practice analysis spreadsheet which details the plants and also provides the source of information for each (CL13 a Common Practice Analysis.xls) b. Masterplan extract (CL13 b National Power Development masterplan in the period of 2006-2015.pdf) c. Overview of Policy Instruments for the Promotion of Renewable Energy and Energy Efficiency in Vietnam (CL13 c Overview Policy Renewable Energy Vietnam.pdf)		
Validator conclusion:	DOE agrees- CL 13 is closed.	Date:	24/08/2010

No.:	CL 14	Reference:	MOC
Validator request:	The Modalities of communication form shall be submitted to the DOE.		
Project owner response:	The MOC is submitted.		
Validator conclusion:	DOE agrees – MOC is undated – see CL 31. CL 14 is closed	Date:	12/12/2010

No.:	CL 15	Reference:	PDD p. 18
Validator request:	The indicated plant “He bon” does not correspond to the actual project. Please verify consistence.		
Project owner response:	The name shall be “Thanh Thuy”. The mistake was corrected in the PDD.		
Validator conclusion:	DOE agrees – CL 15 is closed.	Date:	24/08/2010

No.:	CL 16	Reference:	PDD p. 29, 30, Annex 4
Validator request:	The name of the functions, tasks and responsibilities shall be synchronized. In Annex 4, the names of person shall be completed.		
Project owner response:	This was synchronized and completed.		
Validator conclusion:	DOE agrees –CL 16 is closed.	Date:	24/08/2010

Date:
03.05.2011

Report-No:
P29492.33

Page:
31 of 37

No.:	CL 17	Reference:	PDD p. 21 and 22
Validator request:	The choice of option A1 (see PDD p.42) shall be mentioned clearly. In case of application of the GRID EMISSION FACTOR from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this part of the PDD has to be adapted.		
Project owner response:	The choice employed by the report from the Department of Meteorology, Hydrology and Climate Change from 12/2009 has been documented.		
Validator conclusion:	DOE agrees- CL 17 is closed.	Date:	24/08/2010

No.:	CL 18	Reference:	PDD p. 23
Validator request:	The designation of the steps shall be verified. The Choice of Option A1 shall be mentioned clearly. In case of application of the GRID EMISSION FACTOR from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this part of the PDD has to be adapted.		
Project owner response:	The choice employed by the report from the Department of Meteorology, Hydrology and Climate Change from 12/2009 has been documented.		
Validator conclusion:	DOE agrees- CL 18 is closed.	Date:	24/08/2010

No.:	CL 19	Reference:	PDD p. 9 and 25
Validator request:	Shall be mentioned the surface of the reservoir for considerations.		
Project owner response:	As per the project design, this project does not have a reservoir associated with it. Hence there is no surface to detail. This is borne by the attached documents (please see CL19 a EIA extract.pdf and CL19 b Project Layout.pdf).		
Validator conclusion:	DOE agrees – reservoir surface is irrelevant in this case – CL 19 is closed.	Date:	24/08/2010

No.:	CL 20	Reference:	PDD p. 29 B.7.1
Validator request:	"Value of date "cannot be filled out – it can be filled out after a first monitoring period.		
Project owner response:	The content was modified as: Forecasted data based on design: 43,060 / 77,508 Actual data will be monitored during the project operation period.		
Validator conclusion:	DOE agrees – CL 20 is closed.	Date:	24/08/2010

No.:	CL 21	Reference:	PDD b.7.2. p. 29
Validator request:	DOE requests more information about abbreviation used: TNB		
Project owner response:	The entry was incorrect and shall have stated EVN instead of TNB. The PDD was corrected.		
Validator conclusion:	DOE agrees- CL 21 is closed.	Date:	24/08/2010

No.:	CL 22	Reference:	PDD p.31 B8
Validator request:	The responsible person of Kyoto Energy shall be named.		
Project owner response:	Added a name in the relevant section.		
Validator conclusion:	DOE agrees- CL 22 is closed.	Date:	24/08/2010

No.:	CL 23	Reference:	PDD p.43 Build Margin
Validator request:	PP shall confirm that the listed projects are not CDM projects. In case of application of the GRID EMISSION FACTOR from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this part of the PDD has to be adapted.		
Project owner response:	A review of the UNFCCC website for registered CDM projects in Vietnam confirmed that none of the plants considered in the build margin are registered CDM projects. A screenshot of registered CDM projects in Vietnam is provided (please see document CL23 Registered CDM Projects.pdf).		
Validator conclusion:	DOE agrees- CL 23 is closed.	Date:	24/08/2010

No.:	CL 24	Reference:	Documents
Validator request:	<p>The following documents shall be submitted to DOE:</p> <ul style="list-style-type: none"> Feasibility study and EIA – relevant parts in VN and English version as <ul style="list-style-type: none"> Bases for plant load factor Installed capacity Total of Investment Loan: equity ratio Approval connecting to the grid Plant load factor Operational hours Loan repayment period Loan evidences for cascade 1 Overview contract and/or investment situation EPC (Environment Protection Commitment) in VN and English version, EIA approval EVN regulations 3014/QD-BCN in VN and English version Law No 14/2008/QH12 dt 03/6/2008 Decree No. 124/2008/ND-CP dt. 11/12/2008 Decision No. 3739QD/BCN on 22/11/2005 (p 17).of Ministry of Industry in VN and English translation. 		
Project owner response:	<p>The following documents are provided:</p> <ul style="list-style-type: none"> Feasibility study and EIA – relevant parts in VN and English version as <ul style="list-style-type: none"> Bases for plant load factor Please see page 3 item 16 in document CL24 a Feasibility Study Main Report.pdf Installed capacity Please see page 3 item 15 in document CL24 a Feasibility Study Main Report.pdf Total of Investment Please see page 3 for details in document CL24 b Feasibility Study Total estimation.pdf Loan: equity ratio Please see page 2 of document CL 24 c Feasibility Study Hydraulic Economy.pdf Approval connecting to the grid Please see document CL 24 d Connection Approval Letter.pdf Plant load factor Please see page 3 item 16 in document CL24 a Feasibility Study Main Report.pdf Operational hours Please see page 3 item 17 in document CL24 a Feasibility Study Main Report.pdf Loan repayment period Please see page 3 for details in document CL24 b Total estimation.pdf Loan evidences for cascade 1 Please see document CL 24 e Loan Contract.pdf Overview contract and/or investment situation Please see document CL24 f Contract overview.pdf EPC (Environment Protection Commitment) in VN and English version, EIA approval Please see document CL24 g EPC Approval.pdf EVN regulations 2014/QD-BCN in VN and English version Please see document CL24 h 2014QDBCN.pdf Law No 14/2008/QH12 dt 03/6/2008 Please see document CL24 i 142008QH12.pdf Decree No. 124/2008/ND-CP dt. 11/12/2008 Please see document CL24 j 1242008NDCP.pdf Decision No. 3739QD/BCN on 22/11/2005 (p 17).of Ministry of Industry in VN and English translation. Please see document CL24 k 3837QDBCN from Power Master Plan.pdf 		
Validator conclusion:	DOE agrees- CL 24 is closed.	Date:	24/08/2010

No.:	CL 25	Reference:	PDD B.7. Monitoring
Validator request:	The monitoring system shall be described in more details. Do the EVN receipts show the net amount of electricity delivered to the grid? Is on-site metering placed at output to the grid? Does it exclude internal consumption? An electric scheme could be usefull.		
Project owner response:	It is proposed that further details will be included in the detailed monitoring plan to be finalized after registration of the project and to be made available at first verification – due to the possibility of changes between now and final implementation of the project. So kindly convert this question to a FAR.		
Validator conclusion:	DOE agrees – the CL is transformed to FAR 4 – CL 25 is closed.	Date:	24/08/2010

No.:	CL 26	Reference:	VVM 1.1.1 ff, 1.8.1
Validator request:	The LoAs have to be submitted to the auditors.		
Project owner response:	LoA Vietnam is under request. LoA Switzerland can only be requested once the draft final validation report is available.		
Validator conclusion:	The LoAs are submitted – CL 26 is closed.	Date:	29/09/2010

No.:	CL 27	Reference:	Monitored parameter
Validator request:	ACM0002 has to be analyzed about parameter to monitor. E.g. Under B. 7.1 Parameter Cap _{PJ} , A _{PJ} has to be integrated, ACM0002 p.17.		
Project owner response:	Monitoring has been corrected in sections B6.2 and B7.1 as required. Calculation of power density is ex-ante and parameters are in B6.2.		
Validator conclusion:	DOE agrees – CL 27 is closed.	Date:	12/12/2010
Project owner response:	Monitoring of these parameters is not necessary as there is no reservoir.		
Validator conclusion:	DOE agrees – CL 27 is closed.	Date:	25/12/2010

No.:	CL 28	Reference:	Baseline scenario
Validator request:	In the PDD Version 1.2, dated 30/06/2010, PP submitted the Emission factor of the grid as described in "Tool to calculate the emission factor for an electricity system" Version 02. DOE raised CAR 1. The official Grid emission factor of Vietnam published by the Department of Meteorology, Hydrology and Climate Change of 12/2009 is lower than the calculated Grid emission factor of the PP. It is SQS's opinion that the use of official GF is conservative – so applicable – if this factor is more conservative than the calculated factor through PP following "Tool to calculate the emission factor for an electricity system". To meet the requirements of the EB, the DOE sees two possibilities: To have access to the data used for the official GF calculation to validate it following "Tool to calculate the emission factor for an electricity system" or that PP introduces again its proper calculation of the GF in a way that it can be validated against the "Tool to calculate the emission factor for an electricity system" to proof the conservativeness of the official GF and choose then the official for conservativeness.		
Project owner response:	DOE had access to the data used for the official Grid Emission factor. The GRID EMISSION FACTOR has been validated with a positive result by the DOE in the office of the Department of Meteorology, Hydrology and Climate Change in Hanoi (who calculated the official GRID EMISSION FACTOR for the DNA) on 16 and 17 November 2010.		
Validator conclusion:	DOE agrees- CL 28 is closed	Date:	12/12/2010

Date:
03.05.2011

Report-No:
P29492.33

Page:
34 of 37

No.:	CL 29	Reference:	PDD A.4.1.4. Coordinates
Validator request:	PP shall mention only coordinates of the powerhouse cascade 2 as reference. Otherwise the project cannot be localized precisely. The coordinates have to be verified. 22°52'32"N and longitude of 104°48'23" cannot be the powerhouse of cascade 2.		
Project owner response:	The PDD has been updated in section A4.1.4.		
Validator response::	PP shall re-verify the coordinates: Cascade 1 weir: latitude of 22°52'00"N and longitude of 104° 48'16"E Cascade 2 weir : latitude of 22°52'32"N and longitude of 104° 48'23"E The powerhouse for Cascade 2 (the first one to be built) is located at: Latitude of 22°52'32"N and longitude of 104°48'23"E. The powerhouse for Cascade 1 is located at: Latitude of 21°55'07"N and longitude of 104°51'35"E. Powerhouse Cascade 2 cannot be at 21° - it's probably 22°. If the coordinates of Powerhouse Cascade 2 is checked on Google-Earth it is not the right place.		
Project owner response:	The PDD has been updated in section A 4.1.4., apologies for typographical error.		
Validator conclusion:	DOE agrees – CL 29 is closed.	Date:	22/12/2010

No.:	CL 30	Reference:	Financial analysis Thanh Thuy IRR_1_9
Validator request:	In income statement is counted an income from CERs over a period of 30 years. Is chosen 3 periods of 7 years. Financial analysis has to be adapted.		
Project owner response:	CER tables in section A and B revised as is accompanying IRR sheet. Additional sheet "CER Calc" in IRR calculation.		
Validator conclusion:	DOE agrees- CL 30 is closed.	Date:	12/12/2010

No.:	CL 31	Reference:	MOC
Validator request:	The MOC has no date. PP has to submit a dated MOC.		
Project owner response:	Date has been added.		
Validator conclusion:	DOE agrees- CL 31 is closed.	Date:	12/12/2010

No.:	CL 32	Reference:	CER spreadsheet
Validator request:	CER spreadsheet shall be submitted by the PP for the upload of the Website UNFCCC.		
Project owner response:	Included as last tab in IRR analysis		
Validator conclusion:	DOE agrees – CL 32 is closed.	Date:	13/12/2010

No.:	CL 33	Reference:	Prior consideration
Validator request:	PP shall submit the English translation of the document "Board resolution" dated 20/04/2008.		
Project owner response:	Please see "8 TT Board resolution - translation .pdf" and "8a TT Board resolution for CDM-translation q.pdf"		
Validator conclusion:	DOE agrees- CL 33 is closed.	Date:	12/12/2010

No.:	CL 34	Reference:	PDD B.6.4. ex ante estimation emission reduction
Validator request:	PP has to correct table B.6.4. – the years all start with 01/10/2010		
Project owner response:	Corrected – start date is now 01/04/2011		
Validator conclusion:	DOE agrees – CL 34 is closed.	Date:	15/12/2010

No.:	CL 35	Reference:	MOC
Validator request:	The MOC has no date in Annex 1. PP has to submit a dated MOC.		
Project owner response:	The dated MOC is submitted.		
Validator conclusion:	DOE agrees- CL 35 is closed.	Date:	27/12/2010

Date:
03.05.2011

Report-No:
P29492.33

Page:
35 of 37

No.:	CL 36	Reference:	IRR calculation, source reference
Validator request:	In IRR calculation, sheet Assumptions, SQS ref. [71] is referenced Feasibility Report as information source for the interest. The real source is SQS ref. [56] (CAR)_State bank of Vietnam interest rate. PP shall correct the source of information.		
Project owner response:	The source reference has been corrected in Assumptions.		
Validator conclusion:	DOE agrees – CL 36 is closed.	Date:	24/12/2010

No.:	CAR 1	Reference:	PDD p.16
Validator request:	The internet link in reference 5 has to be corrected.		
Project owner response:	The link is updated in the PDD.		
Validator conclusion:	Has been verified – CAR is closed.	Date:	29/07/2010

No.:	CAR 2	Reference:	PDD p.18
Validator request:	The internet link in reference 9 does not work – the link has to be corrected or the print screen has to be submitted.		
Project owner response:	Please see support document 44. "Overview of Policy instruments for the Promotion".		
Validator conclusion:	PDD has been adapted and Document is submitted, CAR 2 is closed.	Date:	27/07/2010

No.:	CAR 3	Reference:	PDD p. 34
Validator request:	The required Vietnamese law for environment monitoring has to be submitted – also in an English version.		
Project owner response:	Please expand on what you mean by this?		
Validator conclusion:	EIA is submitted and contents the legal aspects of environment conditions – CAR 3 is closed.	Date:	30/07/2010

No.:	CAR 4	Reference:	PDD p. 28 + Annex 3
Validator request:	The calculated emission factor (0.602) is not conservative. The document "Ministry of Natural Resources and Environment, 2010 < http://www.noccop.org.vn/Data/vbpq/Airvariable_ldoc_vnHe%20so%20phat%20thai.pdf >" calculates a factor of 0.5764. The calculation of the GHG emission reductions must be recalculated.		
Project owner response:	Please see supplied translation. Upon acceptance by DOE, PDD will be updated.		
Validator conclusion:	Document EF 5 "Study, definition of Vietnam Grid Emission Factor" Implemented by Ozone Layer Protection Centre, Department of Meteorology, Hydrology and Climate Change, 12/2009. DOE support the choice of the official GRID EMISSION FACTOR. CAR 4 is closed.	Date:	29/07/2010

No.:	CAR 5	Reference:	PDD p.6
Validator request:	The indicated tension of the output (100 kV) is not consistent with Annex 4. It has to be corrected.		
Project owner response:	The PDD has been corrected to use 100KV for both.		
Validator conclusion:	DOE agrees – CAR 5 is closed.	Date:	24/08/2010

Date:
03.05.2011

Report-No:
P29492.33

Page:
36 of 37

No.:	CAR 6	Reference:	PDD p. 10
Validator request:	The Project boundary must include the reservoir – even the CH ₄ have not to be considered due to the power density.		
Project owner response:	Our understanding was that the phrase “Thanh Thuy Hydropower Project” as seen in figure B.1 includes all parts of the project, including reservoirs (if any). However, updates have been made to the diagram to explicitly include reservoirs (in case any actually did exist for the project). Please see CL19 for evidence proving the absence of reservoirs for the project.		
Validator conclusion:	DOE agrees – CAR 6 is closed.	Date:	24/08/2010

No.:	CAR 7	Reference:	PDD p. 23 and 24
Validator request:	The designation of the steps 5 (in PDD 4) to 8 (in PDD 7) have to be corrected. In case of application of the GRID EMISSION FACTOR from the Department of Meteorology, Hydrology and Climate Change of 12/2009, this part of the PDD has to be adapted.		
Project owner response:	The correction to numbering has been made.		
Validator conclusion:	DOE agrees – CAR 7 is closed.	Date:	24/08/2010

No.:	CAR 8	Reference:	Grid price
Validator request:	The grid price of 4.1 ct/kWh has to be corrected and proofs for the right grid price have to be submitted to DOE.		
Project owner response:	The price is defined in the feasibility study. The concerned page is submitted to the DOE – Document 37.		
Validator conclusion:	DOE agrees – CAR 8 is closed.	Date:	30/07/2010

No.:	CAR 9	Reference:	Lending rate
Validator request:	PP informs DOE that lending rate 14.4% of the State Bank of Vietnam has to be corrected. PP shall submit the correct lending rate with proofs.		
Project owner response:	The correct lending rate (12.54%) is supported by the following supporting document: CAR9 State Bank of VN lending rates.xls		
Validator conclusion:	DOE agrees – CAR 9 is closed.	Date:	08/09/2010

No.:	CAR 10	Reference:	PDD B.7.1 Data and parameters monitored
Validator request:	The point of measurement has to be described to assure that energy loss of transformers is integrated in the monitoring. This could be integrated in Figure B.1. Project boundary.		
Project owner response:	It is our understanding that since net generation is monitored, this will be the electricity actually		
Validator conclusion:	DOE agrees – see also FAR 5 – CAR 10 is closed.	Date:	24/08/2010

No.:	CAR 11	Reference:	PDD B.5. Step 3 Barrier Analysis
Validator request:	PP shall submit supporting data for Barrier Analysis or indicate a clear statement that barrier analysis is not performed according to the choice of Step 2 (investment analysis).		
Project owner response:	As this step is optional as per additionality tool, PP will remove this step from section B5 of the PDD for simplicity.		
Validator conclusion:	DOE agrees-CAR 11 is closed.	Date:	06/04/2011

Date:
03.05.2011

Report-No:
P29492.33

Page:
37 of 37

No.:	CAR 12	Reference:	PDD B.5. Substep 2c
Validator request:	Escalation in O&M costs is an estimation and shall be supported with documentary proofs or be removed from the calculation. If it will be removed, IRR has to be recalculated and resubmitted and Table B.3. Key-Input Parameters has to be adapted.		
Project owner response:	Although the value of escalation in O&M was conservative, the project owner agrees to exclude this from the calculation as specific documentary proof is unavailable. The escalation been removed from section B5, including table B.3, of the PDD (version 2.1) as well as from the IRR calculation (version 2.4).		
Validator conclusion:	DOE agrees – CAR 12 is closed.	Date:	19/04/2011

No.:	FAR 1	Reference:	
Validator request:	The calibration status of Monitoring equipments has to be submitted to DOE.		
Project owner response:	To be concluded at the verification stage.		
Validator conclusion:	n/a	Date:	

No.:	FAR 2	Reference:	
Validator request:	The Monitoring manual has to be established.		
Project owner response:	To be concluded at the verification stage.		
Validator conclusion:	n/a	Date:	

No.:	FAR 3	Reference:	
Validator request:	The training plan and the training proofs have to be submitted to the DOE.		
Project owner response:	To be concluded at the verification stage.		
Validator conclusion:	n/a	Date:	

No.:	FAR 4	Reference:	Monitoring
Validator request:	The monitoring system has to be described in more details. Do the EVN receipts show the net amount of electricity delivered to the grid? Is on-site metering placed at output to the grid? Does it exclude internal consumption? An electric scheme could be use full.		
Project owner response:	To be concluded at the verification stage.		
Validator conclusion:	n/a	Date:	