VALIDATION REPORT

BROOKFIELD ENERGIA RENOVÁVEL S/A

VALIDATION OF THE SHPP SERRA CAVALINHOS I – PROJECT ACTIVITY

REPORT NO. BRAZIL-VAL/00833/2009-CUR

REVISION NO. 02

BUREAU VERITAS CERTIFICATION

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VALIDATION REPORT

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Client:	**Client ref.:**
Brookfield Energia Renovável S/A	Mr. André Meirelles

Summary:

Bureau Veritas Certification has made the validation of the SHPP Serra Cavalinhos I – Project Activity of Brookfield Energia Renovável S/A located at Cities of Bom Jesus, Monte Alegre dos Campos and São Francisco de Paula, Rio Grande do Sul State, Brazil on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

The validation scope is defined as an independent and objective review of the project design document, the project's baseline study, monitoring plan and other relevant documents, and consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final validation report and opinion. The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the validation process is a list of Clarification and Corrective Actions Requests (CL and CAR), presented in Appendix A. Taking into account this output, the project proponent revised its project design document.

In summary, it is Bureau Veritas Certification's opinion that the project correctly applies the baseline and monitoring methodology ACM0002 version 12.2.0 and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria.

Report No.:	Subject Group:
BRAZIL-val/00833/2009-CUR	CDM
Project title:	
SHPP Serra Cavalinhos I – Project Activity	
Work carried out by:	
Marco Prauchner – lead verifier Guilherme Lefèvre – verifier Karina Polido – verifier Bernardo Lima – financial specialist	
Internal Technical Review carried out by:	
Marcelo Porto	

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Flavio Gomes – Global Product Manager

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1 INTRODUCTION

Brookfield Energia Renovável S/A has commissioned Bureau Veritas Certification to validate its CDM project SHPP Serra Cavalinhos I – Project Activity (hereafter called "the project") at Cities of Bom Jesus, Monte Alegre dos Campos and São Francisco de Paula, Rio Grande do Sul State, Brazil.

This report summarizes the findings of the validation of the project, performed on the basis of UNFCCC criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

1.1 Objective

The validation serves as project design verification and is a requirement of all projects. The validation is an independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design, as documented, is sound and reasonable, and meets the stated requirements and identified criteria. Validation is a requirement for all CDM projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reductions (CERs).

UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

1.2 Scope

The validation scope is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations.

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

1.3 Validation team

The validation team consists of the following personnel:

FUNCTION	NAME	CODE HOLDER*	TASK PERFORMED
Lead Verifier	Marco Prauchner	☑Yes ☐ No	☑DR ☑SV ☑RI
Verifier	Guilherme Lefèvre	☑Yes ☐ No	☑DR ☑SV ☑RI

Verifier	Karina Polido	☐**Yes** ☑ **No**	☑**DR** ☐**SV** ☐**RI**
Technical Specialist	N.A.	☐**Yes** ☐ **No**	☐**DR** ☐**SV** ☐**RI**
Financial Specialist	Bernardo Lima	☐**Yes** ☑ **No**	☑**DR** ☐**SV** ☑**RI**
Internal Technical Reviewer (ITR)	Marcelo Porto	☑**Yes** ☐ **No**	☑**DR** ☐**SV** ☑**RI**
Specialist supporting ITR	N.A.	☐**Yes** ☐ **No**	☐**DR** ☐**SV** ☐**RI**

*DR = Document Review; SV = Site Visit; RI = Report issuance

2 METHODOLOGY

The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

In order to ensure transparency, a validation protocol was customized for the project, according to the version 01.2 of the Clean Development Mechanism Validation and Verification Manual, issued by the Executive Board at its 55th meeting on 30/07/2010/**Ref-A**/. 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 completed validation protocol is enclosed in Appendix A to this report.

2.1 Review of Documents

The Project Design Document (PDD) submitted by Brookfield Energia Renovável S/A and additional background documents related to the project design and baseline, i.e. country Law, Guidelines for Completing the Project Design Document (CDM-PDD), Approved methodology, Kyoto Protocol, Clarifications on Validation Requirements to be Checked by a Designated Operational Entity were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests, Brookfield Energia Renovável S/A revised the PDD and resubmitted it on 06/12/2011.

The validation findings presented in this report relate to the project as described in the PDD version 3 /**Ref-3**/.

2.2 Follow-up Interviews

On 13/12/2010 Bureau Veritas Certification performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of Serra dos Cavalinhos I Energética S/A[1], Brookfield Energia Renovável S/A and Ecopart Assessoria em Negócios Empresariais Ltda. were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
Serra dos Cavalinhos I Energética S/A and Brookfield Energia Renovável S/A	➢ Project background information, ➢ Project technology, operation, maintenance and monitoring capability, ➢ Project monitoring and management plan, ➢ Stakeholder consultation process, ➢ Project status, ➢ Environmental aspects / impacts and licenses.
Ecopart Assessoria em Negócios Empresariais Ltda	➢ Project description, ➢ Technology used, ➢ Project category, ➢ Baseline and Additionality, ➢ Monitoring Plan, ➢ Emission Reduction Calculation, ➢ Environmental aspects / impacts and licenses.

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation is to raise the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification positive conclusion on the project design.

Corrective Action Requests (CAR) is issued, where:

(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.

[1] Serra dos Cavalinhos I Energética S/A is a company controlled by Brookfield Energia Renovável S/A.

The validation team may also use the term Clarification Request (CL), if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

To guarantee the transparency of the validation process, the concerns raised are documented in more detail in the validation protocol in Appendix A.

2.4 Internal Technical Review

The validation report underwent an Internal Technical Review (ITR) before requesting registration of the project activity.

The ITR is an independent process performed to examine thoroughly that the process of validation has been carried out in conformance with the requirements of the validation scheme as well as internal Bureau Veritas Certification procedures.

The Lead Verifier provides a copy of the validation report to the reviewer, including any necessary validation documentation. The reviewer reviews the submitted documentation for conformance with the validation scheme. This will be a comprehensive review of all documentation generated during the validation process.

When performing an Internal Technical Review, the reviewer ensures that:

> The validation activity has been performed by the team by exercising utmost diligence and complete adherence to the CDM rules and requirements.
>
> The review encompasses all aspects related to the project which includes project design, baseline, additionality, monitoring plans and emission reduction calculations, internal quality assurance systems of the project participant as well as the project activity, review of the stakeholder comments and responses, closure of CARs, CLs and FARs during the validation exercise, review of sample documents.

The reviewer compiles clarification questions for the Lead Verifier and Validation Team and discusses these matters with Lead Verifier.

After the agreement of the responses on the 'Clarification Request' from the Lead Verifier as well as the PP(s) the finalized validation report is accepted for further processing such as uploading on the UNFCCC webpage.

3 VALIDATION CONCLUSIONS

In the following sections, the conclusions of the validation are stated.

The findings from the desk review of the original project design documents and the findings from interviews during the follow up visit are described in the Validation Protocol in Appendix A.

The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Validation Protocol in Appendix A. The validation of the Project resulted in 49 Corrective Action Requests (CARs) and 24 Clarification Requests (CLs).

The CARs and CLs were closed based on adequate responses from the Project Participant(s) which meet the applicable requirements. They have been reassessed before their formal acceptance and closure.

The number between brackets at the end of each section correspond to the VVM paragraph

3.1 Approval (49-50)

The participation for each project participant has not been approved yet by a Party of the Kyoto Protocol.

3.2 Participation (54)

The participation for each project participant has not been approved yet by a Party of the Kyoto Protocol. Please, refer to section 3.1 of this Validation Report.

3.3 Project design document (57)

The validation team hereby confirms that the PDD complies with the latest forms of the guidance documents for completion of PDD:

- Clean Development Mechanism - Project Design Document Form (CDM-PDD), version 3 **/Ref-B/.**

- Guidelines for completing the Project Design Document (CDM-PDD) and the Proposed New Baseline and Monitoring Methodologies (CDM-NM), version 07 **/Ref-C/.**

3.4 Changes in the Project Activity

As was observed by the validation team through documentation analysis and during site visit held on 13/12/2010, the project is being implemented in accordance with the descriptions provided in the webhosted PDD.

All changes that have been made to the different versions of the PDD during the Validation Process, from the webhosted PDD version 01 /**Ref-1**/

to the final PDD version 3, have been supported by CARs and CLs opened by the DOE and have already been discussed in the Validation Protocol.

3.5 Project description (64)

SHPP Serra Cavalinhos I – Project Activity (SCVI) consists of the construction of a small hydropower plant (SHPP) with an installed capacity of 25 MW and a reservoir area of 1.50 km^2. It is located between the municipalities of Bom Jesus, Monte Alegre dos Campos and São Francisco de Paula, State of Rio Grande do Sul, Brazil. Below follows a table containing the main technical characteristics of the hydropower plant:

	Description	SCVI
SHPP	Installed capacity (MW)	25
	Reservoir area (km^2)	1.5
	Estimated assured energy (MW/ year)	15.2
	Plant load factor	0.608
	Number of turbines	2
	Power capacity of each turbine (MW)	12.82
	Number of generators	2
	Power capacity of each generator (MVA)	13.88
	Power factor of generators	0.9

The plant load factor has been determined using option b) as defined in the GUIDELINES FOR THE REPORTING AND VALIDATION OF PLANT LOAD FACTORS, version 01, EB 48 - Annex 11 **/Ref-D/** (The plant load factor determined by a third party contracted by the project participants (e.g. an engineering company)), according to evidence: Revised Basic Engineering Project, of 31/05/2010 (prepared by third party contracted by project participants: Intertechne Consultores S.A.) Report 0811-C1-RT-200-00-001-RA **/Ref-4/.**

The DOE validated the accuracy and completeness of the project description by:

- The analysis of documents related to the project activity, and their respective crosscheck with the PDD information: /**Ref-4**/, /**Ref-5**/, /**Ref-6**/, /**Ref-9**/ and /**Ref-12**/.

- A site visit and interviews with PPs held on the 13/12/2010.

- An analysis of official background documents related to the project activity: /**Ref-7**/ and /**Ref-8**/.

The DOE hereby confirms that the project description in PDD (version 3) is accurate and complete in all respects and that there are no changes to the project activity/design or boundary as compared to the webhosted PDD.

3.6 Baseline and monitoring methodology

3.6.1 General requirement (76-77)

The steps taken to assess the relevant information contained in the PDD against each applicability condition are described below.

The project applies the approved baseline methodology ACM0002 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", version 12.2.0 **/Ref-E/**.

The applied baseline methodology is justified as it has been demonstrated that the project activity ensures that:

Applicability conditions ACM0002, version 12.2.0:

1. According to this methodology, it *is applicable to grid-connected renewable power generation project activities that (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); (b) involve a capacity addition; (c) involve a retrofit of (an) existing plant(s); or (d) involve a replacement of (an) existing plant(s).*

The PDD version 3 correctly states: "*The proposed project activity comprises a Greenfield plant corresponding to option a)*". The DOE was able to validate this through a site visit (13/12/2010) and by analyzing project activity related documents: /**Ref-4**/, /**Ref-5**/, /**Ref-6**/, /**Ref-7**/, /**Ref-8**/ and /**Ref-9**/..

2. The methodology also provides the following conditions: *The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit.*

The PDD version 3 states: "*The proposed project activity is the installation of a new small hydro power plant*". The DOE was able to validate that the project activity is the installation of a new hydro power plant through a site visit (13/12/2010) and by analyzing project activity related documents: /**Ref-4**/, /**Ref-5**/, /**Ref-6**/, /**Ref-7**/, /**Ref-8**/ and /**Ref-9**/.

3. *In the case of capacity additions, retrofits or replacements (except for wind, solar, wave or tidal power capacity addition projects which use Option 2: on page 10 of the methodology 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.*

The PDD version 3 states: "*Not applicable. The proposed project activity does not correspond to a capacity addition, retrofit or replacement".* The DOE validated that the project activity is the installation of a new hydro power plant, by a site visit (13/12/2010) and by the analysis of project activity related documents: /**Ref-4**/, /**Ref-5**/, /**Ref-6**/, /**Ref-7**/, /**Ref-8**/ and /**Ref-9**/.

4. *In case of hydro power plants, one of the following conditions must apply:*

- *The project activity is implemented in an existing single or multiple reservoirs, with no change in the volume of any of reservoirs; or*
- *The project activity is implemented in an existing single or multiple reservoirs, where the volume of any of reservoirs is increased and the power density of each reservoir, as per definitions given in the Project Emissions section, is greater than 4 W/m^2; or*
- *The project activity results in new single or multiple reservoirs and the power density of each reservoir, as per definitions given in the Project Emissions section, is greater than 4 W/m^2.*

The third option above applies: *The project activity results in new single or multiple reservoirs and the power density of each reservoir, as per definitions given in the Project Emissions section, is greater than 4 W/m^2*. The DOE was able to validate that the new hydro power plant result in a new single reservoir with a power density above 4 W/m^2 through a site visit (13/12/2010), by an analysis of equation (8) provided in the PDD version 3, together with project activity related documents: /**Ref-4**/, /**Ref-5**/ and /**Ref-6**/.

5. *In case of hydro power plants using multiple reservoirs where the power density of any of the reservoirs is lower than 4 W/m^2 all the following conditions must apply:*

- *The power density calculated for the entire project activity using equation 5 is greater than 4 W/m^2;*
- *Multiple reservoirs and hydro power plants located at the same river and where are designed together to function as an integrated project that collectively constitute the generation capacity of the combined power plant;*

- *Water flow between multiple reservoirs is not used by any other hydropower unit which is not a part of the project activity;*
- *Total installed capacity of the power units, which are driven using water from the reservoirs with power density lower than 4 W/m^2, is lower than 15MW;*
- *Total installed capacity of the power units, which are driven using water from reservoirs with power density lower than 4 W/m^2, is less than 10% of the total installed capacity of the project activity from multiple reservoirs.*

The PDD version 3 correctly states that this applicability condition does not apply, since the project does not use multiple reservoirs. Please refer to applicability condition 4 above for a description how the DOE was able to validate that the project comprises the use of a single reservoir.

The methodology is not applicable to the following:

1. *Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site.*

The PDD version 3 states that the activity does not comprise the switching from fossil fuels to renewable energy sources. The DOE validated that the project activity does not involve switching from fossil fuels to renewable energy sources, by a site visit and by the analysis of project activity related document: /**Ref-4**/.

2. *Biomass fired power plants*;

The PDD version 3 states that no biomass will be fired. The DOE validated that the project activity is not a biomass fired power plant, by a site visit and by the analysis of project activity related document: /**Ref-4**/.

3. *A hydro power plant that results in the creation of a new single reservoir or in the increase in an existing single reservoir where the power density of the power plant is less than 4 W/m^2.*

The DOE validated that the project activity comprises the installation of a new hydro power plant, where the power density of the power plant is not less than 4 W/m^2, by analysis of the equation 8 provided in the PDD version 3, together with project activity related documents: /**Ref-4**/, /**Ref-5**/ and /**Ref-6**/.

Applicability conditions of the Tool to calculate the emission factor for an electricity system, version 02.2.1:

1. This tool may be applied to estimate the OM, BM and/or CM when calculating baseline emissions for a project activity that substitutes grid electricity, i.e. where a project activity supplies electricity to a grid or a project activity that results in savings of electricity that would have been provided by the grid (e.g. demand-side energy efficiency projects).

The PDD version 3 uses the Tool to calculate the emission factor for an electricity system, version 02.2.1 /**Ref-F**/. The DOE validated that the project activity will supply electricity to a grid, by analysis of project activity related documents: /**Ref-4**/, /**Ref-5**/, /**Ref-7**/ and /**Ref-8**/.

Applicability conditions of the Tool for the demonstration and assessment of additionality, version 06.0.0:

1. The document provides a general framework for demonstrating and assessing additionality and is applicable to a wide range of project types. Some project types may require adjustments to this general framework.

The PDD version 3 uses the Tool for the demonstration and assessment of additionality, version 06.0.0 /**Ref-G**/. The DOE validated the applicability of this Tool by analyzing the UNFCCC website at: http://cdm.unfccc.int/methodologies/DB/C505BVV9P8VSNNV3LTK1BP3OR24Y5L (wherein it is stated that the additionality of projects using the ACM0002 methodology, version 12.2.0, shall be demonstrated and assessed using the Tool for the demonstration and assessment of additionality).

The DOE hereby confirms that the selected baseline and monitoring methodology ACM0002, version 12.2.0 /**Ref-E**/, the Tool to calculate the emission factor for an electricity system, version 02.2.1 /**Ref-F**/ and the Tool for the demonstration and assessment of additionality, version 06.0.0 /**Ref-G**/ are previously approved by the CDM Executive Board, and are applicable to the project activity, which, complies with all the applicability conditions therein.

The DOE hereby confirms that, as a result of the implementation of the proposed CDM project activity, there are no greenhouse gas emissions occurring within the proposed CDM project activity boundary, which are expected to contribute more than 1% of the overall expected average annual emissions reductions, which are not addressed by the applied methodology.

3.6.2 Project boundary (80)

According to the applicable methodology, 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*".

According to Section B.3 of the PDD version 3, the project boundary comprises the new project power plant and all the power plants physically connected to the CDM project electricity system. This system has been defined in the PDD as the Brazilian National Interconnected System (SIN).

Also, the PDD version 3 contains a table where the greenhouse gases and emission sources included in or excluded from the project boundary are shown.

The DOE validated the project boundary by:

a) The DOE was able to validate that the definition of the project boundary in the PDD is in accordance with the relevant methodology through: Brazilian DNA resolution nr. 08, which defines the Brazilian National Interconnected System (SIN) as the electricity system for CDM projects in Brazil /**Ref-H**/. According to step 1 of the latest version of the Tool to calculate the emission factor for an electricity system, if the DNA of the host country has published a delineation of the project electricity and connected electricity systems, these delineations should be used.

Also, the DOE was able to validate that the new small hydro power plant will be physically connected to the project electricity system (the Brazilian SIN), through document analysis of PDD related documents /**Ref-4**/, /**Ref-5**/, /**Ref-7**/ and /**Ref-8**/.

In addition, the DOE was able to validate the greenhouse gases and emission sources included in or excluded from the project boundary through document analysis of PDD related documents: /**Ref-4**/ and /**Ref-5**/.

b) Also, through a site visit, that took place on 13/12/2010, the DOE was able to validate that the project boundary is in accordance with the relevant methodology, with interviews with representatives of the Project Participants.

Based on the above assessment, the DOE hereby confirms that the identified boundary and the selected sources and gases are justified for the project activity.

3.6.3 Baseline identification (87-88)

The steps taken to assess the requirement given in paragraph 81 and 82 of the VVM are described below:

The project activity comprises the installation of a new grid-connected renewable power plant. Consequently, according to the relevant methodology, the baseline scenario is as following:

"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 as described in the Tool to calculate the emission factor for an electricity system."

The PDD version 3 correctly identifies the baseline scenario as presented above. The relevant grid is the Brazilian National Interconnected System (SIN), as prescribed by the Brazilian DNA in its resolution nr 08.

Seeing that the DOE has validated the applicability of ACM0002, version 12.2.0, (see 3.6.1 above) for this project activity, and seeing that the methodology ACM0002, version 12.2.0, prescribes the baseline scenario for greenfield power plants, no further analysis is required. Therefore, there is no need to take steps to identify the baseline scenario.

Based on the above assessment, the DOE hereby confirms that:
(a) All the assumptions and data used by the project participants are listed in the PDD, including their references and sources;
(b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD;
(c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;
(d) Relevant national and/or sectoral policies and circumstances are considered and listed in the PDD;
(e) The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM project activity.

3.6.4 Algorithms and/or formulae used to determine emission reductions (92-93)

The steps taken to assess the requirement outlined in paragraph 89 the VVM are described below.

Project emissions:

Project emissions need to be calculated in accordance with equation (1) of the relevant methodology (ACM0002, version 12.2.0):

$$PE_y = PE_{FF,y} + PE_{GP,y} + PE_{HP,y}$$

Where:
PE_y = Project emissions in year *y* (tCO_2e/yr)
$PE_{FF,y}$ = Project emissions from fossil fuel consumption in year *y* (tCO_2/yr)
$PE_{GP,y}$ = Project emissions from the operation of geothermal power plants due to the release of non-condensable gases in year *y* (tCO_2e/yr)
$PE_{HP,y}$ = Project emissions from water reservoirs of hydro power plants in year *y* (tCO_2e/yr)

According to ACM0002, version 12.2.0, the only possible source of project emissions for hydro power plants are emissions from reservoir ($PE_{HP,y}$). These emissions from reservoir are calculated in accordance with the following two options:

(a) If the power density of the project activity (PD) is greater than 4 W/m^2 and less than or equal to 10 W/m^2:

$$PE_{HP,y} = \frac{EF_{Res} * TEG_y}{1000}$$

Where:
$PE_{HP,y}$ = Project emissions from water reservoirs (tCO_2e/yr)
EF_{Res} = Default emission factor for emissions from reservoirs of hydro power plants in year y ($kgCO_2e/MWh$)
TEG_y = Total electricity produced by the project activity, including the electricity supplied to the grid and the electricity supplied to internal loads, in year y (MWh)

(b) If the power density of the project activity (PD) is greater than 10 W/m^2:

$PE_{HP,y} = 0$

Power density (PD) needs to be calculated in accordance with equation (5) of ACM0002, version 12.2.0:

$$PD = \frac{Cap_{PJ} - Cap_{BL}}{A_{PJ} - A_{BL}}$$

Where:
PD = Power density of the project activity (W/m^2)
Cap_{PJ} = Installed capacity of the hydro power plant after the implementation of the project activity (W)
Cap_{BL} = Installed capacity of the hydro power plant before the implementation of the project activity (W). For new hydro power plants, this value is zero

A_{PJ} = Area of the single or multiple reservoirs measured in the surface of the water, after the implementation of the project activity, when the reservoir is full (m^2)
A_{BL} = Area of the single or multiple reservoirs measured in the surface of the water, before the implementation of the project activity, when the reservoir is full (m^2). For new reservoirs, this value is zero
The PDD version 3 calculates project's power density: 16.67 W/m^2.

The DOE was able to validate the above mentioned PD values through analyzing the following documents in conjunction with equation (5) of ACM0002, version 12.2.0: **Ref-4**/, /**Ref-5**/ and /**Ref-6**/.

Seeing that the DOE was able to validate that the PD of the SHPP is greater than $10W/m^2$, option (b) above applies and, therefore, $PE_{HP,y} = 0$. Consequently, PE_y is also zero and no project emissions need to be accounted for.

Baseline emissions:

Baseline emissions need to be calculated in accordance with equation (6) of the relevant methodology ACM0002, version 12.2.0:

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

Where:
BE_y = Baseline emissions in year y (tCO_2/yr)
$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)
$EF_{grid,CM,y}$ = Combined margin CO_2 emission factor for grid connected power generation in year y calculated using the latest version of the Tool to calculate the emission factor for an electricity system. (tCO_2/MWh)

If the project activity is the installation of a new grid-connected renewable power plant/unit at a site where no renewable power plant was operated prior to the implementation of the project activity, then:

$$EG_{PJ,y} = EG_{facility,y}$$

Where:
$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)
$EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr)

In the PDD version 3, PP calculates $EG_{facility,y}$ as the expected net electricity generation supplied by the project plant to the grid in year y (MWh/yr): 133,152 MWh/yr.

The PDD version 3 presents the above mentioned values, by multiplying the hours in a year (8,760 hours) with the power plant's "assured energy".

The power plants "assured energy" corresponds to the installed capacity multiplied by the PLF of the plant (0.608). The DOE was able to validate the "assured energy" of the power plant (15.2 MW/year) as described in the PDD (version 3) with the following documents: **/Ref-4/**.

The $EF_{grid,CM,y}$ value presented in the PDD version 3 is 0.3095 tCO_2/MWh. This number has been calculated in accordance with the latest version of the Tool to calculate the emission factor for an electricity system**,** with Operating Margin and Build Margin Emission factors calculated by the Brazilian DNA (0.4787 tCO_2/MWh for OM Emission factor 2010 and 0.1404 tCO_2/MWh for BM Emission factor 2010. The mentioned OM and BM emission factors for 2010 are online available on the website of the Brazilian DNA: http://www.mct.gov.br/index.php/content/view/73318.html. The DOE confirmed on 28/02/2012 that the 2010 values are the most recent values made available by the DNA.

The DOE confirms that all choices made in the PDD version 3 to calculate $EF_{grid,CM,y}$ have been justified adequately and have been presented in accordance with the Tool to calculate the emission factor for an electricity system**.**

The latest values made available by the Brazilian DNA are from 2010 and those numbers have been used by PP to calculate the Combined Margin CO_2 emission factor of the relevant grid. The DOE was able to validate this 0.3095 tCO_2/MWh figure with document /**Ref-12**/, together with the above mentioned link to the Brazilian DNA website.

Leakage:

According to ACM0002, version 12.2.0, no leakage emissions need to be considered. The PDD version 3 correctly describes that no leakage are considered.

Emission reductions:

Emission reductions are calculated in accordance with equation (11) of the relevant methodology ACM0002, version 12.2.0:

$ER_y = BE_y - PE_y$

Where:
ER_y = Emission reductions in year *y* (t CO_2e/yr)
BE_y = Baseline emissions in year *y* (t CO_2/yr)
PE_y = Project emissions in year *y* (t CO_2e/yr)

Seeing that project emissions is zero, $ER_y = BE_y$. See above how the DOE was able to validate the BE_y values presented in the PDD version 3.

Based on the above assessment, the DOE hereby confirms that:
(a) All assumptions and data used by the project participants are listed in the PDD, including their references and sources;
(b) All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD;
(c) All values used in the PDD are considered reasonable in the context of the proposed CDM project activity;
(d) The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions;
(e) All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD.

3.7 Additionality of a project activity (97)

The steps taken and sources of information used, to cross-check the information contained in the PDD on this matter are described below.

To demonstrate the additionality of the Project, the PDD has correctly applied the “Tool for the demonstration and assessment of additionality”, version 06.0.0 /**Ref-G/.** PP uses an investment analysis to determine that the project is additional. No Barrier Analysis was presented. The details of the DOE’s assessment on the Project additionality are described in the Sections 3.7.2 to 3.7.5 below.

The DOE has analyzed the evidences provided by PP during the validation process, and the sources of information used by the DOE to cross-check the information contained in the PDD can be observed in items 3.7.2 to 3.7.5.

Details on the assessment of the investment and common practice analysis, the authenticity of the documentation and data used are described in Section 3.7.3 and 3.7.5.

3.7.1 Prior consideration of the clean development mechanism (104)

The DOE validated the project activity start date provided in the PDD version 3: 01/04/2012, being the expected date of signing of EPC contract which is expected to be signed after the project´s registration.

The DOE has validated the starting date of the project activity on 01/04/2012, as being the "earliest date at which either the implementation or construction or real action of a project activity begins", according to the Glossary of CDM terms, version 05 /**Ref-I**/. In this particular case, the first "real action" is expected to be the construction contract signing on 01/04/2012. The DOE was able to validate this date with /**Ref-9**/.

Seeing that the project design document (PDD) was published for global stakeholder consultation on 25/11/2010 (crosschecked at: http://cdm.unfccc.int/Projects/Validation/DB/ZD8S6449O5FVD6MVFWQZ2LHJ6Z45WD/view.html) and seeing that the starting date of the project activity is after the 2nd of August 08, the assessment of the Prior Consideration of the "SHPP Serra Cavalinhos I – Project Activity" was conducted in accordance with paragraph 2 of the Guidelines on the demonstration and assessment of prior consideration of the CDM, version 04 /**Ref-J**/:

- *"Such notification[2] is not necessary if a project design document (PDD) has been published for global stakeholder consultation or a new methodology proposed to the Executive Board for the specific project before the project activity start date"*.

Seeing the above, the DOE was able to validate PP's prior consideration in accordance with VVM paragraph 101[3].

Based on the above assessment, the DOE hereby confirms that the proposed CDM project activity complies with the requirements of the latest version of the Guidance on prior consideration of CDM.

3.7.1.1 Historical information on project timeline

The main historical information of the project is:

- PDD uploading on the UNFCCC website for global stakeholders comments: from 25 Nov 10 to 24 Dec 10;
- Project Starting Date: 01 April 2012;
- Project expected start of operations (as per /**Ref-9**/): 01 April 2014.

[2] The Board decided that for project activities with a starting date on or after 2 August 2008, the project participant must inform a Host Party designated national authority (DNA) and the UNFCCC secretariat in writing of the commencement of the project activity and of their intention to seek CDM status (EB62ANN13).

[3] Although not necessary as per EB62ANN13 and VVM paragraph 101, PP has informed a Host Party designated national authority (DNA) and the UNFCCC secretariat in writing of their intention to seek CDM status, as per evidence /**Ref-13**/, /**Ref-14/** and http://cdm.unfccc.int/Projects/PriorCDM/notifications/index_html

3.7.2 Identification of alternatives (107)

The DOE considers the listed alternatives to be credible and complete.

3.7.3 Investment analysis (114)

The project proponent decided to use the Tool for the demonstration and assessment of additionality, version 06.0.0. /**Ref-G**/, which refers to the Guidelines on the assessment of investment analysis, version 05.0, /**Ref-K**/ and, therefore, these guidelines were used in the following analysis.

Validation Team adopted a five steps strategy to confirm the veracity of the conclusion drawn by the project developer:

a) Evaluating the appropriateness of the benchmark applied for the type of financial indicator presented;
b) Conducting an assessment of parameters and assumptions used in calculating the financial indicator and determining the accuracy and suitability of parameters and cross-checking the parameters against third-party or publicly available sources;
c) Reviewing annual financial reports related to the project participant;
d) Assessing the correctness of computations carried out and documented; and
e) Subjecting the critical assumptions of the project activity to reasonable variations to determine under what conditions variations in the result would occur, and the likelihood of these conditions.

a) Appropriateness of the financial indicator and benchmark:

Financial indicator: The project participant has chosen equity IRR to demonstrate the additionality of the project. The Additionality Tool (Ver. 06.0.0) permits the use of financial indicator, equity IRR, for demonstrating the additionality using benchmark analysis. The tool permits the use of either project IRR or equity IRR. Since the project developer is demonstrating the financial unattractiveness of the project, equity IRR is appropriate, as it is often used by the project developers to make a decision on investing in the project. As such, the selection of equity IRR as financial indicator to demonstrate the additionality of the project is appropriate according to the Additionality Tool.

Benchmark: The additionality tool states that the discount rates and benchmarks shall be derived from “Estimates of the cost of financing and required return on capital (e.g. commercial lending rates and guarantees required for the country and the type of project activity concerned), based on bankers views and private equity investors/funds’ required return on comparable projects;”, among others. The paragraph 29 states “When applying Option II or Option III, the financial/economic analysis shall be based on parameters that are standard in the market, considering the

specific characteristics of the project type, but not linked to the subjective profitability expectation or risk profile of a particular project developer. Only in the particular case where the project activity can be implemented by the project participant, the specific financial/economic situation of the company undertaking the project activity can be considered."
The project participant has chosen the weighted cost of capital methodology (WACC), based on estimates of the cost of financing and required return on capital, regarding the project financing structure. Also, the PP used the CAPM methodology to calculate de required return on capital

BVC has accepted the benchmark based on the following:
The PP used the WACC to calculate the benchmark. The WACC (Weighted Average Cost of Capital) consists on a valid methodology used to determine the rate of return for the project, as stated in paragraph 12 of Annex5, EB62. WACC considers the project financing structure and determine the required project return based on a weighted average of the required returns for each financing source (basically, debt and equity financing).
Basically, the WACC combines the equity required return of 23.31% (real), estimated by the CAPM methodology (see below) over a 30.8% of equity in the capital structure and the debt estimated cost of 6.18% over a 69.2% of debt in the capital structure, resulting in a WACC of 11.45% (real rate), in accordance to calculations provided in /**Ref-23**/
The Capital Asset Pricing Model (CAPM) is one of the most widely accepted models used to determine the required rate of return on equity. As per option b) provided in the paragraph 15 of Annex5, EB62, it was estimated using the best financial practices. The CAPM calculates a newly introduced asset's non-diversifiable risk. CAPM takes into account the asset's sensitivity to non-diversifiable risk, better referred to as Beta (β). Embedded in the model is also the market premium which can be tracked using historical data from the local or relevant equity market.
Basically, CAPM consists into a government bond rate increased by a suitable risk premium. It was used a risk-free government bond rate (10-year US Treasury bond rate of 2.26% in real terms) increased by a risk premium rate of 20.12% /**Ref-23**/
The cost of debt was calculated used the information provided by BNDES, the Brazilian development bank, following the best practices in the market.
Benchmark calculation was considered suitable because it followed the best practices in the market.
BVC agrees with all the data used in benchmark calculations (/**Ref-23**/) and would like to point out that they were clearly presented, available to consult and correct.

b) Description of the parameters and assumptions used in the investment analysis, description of the means of validation and the procedures to

cross-check the parameters against third-party or publicly available sources.

Input Values/Assumptions	Value	Means of validation
Total Investment	BRL 160,362,000	Value based on the total cost estimative provided by Robota Engenharia on August 31, 2008 /**Ref-25**/, which can be crosschecked with Brookfield SHPP implementation cost projection for 2010 /**Ref-26**/, considering that the data applied at the projection is backed by audited balance sheet by a third party. The DOE also crosschecked the value of the total investment cost against a third party source which is publicly available: BNDES (Brazilian Development Bank) communication regarding the investment made to a SHPP (SHPP Paracambi) of also 25 MW of installed capacity. According to the BNDES, the total investment of Paracambi SHPP is BRL 157 million. Please see: http://www.bndes.gov.br/SiteBNDES/bndes/bndes_pt/Institucional/Sala_de_Imprensa/Noticias/2011/energia/20110719_pch.html (accessed 07/03/2012).
O&M costs	BRL 8.45/MWh	Based on PP´s experience, this value was crosschecked by the DOE with a historical database (O&M2007.xls, cell E203 of sheet "2007 por usina" /**Ref-27**/ which presents BRL 13.52/MWh), and this value was also crosschecked by the DOE with a third party available source: by Eletrobrás[4] Study for SHPP development (p. 31) /**Ref-28**/ that establishes that an alternative for SHPP´s O&M estimative can be based on 5% of total investment over the project´s lifetime (in this case 30 years). (160,362,000BRL x 5% / 30 (years) / 8760= R$30.51/MWh). Therefore, the DOE agrees that PP's value is more conservative than the references and can, consequently, be accepted.
Sales price for energy	BRL 144.74/MWh	Based on the first alternative auction´s price held on 18/06/2007 /**Ref-29**/ (BRL 134.99/MWh) and Inflation-Adjusted by IPCA (7.22 %, see spreadsheet IPCA.xls **/Ref-30/**). It was crosschecked with the price of energy sold in the 2010 auction for alternative sources of energy /**Ref-31**/, in which the price of energy sold by SHPP's was R$ 141.93/MWh

[4] Eletrobras is an enterprise controlled by the Brazilian government, which operates in the areas of generation, transmission and distribution of electricity (source: http://www.eletrobras.com/elb/data/Pages/LUMIS482AEFCFPTBRIE.htm).

Transmission costs	BRL 1.50/kW/month	In accordance with ANEEL resolution # 452 / 2007/**Ref-32**/
ANEEL Fee	BRL 1.52/kW/year	In accordance with ANEEL resolution # 3731 / 2007/**Ref-33**/
Taxes	PIS: 0.65% COFINS: 3% Income Taxes: 2% Social Taxes: 1.08%	PIS: Law nr. 10,637, December 31st, 2002/**Ref-34**/ COFINS: Law nr. 10,833, December 29th, 2003/**Ref-35**/ Income Taxes: Law nr. 9,430, December 27th, 1996/**Ref-36**/ Social Taxes: Law nr. 8,981, January 20th, 1995/**Ref-37**/
Fair Value	BRL 2,617,000	Calculated at the financial analyses spreadsheet /**Ref-24**/, representing 1.63% of total investment. Included at the end of the assessment period as a cash inflow in the final year. Fair value inclusion on the cash flow is a conservative measure since the full value of the capital expenditure had not been consumed.
Energy Output	133,152 MWh/year	The SHPP production leads to a load factor of 0.608, as the installed capacity equals 25 MW, considering an average production of 15.2 MW. The plant load factor has been determined using option b) as defined in the GUIDELINES FOR THE REPORTING AND VALIDATION OF PLANT LOAD FACTORS, version 01, EB 48 - Annex 11 **/Ref-D/** (The plant load factor determined by a third party contracted by the project participants (e.g. an engineering company)), according to evidence: Revised Basic Engineering Project, of 31/05/2010 (prepared by third party contracted by project participants: Intertechne Consultores S.A.) Report 0811-C1-RT-200-00-001-RA **/Ref-4/.** It was crosschecked with data related to other SHPP /**Ref-38**/ with comparable size, for which we have load factors of 59.5% and 53.5%.
Investment Decision date	25/11/2010	Since the project would start in a future date, it is appropriate to use the date of upload of the CDM-PDD for global stakeholder's consultation.

Depreciation and other non-cash items related to the project activity were not included on IRR calculation. The PP included the standard taxes for electric ventures in Brazil.
Input values used in all investment analysis were valid and applicable at the time of the investment decision taken by the project participant. The validation team validated the timing of the investment decision and the consistency and appropriateness of the input values with this timing. Also it were validated that the listed input values had been consistently applied in all calculations. Project participants supplied spreadsheets versions of all investment analysis. All formulas used in this analysis were readable and all relevant cells were viewable and unprotected.

c) Assessment of correctness of computation: BVC checked all formulas in all spreadsheets presented by the project proponent /**Ref-24**/. The assessment involves checking the data input taken from quotation/documents, adoption of correct accounting principle and arithmetical accuracy. BVC checked the quotation/ documents and ensured that right input has been taken in the project cost and projections. The accounting principles adopted for computing depreciation, tax, costs are found to be in order. The arithmetical accuracy is also found to be correct. The principle adopted by the project participant for computing IRR is in conformity with the "Guidance on the Assessment of Investment Analysis" issued by EB. Based on the above, the IRRs of the projects were lower in contrast to the benchmarks. According to the spreadsheet containing the financial analysis, **Ref-24**/ the project IRR is 8.73% real. However, the conclusion was checked by subjecting the critical assumptions to reasonable variations.

d) Sensitivity analysis: The Guidance on Assessment of Investment Analysis requires the robustness of the conclusion arrived at to be proved through a sensitivity analysis by varying the critical assumptions to a reasonable variation (± 10%, in order to build up scenarios in which the project IRR is increased). To confirm how solid the investment analysis is, project participants presented a sensitivity analysis varying the most important parameters: (i) project output (energy output increase: +10%), (ii) energy price (tariff increase: +10%), (iii) O&M cost reduction (-10%) and (iv) Investment reduction (-10%).
The sensitivity analysis confirmed that the project activity is not financially attractive once the project internal rate of return is lower than the benchmark in all scenarios analysed. Sensitivity analysis is available in table 8 of PDD.

Based on the foregoing, BVC has concluded that the project activity´s IRR is less than the benchmark and will remain additional even under most optimistic conditions (based on sensitivity analysis), and thus the validation team has arrived at the conclusion that the project activity is additional.

CLs BQA 1 to 5 and CARs BQA 1 to 4 were issued and they have been satisfactorily solved and closed. Refer to Appendix A.

The DOE, based on the assessment result by the financial expert engaged, hereby confirms that the underlying assumptions are appropriate and the financial calculations are correct.

3.7.4 Barrier analysis (118)

No Barrier analysis was presented in the PDD version 3.

3.7.5 Common practice analysis (121)

According to version 3 of the PDD, the common practice analysis has been carried out as per paragraphs 6 (b) and 47 of the Tool for the demonstration and assessment of additionality, version 06.0.0 /**Ref-G**/:

Step 1 - Applicable output range defined in accordance with /**Ref-G**/: as +/-50% of the design output or capacity of the proposed project activity: 12.5 MW – 37.5 MW.

Step 2 - N_{all} calculated in accordance with /**Ref-G**/: out of 56 hydro power plants operating in the applicable geographical area, 6 deliver the same output or capacity, are within the defined output range and are not CDM Projects. Therefore, N_{all} = 6. The DOE used the following evidences to validate the Step 2 analysis as provided in the PDD version 3:

(1) ANNEL's 2012 Report on the start date of operation of Hydro Power Plants in Brazil: (available online at: http://www.aneel.gov.br/area.cfm?idArea=37&idPerfil=2,

(2) UNEP-RISOE CDM Pipeline – available online at: http://cdmpipeline.org

(3) ANEELs online database (ANEEL: National Agency for Electric Energy) of all power plants operating in Brazil: online available at: http://www.aneel.gov.br/15.htm

(4) UNFCCC/CDM website: http://cdm.unfccc.int

Regarding the applicable geographical are as defined in the PDD version 3 (the Rio Grande do Sul State in Brazil), the DOE used the following evidences to justify the appropriateness of this geographical area:

- "Each State of Brazil has a specific environmental agency who determines the technical standards required to obtain all environmental licenses, and the necessary rules and procedures to obtain the

government approval." Crosschecked with CONAMA (National Environmental Board) Resolution 01/86: available at: http://www.mma.gov.br/port/conama/res/res86/res0186.html

- "The Spot Price value is divided into sub-markets (south, southeast/midwest, northeast, and north)." Crosschecked with: CCEE's[5] information on the "Settlement Price for the Differences" (translation for Preço de Liquidação das Diferenças - PLD). Online available at: http://www.ccee.org.br/cceeinterdsm/v/index.jsp?vgnextoid=7ccaa5c1de88a010VgnVCM100000aa01a8c0RCRD

- "According the CONAMA Resolution nr. 237 dated on December 19th, 1997, [State] environmental agencies are the responsible for the definition of criteria for licensing, as well as the type of study to be adopted." Crosschecked at: http://homologa.ambiente.sp.gov.br/cprn/res_conama_237_191297.pdf

- "The tariff applied for electricity distribution system uses the Distribution System Use Tariff (in a free translation from the Portuguese Tarifa de Uso do Sistema de Distribuição - TUSD) which varies depending on the state where the power plant is connected to." This was crosschecked with: http://www.aneel.gov.br/visualizar_texto.cfm?idtxt=1573.

Step 3 – N_{diff} calculated in accordance with /**Ref-G**/: From the Plants identified in Step 2, the following apply technologies different that the technology applied in the proposed project activity:

(1) Large Scale Hydro plants (above 30 MW of installed capacity and with reservoirs larger than 3 km^2). Above 30 MW, the hydro power plants are considered to be "large hydro" in Brazil and have a distinctive approval process before the government agencies (ANEEL and environmental agencies) and higher cost of energy generation. Cross-check: http://www.portalpch.com.br/index.php?option=com_content&task=view&id=702 and http://www.aneel.gov.br/cedoc/res2003652.pdf

(2) PROINFA Projects were also excluded. This means that projects that received financial incentive from the federal government through PROINFA program[6] were considered different. Serra dos Cavalinhos I Project does not receive PROINFA benefits. Information crosschecked by the DOE at: http://www.eletrobras.com/ELB/main.asp?Team={B38770E4-

[5] CCEE is a not-for-profit, private, civil organization company in which Agents are gathered in three Categories: Generation, Distribution, and Commercialization. The purpose of CCEE is to carry out the wholesale transactions and commercialization of electric power within the National Interconnected System, for both Regulated and Free Contracting Environments and for the spot market. In addition, CCEE is in charge of financial settlement for the spot market transactions. (Source: http://www.ccee.org.br , accessed on 27/02/2012).

[6] PROINFA: National Program that provide incentives (financial, contractual and regulatory) for the implementation of power plants that use alternative sources of fuel (renewable biomass, wind, small hydro).

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(3) Plants that started operation before the establishment of the new electricity sector framework were also not considered similar. This new structure of the electricity sector was approved by the House of Representatives and published in March of 2004[7]. Crosschecked by the DOE at: http://www.ccee.org.br/cceeinterdsm/v/index.jsp?vgnextoid=3df6a5c1de88a010VgnVCM100000aa01a8c0RCRD

Seeing the above, N_{diff} was defined in the PDD version 3 as 6.

Step 4 – In accordance with /**Ref-G**/, the PDD version 3 states that the proposed project activity is not "common practice" within the defined sector in the applicable geographical area seeing that the factor F is lower than 0.2 and N_{all}-N_{diff} is lower than 3.

Seeing the analysis put forward above, the DOE concludes that SHPPs that operate without PROINFA or CDM benefits are not common practice in the applicable geographical area. Consequently, the DOE hereby confirms that the proposed CDM project activity is not common practice.

3.8 Monitoring plan (124)

The DOE hereby confirms that the monitoring plan complies with the requirements of the methodology.

The steps taken to assess whether the monitoring arrangements described in the monitoring plan are feasible within the project design are described below.

The Project uses the methodology ACM0002 - Consolidated baseline methodology for grid-connected electricity generation from renewable sources, version 12.2.0. The project involves the installation of a new grid connected small hydro power plant.

The Combined Margin emission factor will be determined *ex-post*, based on the most recent information available. This data will be obtained from the Brazilian DNA, which calculates the Operating Margin and Build Margin emission factors in accordance with the latest version of the Tool to calculate the emission factor for an electricity system.

[7] During the years of 2003 and 2004, the Federal Government set the bases for a new model for the Brazilian Electric Sector, supported by Laws nos. 10.847 and 10.848, dated of March 15, 2004, and by Decree no. 5.163, dated of July 30, 2004.

In accordance to the monitoring plan, the main parameter that will be monitored is the quantity of net electricity generation supplied by the project plant to the grid in year y, measured by the two electricity meters (principal and back-up) which continuously monitor the electricity generated by the plant and delivered to the grid.

The information will be crosschecked using records of sold energy, produced by the CCEE - Electric Power Commercialization Chamber. CCEE is the independent agency that manages the commercialization of energy in Brazil and keeps the official records for sold energy.

Operational management for the Project is comprehensively detailed in the PDD. It includes description of the responsibility, meters location, process description, data collection procedures, data storage procedures and emission reduction calculation procedures. These are all elements which ensure that the monitoring plan will be followed during the operation of the Project.

After interviews carried out with project participants during site visit (13/12/2010) and after visiting project participant's "Operation and Management System Centre" (COGS), and after analysing documents related to the project activity (/**Ref-3**/, /**Ref-4**/ and /**Ref-6**/), the DOE hereby confirms that the project participants are able to implement the monitoring plan.

3.9 Sustainable development (127)

The host Party's DNA will confirm the contribution of the project to the sustainable development of the host Party after the validation is completed. Refer to item 3.1 of this report.

3.10 Local stakeholder consultation (130)

The steps taken to assess the adequacy of the local stakeholder consultation are described below.

PP has invited local stakeholders to comment on the project activity. Letters were sent to:

- City Hall of Bom Jesus, Monte Alegre dos Campos and São Francisco de Paula;
- Municipal Assembly of Bom Jesus, Monte Alegre dos Campos and São Francisco de Paula;
- Environmental Agency of Bom Jesus, Monte Alegre dos Campos e São Francisco de Paula;
- Environmental Agency of Rio Grande do Sul (*Fundação Estadual de Proteção Ambiental Henrique Luiz Roessler – RS – FEPAM/RS*);
- Comunitarian Association of Bom Jesus, Monte Alegre dos Campos and São Francisco de Paula;

- Federal and State Attorney for the Public Interest of Rio Grande do Sul State;
- Brazilian Forum of NGOs and Social Movements for the Development and Environment (Fórum Brasileiro de ONGs e Movimentos Sociais para o Desenvolvimento e Meio Ambiente).

Copy of letters and evidence of receipt (A/R) were given to the DOE during site visit /**Ref-16**/

Analyzing the letters sent to local stakeholders, the DOE could validate that the project activity is described in a manner, which allows the local stakeholders to understand the project activity.

Also, the DOE was able to validate that PP has invited comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity, seeing that the letters asking for comments were sent to all the local stakeholders prescribed by the second paragraph of the Brazilian DNA's Resolution 7: http://www.mct.gov.br/upd_blob/0023/23744.pdf.
Reasonable time was given to local stakeholders to respond to invitations to comment on the project: letters were sent to local stakeholders on 10/09/2010 and the validation started only on 25th of November 2010 (http://cdm.unfccc.int/Projects/Validation/index.html). So, PP complies with the Brazilian DNA's Resolution 7: http://www.mct.gov.br/upd_blob/0023/23744.pdf (which states that letters to local stakeholders should be send at least 15 days before the start of validation).

According to Section E.2 of the PDD version 3, four comments from local stakeholders were received. (**Ref-18**/, /**Ref-19**/, /**Ref-20**/ and /**Ref-21**/. The DOE was able to validate that the project participants have taken due account of any comments received and have described this process in the PDD, by observing Section E.3 of the PDD version 3 and by analyzing /**Ref-22**/.

The DOE hereby confirms that the process of local stakeholder consultation is observed to be adequate.

3.11 Environmental impacts (133)

The project participants have undertaken an analysis of environmental impacts and an environmental impact assessment was prepared in accordance with procedures as required by the host Party /**Ref-6**/

According to Brazilian Legislation, there are three environmental licenses needed. First, the LP (Preliminary License), then the LI (Construction License) and last the LO (Operating License).

The project activity has obtained the first license - Preliminary License nr. 701/2008-DL, issued by the Rio Grande do Sul Environmental Agency (FEPAM - Fundação Estadual de Proteção Ambiental Henrique Luiz Roessler) on 10th June, 2008 /**Ref 7**/.

A request for Construction License (LI) obtaining was made on August 12th, 2008 to FEPAM /**Ref-17**/. Project sponsors are still waiting FEPAM's authorization.

The last one (LO) can only be requested only after the construction of the SHPPs.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

The PDD using methodology ACM0002, version 12.2.0, was webhosted on the UNFCCC for global stakeholders comments as per CDM requirements. The project was webhosted from 25 Nov 10 to 24 Dec 10.

No comments were received during the global stakeholders consultation process.

5 VALIDATION OPINION

Bureau Veritas Certification has performed a validation of the SHPP Serra Cavalinhos I – Project Activity in Brazil. The validation was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

The validation consisted of the following three phases: i) a desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) the resolution of outstanding issues and the issuance of the final validation report and opinion.

Project participants used the latest tool for demonstration of the additionality. In line with this tool, the PDD provides an investment analysis to determine that the project activity itself is not the baseline scenario.

By the construction of a small hydropower plant with an installed capacity of 25 MW and a reservoir area of 1.50 km^2, renewable energy will be delivered to the Brazilian national electricity grid, and the project is likely to result in reductions of GHG emissions partially. An investment analysis demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented and maintained as designed, the

DOE hereby confirms that the estimated amount of 288,470 tCO_2e emission reductions, during the 1st crediting period, is correct.

The review of the project design documentation (version 3) and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the project correctly applies and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria. Bureau Veritas Certification thus requests registration of SHPP Serra Cavalinhos I – Project Activity as CDM project activity.

6 REFERENCES

Category 1 Documents:
Documents provided by Project Participants that relate directly to the GHG components of the project.

/1/ SHPP Serra Cavalinhos I – Project Activity. **PDD** version 01, dated 05/08/2010
/2/ SHPP Serra Cavalinhos I – Project Activity. **PDD** version 02, dated 21/06/2011
/3/ SHPP Serra Cavalinhos I – Project Activity. **PDD** version 03, dated 06/12/2011
/4/ SHPP Serra Cavalinhos I – **Revised Basic Engineering Project**, of 31/05/2010 (prepared by third party contracted by project participants: Intertechne Consultores S.A.) Report 0811-C1-RT-200-00-001-RA
/5/ SHPP Serra Cavalinhos I – **Technical Chart**, containing main technical characteristics of the SHPP, of 31/05/2010 (prepared by third party contracted by project participants: Intertechne Consultores S.A.)
/6/ SHPP Serra Cavalinhos I – **Environmental Impact Assessment** (EIA - RAS), Relatório Ambiental Simplificado – RAS (Simplified Environmental Report), of July 2004 – prepared by third party: SOMA – Environmental Solutions.
/7/ SHPP Serra Cavalinhos 1 – **Preliminary Environmental License** nr. 701/2008-DL, issued by the Rio Grande do Sul Environmental Agency (FEPAM - Fundação Estadual de Proteção Ambiental Henrique Luiz Roessler) on 10th June, 2008
/8/ SHPP Serra Cavalinhos 1 – **Preliminary Environmental License (transmission line)** nr. 951/2009-DL, issued by the Rio Grande do Sul Environmental Agency (FEPAM - Fundação Estadual de Proteção Ambiental Henrique Luiz Roessler) on 19th August, 2009
/9/ SHPP Serra Cavalinhos 1 – **Updates implementation chronogram**, dated 10/02/2012
/10/ SHPP Serra Cavalinhos 1 – **Emission Reduction Calculation Spreadsheet**, version 1, dated 05/08/2010
/11/ SHPP Serra Cavalinhos 1 – **Emission Reduction Calculation Spreadsheet**, version 2, dated 21/06/2011
/12/ SHPP Serra Cavalinhos 1 – **Emission Reduction Calculation Spreadsheet**, version 3, 06/12/2011
/13/ **Project Participants Letter of prior consideration** sent to the Brazilian DNA, dated 22/08/2008

/14/ **Brazilian DNA Letter** – confirming receiving prior consideration letter from Project Participant, dated 05/12/2008
/15/ SHPP Serra Cavalinhos 1 – **Common Practice Spreadsheet**, dated 06/12/2011
/16/ **Copy of letters and evidence of receipt** (A/R) of letters sent to Local Stakeholders.
/17/ **Copy of letter from Project Participant requesting for Construction Environmental License** (LI), dated 12/08/2008.
/18/ **Copy of letters sent by local stakeholder** (São Francisco de Paula Municipality Assembly), dated 10/11/2010.
/19/ **Copy of letters sent by local stakeholder** (Rio Grande do Sul State Prosecutor), dated 14/02/2011.
/20/ **Copy of letters sent by local stakeholder** (Bom Jesus City Hall), dated 27/09/2010.
/21/ **Copy of letters sent by local stakeholder** (São Francisco de Paula Municipality Assembly), dated 17/11/2010.
/22/ **Copies of letters sent by Project Participant to local stakeholder who made comments.**
/23/ **WACC calculation spreadsheet**: WACC_ElectricGen.xls
/24/ **Investment analysis spreadsheet**: IRR SCVI_21_06_2011.xls
/25/ Robota_SCV.pdf: **Document containing evidence for the total investment cost of the project.**
/26/ Brookfield Report – Implementation of SHPP Serra dos Cavalinhos I – costs projection (2010).
/27/ O&M_2007.xls: **Document containing PP evidence for the O&M costs**.
/28/ Eletrobras - Diretrizes PCH.pdf **Document containing cross check values for the O&M costs**
/29/ 1LFA Restults.pdf: **Evidence for the energy price considered by the PP**
/30/ IPCA.xls: **support spreadsheet containing the time series for IPCA index**
/31/ 2 LFA results.pdf: **Cross checking for the price of energy, considering the results of a public auction held in 2010**
/32/ TUSD_RGE_reh2007452.pdf: **Document containing the rules for calculating the transmission costs**
/33/ TFSEE_dsp20073731.pdf: **Document containing the rules for calculating ANEEL (sector regulator) fares**
/34/ http://www.receita.fazenda.gov.br/legislacao/leis/2002/lei10637.htm: **website containing the law which describes the PIS tax calculations**
/35/ http://www.receita.fazenda.gov.br/legislacao/leis/2003/lei10833.htm : **website containing the law which describes the Cofins tax calculations**
/36/ http://www.receita.fazenda.gov.br/legislacao/leis/ant2001/lei943096.htm: **website containing the law which describes the Income tax calculations**
/37/ http://www81.dataprev.gov.br/sislex/paginas/42/1995/8981.htm: **website containing the law which describes the social tax calculations**
/38/ CEMIG Report on SHPP's investment – August 2006 - **Document used to cross check the production load factor of the project activity** (pages 23 and 24).

Category 2 Documents:
Background documents related to the design and/or methodologies employed in the design or other reference documents.

/A/ Clean Development Mechanism Validation And Verification Manual (Version 01.2)
/B/ Clean Development Mechanism - Project Design Document Form (CDM-PDD), version 03, EB 25 - ANNEX 15.
/C/ Guidelines for completing the Project Design Document (CDM-PDD) and the Proposed New Baseline and Monitoring Methodologies (CDM-NM), version 07, EB 41 - ANNEX 12.
/D/ Guidelines for the reporting and validation of plant load factors, version 01, EB 48 – ANNEX 11.
/E/ Approved consolidated baseline and monitoring methodology ACM0002: "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", version 12.2.0.
/F/ Tool to calculate the emission factor for an electricity system, version 02.2.1.
/G/ Tool for the demonstration and assessment of additionality, version 06.0.0.
/H/ CIMGC – Brazilian DNA's #8 Resolution, dated 26/05/2008
/I/ Glossary of CDM Terms, version 05.
/J/ Guidelines on the demonstration and assessment of prior consideration of the CDM, version 04, EB 62 – ANNEX 13.
/K/ Guidelines on the assessment of investment analysis , version 05.0

Persons interviewed:
List persons interviewed during the validation or persons that contributed with other information that are not included in the documents listed above.

/1/ Mr. João Maria de Mattos Júnior (civil engineer Brookfield)
/2/ Mr. Osório Nascimento (financial analyst Brookfield)
/3/ Ms. Fabiane Vargas Reis (environmental analyst Brookfield)
/4/ Mr. Osmar Ormianin Filho (operation manager Brookfield)
/5/ Mr. Julien Dias (project manager Brookfield)
/6/ Ms. Renata Freitas (analyst Ecopart)

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7 CURRICULA VITAE OF THE DOE'S VALIDATION TEAM MEMBERS

Bureau Veritas Certification – Lead Verifier
Marco F. Prauchner – is graduated in Mechanical Engineering with experience in Quality and Environmental management in mechanical, plastic and chemical industries. He is ISO 9001:2008 and ISO 14001:2004 Lead Auditor and has also experience in the implementation of Environmental Management Systems. Marco is qualified as Lead Verifier GHG – Green House Gases.

Bureau Veritas Certification – Verifier
Guilherme B. Lefèvre – is graduated in Law with experience in GHG Programs, both compulsory and voluntary. Guilherme has vast experience in the development and analysis of CDM, VCS, Social Carbon and CCBS projects. He has an MSc in Environmental Science - São Paulo University. Guilherme trained as a lead auditor in the fields of environment (ISO 14001) and GHG – Green House Gas.

Bureau Veritas Certification – Verifier
Karina Polido – is graduated in Civil Engineering with experience in management system audits. She is ISO 9001:2008 and ISO 14001:2004 Lead Auditor. Karina is also qualified as Lead Verifier GHG – Green House Gases.

Bureau Veritas Certification – Financial Specialist
Bernardo A. Lima - is graduated in Business Administration with a very expressive experience in valuation of new projects in the electrical and technology sectors; Equity analyst with focus on the consumer staples, consumer discretionary, technology and telecommunications sectors for many companies in Brazil.

Bureau Veritas Certification – Internal Technical Reviewer
Marcelo A. Porto – is graduated in Electrical Engineering, with a graduate specialization in Quality Engineering and a Master's degree in Industrial Engineering. Quality management expert and auditor – he worked in the electro-electronic, mechanical, medical devices, leather and shoes industries – trained as a lead auditor in the fields of quality (ISO 9001), environment (ISO 14001), social responsibility (SA 8000), and organizational health and safety (OHSAS 18001).

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APPENDIX A: COMPANY CDM PROJECT VALIDATION PROTOCOL

VALIDATION PROTOCOL

Table 1 Validation requirements based on the Clean Development Mechanism Validation and Verification Manual (Version 01.2) and methodology ACM0002 (Version 12.1) – "Consolidated baseline methodology for grid-connected electricity generation from renewable sources"

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
1. Approval			*COUNTRY A (Brazil)*	*COUNTRY B (Not applicable)*		
a. Have all Parties involved approved the project activity?	VVM	44	Please refer to (1.b) below.	Not applicable.	OK	OK
b. Has the DNA of each Party indicated as being involved in the proposed CDM project activity in section A.3 of the PDD provided a writTen letter of approval? (If yes, provide the reference of the letter of approval, any supporting documentation, and specify if the letter was received from the project participatn or directly from the DNA)	VVM	45	The final decision from the Brazilian DNA will be available only after its first ordinary meeting, after the receiving of all the required documents necessary for evaluation, including this validation report, according to Article 6 of the Resolution number 1 of the Brazilian DNA: CIMGC – Comissão Interministerial de Mudança Global do Clima.(http://www.mct.gov.br/upd_blob/0023/23433.pdf (accessed on 26/11/2010).	Not applicable.	OK	OK
c. Does the letter of approval from DNA of each Party involved:	VVM	45	Please refer to (1.b) above.	Not applicable.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
i. confirm that the Party is a Party of the Kyoto Protocol?	VVM	45.a	Please refer to (1.b) above.	Not applicable.	OK	OK
ii. confirm that participation is voluntary?	VVM	45.b	Please refer to (1.b) above.	Not applicable.	OK	OK
iii. confirm that, in the case of the host Party, the proposed CDM project activity contributes to the sustainable development of the country?	VVM	45.c	Please refer to (1.b) above.	Not applicable.	OK	OK
iv. Refers to the precise proposed CDM project activity title in the PDD being submitted for registration?	VVM	45.d	Please refer to (1.b) above.	Not applicable.	OK	OK
d. Is(are) the letter(s) of approval unconditional with respect to (i) to (iv) above?	VVM	46	Please refer to (1.b) above.	Not applicable.	OK	OK
e. Has(ve) the letter(s) of approval been issued by the respective Party's designated national authority (DNA) and is valid for the CDM project activity under validation?	VVM	47	Please refer to (1.b) above.	Not applicable.	OK	OK
f. Is there doubt with respect to the authenticity of the letter of approval?	VVM	48	Please refer to (1.b) above.	Not applicable.	OK	OK
g. If yes, was verified with the DNA that the letter of approval is authentic?	VVM	48	Please refer to (1.b) above.	Not applicable.	OK	OK
2. Participation			*PP1 (see below)*	*PP2 (see below)*		
a. Have all project participants been listed in a consistent manner in the project documentation?	VVM	51	Yes. Project Participants are: 1. Serra dos Cavalinhos I Energética S.A. (Private entity);	Not applicable.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
			2. Brookfiel Energia Renovável S/A (Private entity); 3. Ecopart Assessoria em Negócios Empresariais Ltda. (Private entity)			

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
b. Has the participation of the project participants in the project activity been approved by a Party to the Kyoto Protocol?	VVM	51	Please refer to (1.b) above.	Not applicable.	OK	OK
c. Are the project participants listed in tabular form in section A.3 of the PDD?	VVM	52	Yes	Not applicable.	OK	OK
d. Is the information in section A.3 consistent with the contact details provided in annex 1 of the PDD?	VVM	52	CAR 01: In Annex 1 of the PDD version 1, the information regarding project participants is not consistent with Section A.3.	Not applicable.	CAR 01	OK
e. Has the participation of each of the project participants been approved by at least one Party involved, either in a letter of approval or in a separate letter specifically to approve participation? (Provide reference of the approval document for each of the project participants)	VVM	52	Please refer to (1.b) above.	Not applicable.	OK	OK
f. Are any entities other than those approved as project participants included in these sections of the PDD?	VVM	52	Please refer to (1.b) above.			OK
g. Has the approval of participation been issued from the relevant DNA?	VVM	53	Please refer to (1.b) above.	Not applicable.	*OK*	OK
h. Is there doubt with respect to (g) above?	VVM	53	Please refer to (1.b) above.	Not applicable.	*OK*	OK
i. If yes, was verified with the DNA that the approval of participation is valid for the proposed CDM project participant?	VVM	53	Please refer to (1.b) above.	Not applicable.	*OK*	OK
3. Project design document						
a. Is the PDD used as a basis for validation	VVM	55	The template used for preparing the PDD is the		OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website?			latest template: Version 03.0, EB 25, and Annex 15. See Section 3 below for discussions regarding the concordance of the PDD with the applicable guidance (GUIDELINES FOR COMPLETING THE PROJECT DESIGN DOCUMENT (CDM-PDD) AND THE PROPOSED NEW BASELINE AND MONITORING METHODOLOGIES (CDM-NM), VERSION 07).		
b. Is the PDD in accordance with the applicable CDM requirements for completing the PDD?	VVM	56	Please refer to the entire Section 3 below.	OK	OK
c. In CDM-PDD section A.1 are the following provided?	EB 41	Ann 12			
i. Title of project	EB 41	Ann 12	Yes: - Title: Serra dos Cavalinhos I – Project Activity	OK	OK
ii. Current version number and date of document	EB 41	Ann 12	Yes: - Version 01 - PDD completed on 05/08/2010	OK	OK
d. In CDM-PDD section A.2 are following provided (max. one page)?	EB 41	Ann 12			
i. A brief description ot the project activity covering purpose which includes the scenario existing prior to the start or project, present scenario and baseline scenario	EB 41	Ann 12	The following information is given in the PDD: - Scenario existing prior to the start of the implementation of the project activity: No information is given regarding the scenario existing prior to the start of the project. See CAR below.	CAR 02 CAR 45	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			- Project scenario: According to the PDD: "SCVI Project consists of the construction of a small hydropower plant with an installed capacity of 25 MW and a reservoir area of 1.50 km2. It is located between the municipalities of Bom Jesus, Monte Alegre dos Campos and São Francisco de Paulo state of Rio Grande do Sul, South region of Brazil, and it is estimated to become operational in December, 2012." - Baseline scenario: "electricity generation by fossil fuel sources (and CO2 emissions), which would be generating (and emitting) in the absence of the project" CAR 02: In Section A.2 of the PDD version 1, no information is given regarding the scenario existing prior to the start of the implementation of the project activity. This is not in accordance with GUIDELINES FOR COMPLETING THE PROJECT DESIGN DOCUMENT (CDM-PDD) AND THE PROPOSED NEW BASELINE AND MONITORING METHODOLOGIES (CDM-NM), VERSION 07. CAR 45: In Section A.2 and in Section B.7.2 of the PDD version 1, the following organization is mentioned: Energética Campos de Cima da Serra Ltda. According to the PDD, this organization is		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			not a project participant and has no other involvement in the proposed CDM project activity.		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
ii. Explanation on how the GHG emission reductions are effected	EB 41	Ann 12	Yes. According to the PDD, "The project activity reduces emissions of greenhouse gas (GHG) by avoiding electricity generation by fossil fuel sources (and CO2 emissions), which would be generating (and emitting) in the absence of the project. The project improves the supply of electricity with clean, renewable hydroelectric power while contributing to the regional/local economic development."	OK	OK
iii. The PP's views on the contribution of project activity to sustainable development	EB 41	Ann 12	According to the PDD: "The project contributes to sustainable development since it meets the needs of the present without compromising the ability of future generations to meet their own needs, as defined by the Brundtland Commission (1987). In other words, the implementation of small hydroelectric power plants ensures renewable energy generation, reduces the national electric system demand, avoids negative environmental impact caused by the construction of fossil fuel thermo power plants, and drives the regional economy, increasing quality of life in local communities. Therefore, indisputably the project has reduced negative environmental impacts and has developed the regional economy, resulting, consequently, in better quality of life. In other	CL 01	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			words, environmental sustainability combined with social and economic justice, definitely, contributes to the host country's sustainable development." CL 01: In Section A.2 of the PDD version 1, PP lists some general aspects regarding how the project will provide a contribution to sustainable development. However, PP does not explain how these general contributions will actually be achieved. Please give in the PDD additional information regarding how the project will contribute to sustainable development. Moreover, please clarify how the project will "drive the regional economy, increasing quality of life in local communities" and "develop the regional economy, resulting, consequently, in better quality of life."		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
iv. Are there any changes/modifications compared to the webhosted PDD?	EB 41	Ann 12	No. During site visit held on the 13th of December 2010, the DOE could assess that the construction of the small hydropower plant is planned in accordance to the description provided in the webhosted PDD. All technical documentation (including Basic Engineering Project) describes the project in accordance to the webhosted PDD.	OK	OK
e. In CDM-PDD section A.3 are following provided in the tabular format?	EB 41	Ann 12			
i. List of project participants and parties	EB 41	Ann 12	Yes, information is given in the tabular format. <u>Project Participants:</u> - Serra dos Cavalinhos I Energética S.A. (Private entity) - Brookfiel Energia Renovável S/A (Private entity) - Ecopart Assessoria em Negócios Empresariais Ltda. (Private entity) <u>Parties:</u> - Brazil (host) - United Kingdom of Great Britain and Northern Ireland	OK	OK
ii. Identification of Host Party				OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			- Brazil (host)		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
iii. Indication whethre the Party wishes to be considered as project participant	EB 41	Ann 12	The Parties (Brazil and UK) do not wish to be considered as project participants.	OK	OK
f. In CDM-PDD section A.4.1 are following provided?	EB 41	Ann 12			
i. Technical description, location, host party(ies) and address as required	EB 41	Ann 12	Host Party: Brazil Region/State/Province, etc.: State of Rio Grande do Sul, Southern Region of Brazil. City/Town/Community etc.: Bom Jesus, Monte Alegre dos Campos and São Francisco de Paula cities.	OK	OK
ii. Detailed physical location with unique identification of the project activity (eg. Longitude/latitude) – not to exceed one page	EB 41	Ann 12	According to the PDD: "SCVI is located between the municipalities of Bom Jesus, Monte Alegre dos Campos and São Francisco de Paula, Rio Grande do Sul state, South region of Brazil (Figure 1). Project´s geographic coordinates are: - 28º 47' 44,5'' S and 50º 43' 46,8'' W." for the Dam - 28º 47' 44,5'' S and 50º 43' 46,8'' W." for the Power House.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			The DOE was able to validate the accuracy of the information in Section A.4.1.4 of the PDD regarding the unique geographic location of the Project by crosschecking the information with the following document: - The technical chart: FICHA TÈCNICA OF 31.05.2010 (This document is part of the Basic Engineering Project and was presented to ANEEL for approval on 15.06.2010 in accordance with evidence: BER483.2010.pdf). (See CL in item (3.h.ii) where the DOE asks for a copy of this Basic Engineering Project.) Also, the DOE checked the coordinates on Google Earth (http://earth.google.co.uk/intl/en_uk/) to crosscheck this information (accessed on 21.12.2010). PP also provides some social and economic characteristics of the municipalities where the project is located: crosschecked by the DOE on 21.12.2010: http://citybrazil.uol.com.br/rs/bomjesus/index.php http://citybrazil.uol.com.br/rs/sfranciscopaula/index.php		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
iii. Are there any changes/modifications compared to the webhosted PDD?	EB 41	Ann 12	No. During site visit held on the 13th of December 2010, the DOE could assess that the construction of the small hydropower plant is planned in accordance to the description provided in the webhosted PDD. All technical documentation (including Basic Engineering Project) describes the project in accordance to the webhosted PDD.	OK	OK
g. In CDM-PDD section A.4.2 is the list of categoreis of project activities provided?	EB 41	Ann 12	Yes: Type: Energy and Power. Sectoral Scope: 1 – Energy industries (renewable - / non-renewable sources).	OK	OK
h. In CDM-PDD section A.4.3 are following provided?	EB 41	Ann 12			
i. A description of how environmentally safe and sound technology, and know-hoe, is transferred to the Host Party(ies)	EB 41	Ann 12	The technology used is described in the PDD: "Serra dos Cavalinhos I Small Hydro Power Plant Project is a run-of-river plant located in Antas River with installed capacity of 25 MW. Serra dos Cavalinhos I SHPP is classified as a new hydroelectric project, according ACM0002 - "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", with a reservoir of 1.50 km2 which	CL 02	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			results in a minimum environmental impact." (…) "The technology employed at the project is established in the energy sector, Kaplan turbines are widely used among hydro power plants. They are well suited to situations in which there is a low head and a large amount of discharge. The adjustable runner blades enable high efficiency even in the range of partial load, and there is little drop in efficiency due to head variation or load." CL 02: In Section A.4.3 of the PDD (version 1), please further clarify if any technology is transferred to the Host Party. Please also provide evidence that this specific run-of-river power plant comprises technology that has minimum impact on the environment.		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
ii. Explanation of purpose of project activity with scenario existing prior to the start of project, scope or present activities and the baseline scenario	EB 41	Ann 12	- Scenario existing prior to the start of project: See CAR below. - Baseline scenario: See CAR below. - Scope of activities to be implemented: PP states that, according to developed studies, the following technology (list of equipment) will be used to generate renewable energy within the project activity: - Installed capacity = 25 MW - Reservoir area = 1.50 km^2 - Estimated assured energy = 15.2 MWmed/year. - Turbines Type = Kaplan s - Turbine Quantity = 2 - Turbine Nominal power = 12.82 MW - Generator Type = Triphasic, synchronous - Generator Quantity = 2 - Turbine Nominal power = 13.88 MVA The following evidences were used by the DOE to validate the technical configuration of the Project:	CAR 03 CL 03 CL 04	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			Installed capacity, reservoir area, turbine type, quantity and nominal power, generator time, quantity and nominal power: - Technical chart: FICHA TÉCNICA – ESTUDOS DE VIABILIDADE E PROJETO BÁSICO – 31.05.2010 (part of the Basic Engineering Project) Estimated assured energy: - No evidence was provided by PP. CL 03: Please provide documented evidence so the DOE can validate the "Assured Energy" as described in Section A.4.3 of the PDD version 1. Please also provide a copy of the Basic Engineering Project from 31.05.2010. CL 04: Please explain the divergence between data (installed capacity and reservoir area) in the Technical Chart and the Environmental license LP nr 701/2008-DL. CAR 03: In Section A.4.3 of the PDD (version 1), no information is provided regarding the scenario existing prior to the start of the implementation of the project activity and the baseline scenario. This		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			is not in accordance with GUIDELINES FOR COMPLETING THE PROJECT DESIGN DOCUMENT (CDM-PDD) AND THE PROPOSED NEW BASELINE AND MONITORING METHODOLOGIES (CDM-NM), VERSION 07.		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
iii. List and arrangement of the main manufacturing/production technologies, systems and equipments involved	EB 41	Ann 12	CAR 04: In Section A.4.3 of the PDD version 1, no information regarding (1) the age and average lifetime of the equipments based on manufacturer's specifications and industry standards, (2) load factors, (3) efficiencies and (4) the monitoring equipments and their location in the systems. This is not in accordance with GUIDELINES FOR COMPLETING THE PROJECT DESIGN DOCUMENT (CDM-PDD) AND THE PROPOSED NEW BASELINE AND MONITORING METHODOLOGIES (CDM-NM), VERSION 07 and with EB 48 REPORT - ANNEX 11 - GUIDELINES FOR THE REPORTING AND VALIDATION OF PLANT LOAD FACTORS (VERSION 01).	CAR 04	OK
iv. The emissions sources and GHGs involved	EB 41	Ann 12	CAR 05: In Section A.4.3 of the PDD (version 1), no information is provided regarding the emission sources and GHGs involved in the project. This is not in accordance with GUIDELINES FOR COMPLETING THE PROJECT DESIGN DOCUMENT (CDM-PDD) AND THE PROPOSED NEW BASELINE AND MONITORING METHODOLOGIES (CDM-NM), VERSION 07.	CAR 05	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
v. Are there any changes/modifications compared to the webhosted PDD?	EB 41	Ann 12	No. During site visit held on the 13th of December 2010, the DOE could assess that the construction of the small hydropower plant is planned in accordance to the description provided in the webhosted PDD. All technical documentation (including Basic Engineering Project) describes the project in accordance to the webhosted PDD.	OK	OK
i. In CDM-PDD section A.4.4 is the estimation of emission reductions provided as requested in a tabular format?	EB 41	Ann 12	Yes, the estimation of emission reductions provided as requested in a tabular format. Total estimated emission reduction: 152,389 tCO_2e Annual average estimated reductions: 21,770 tCO_2e CAR 06: The values provided in table 4 in Section A.4.4, table 8 in Section B.6.3 and table 9 in Section B.6.4 cannot be correct if power plant is scheduled to start operations on the 1st of December 2012.	CAR 06	OK
j. In CDM-PDD section A.4.5 is Information regarding Public funding provided?	EB 41	Ann 12	Yes. There is no recourse to any public funding by the PPs in the proposed project activity.	OK	OK
k. In CDM-PDD section B.1 are following provided?	EB 41	Ann 12			

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
i. The approved methodology and version number	EB 41	Ann 12	The methodology used is the: ACM0002 - "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" (Version 12). CL 05: Please clarify why PP has used methodology version 12, seeing that version 12.1 is the latest version of ACM0002.	CL 05	OK
ii. Any methodologies or tools which the above approved methodology draws upon and their version noumber	EB 41	Ann 12	The following tools are also mentioned in item B.1: "Tool to calculate the emission factor for an electricity system" (version 2); "Tool for the demonstration and assessment of additionality" (version 5.2); According to the PDD, the following tools are not applicable to the project activity, and therefore are not used: "Tool to calculate project or leakage CO2 emissions from fossil fuel combustion" (version 2). "Combined tool to identify the baseline scenario and demonstrate additionality" (version 2.2);	OK	OK
l. In CDM-PDD section B.2 are following provided?	EB	Ann			

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
	41	12			

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
i. Justification ot the choice of methodology that the project activity meets each of the applicability conditions	EB 41	Ann 12	Yes, the project activity is: - The installation of a new Hydro power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (This was checked by the DOE with the technical chart o the Power Plant, part of the Basic Engineering Project and by Google Earth images (http://earth.google.co.uk/intl/en_uk/), where the DOE could validate that no power plant was operating prior to the implementation of this project.) - The project activity results in a new reservoir and the power density of the power plant is greater than 4 W/m^2. (the DOE could validate this by observing that the calculations in Section B.6.3 were done using the following value for the reservoir area: 1.50 km (This was checked by the DOE with the technical chart o the Power Plant, part of the Basic Engineering Project) However, see CL in section (3.h.ii)	OK	OK
ii. Documentations with references that had been used. This can be provided in Annex 3 instead	EB 41	Ann 12	Regarding documentation, please refer item (3.l.i) above.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			No information on this matter is provided in Annex 3.		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
m. In CDM-PDD section B.3 are following provided?	EB 41	Ann 12			
i. Description of all sources and gases included in the project boundary in the table	EB 41	Ann 12	Yes. PP provides this information in accordance with the relevant methodology (ACM0002v12). However, see CARs below: CAR 07: In Section B.3 of the PDD version 1, the definition of the project boundary is not in accordance with ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1. CAR 08: In Section B.3 of the PDD version 1, PP has modified the table regarding emission sources included in or excluded from the project boundary. Moreover, columns have been excluded. This is not in accordance with paragraph 14 of Part I of the GUIDELINES FOR COMPLETING THE PROJECT DESIGN DOCUMENT (CDM-PDD) AND THE PROPOSED NEW BASELINE AND MONITORING METHODOLOGIES (CDM-NM), VERSION 07. http://www.mct.gov.br/upd_blob/0024/24719.pdf>. Crosschecked on 21.12.2010.	CAR 07 CAR 08	OK
ii. A flow diagram of the project boundary physically delineating the project activity	EB 41	Ann 12	CAR 09: In Section B.3 of the PDD version 1, PP states in table 4 - Sources and gases included in the project boundary – that CO_2 is to be included in the project boundary. However, this is not	CAR 09	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			shown in the flow diagram in the same section. Also, according to B.7.1 the variable EG_y is not monitored. However, this variable has been included in the flow diagram. In addition, the variable TEG_y is included in the flow diagram. This is not in accordance with the ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1.		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
iii. The flow diagram with all equipments, systems and flows of mass and energy etc	EB 41	Ann 12	Yes, equipments included are: generators, turbines and energy meter. The flow of energy is also indicated; where the energy generated by the hydro power plant is send to the substation and subsequently to the national grid.	OK	OK
n. In CDM-PDD section B.4 are following provided?	EB 41	Ann 12			
i. Explanation how the most plausible baseline scenario is identified in accordance with the selected baseline methodology	EB 41	Ann 12	The Section B.4 of the PDD provides the definition of the baseline scenario prescribed by the relevant methodology (ACM0002.v12) for new grid connect hydro power plants: 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 as described in the “Tool to calculate the emission factor for an electricity system”. Reference regarding the current Brazilian national grid’s installed capacity (69.39% hydro and 25.03% thermal) crosschecked by the DOE on 22.12.2010: http://www.aneel.gov.br/aplicacoes/capacidadebrasil/capacidadebrasil.asp	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
ii. Justification of key assumptions and rationales	EB 41	Ann 12	For new grid-connected renewable power plants, the baseline scenario is provided by the methodology (ACM0002v.12.1). The project comprises the installation of a new SHPP.	OK	OK
iii. Transparent illustration of all data used to determine the baseline scenario (variables, parameters, data sources, etc.)	EB 41	Ann 12	For new grid-connected renewable power plants, the baseline scenario is provided by the methodology (ACM0002v.12.1). The project comprises the installation of a new SHPP.	OK	OK
iv. A transparent and detailed 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 project activity	EB 41	Ann 12	For new grid-connected renewable power plants, the baseline scenario is provided by the methodology (ACM0002v.12.1). The project comprises the installation of a new SHPP.	OK	OK
v. Are there any changes/modifications compared to the webhosted PDD?	EB 41	Ann 12	No. During site visit held on the 13th of December 2010, the DOE could assess that the construction of the small hydropower plant is planned in accordance to the description provided in the webhosted PDD. All technical documentation (including Basic Engineering Project) describes the project in accordance to the webhosted PDD.	OK	OK
o. In CDM-PDD section B.5 are following provided?	EB 41	Ann 12			
i. Explanation of how and why this project activity is additional and therefore not the baseline scenario in accordance with the selected	EB 41	Ann 12	Yes, PP uses the Additionality Tool to demonstrate why this project activity is additional and therefore not the baseline scenario.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
baseline methodology			Moreover, PP uses the investment analysis (benchmark analysis) to demonstrate the project's additionality. Please refer to item (6) below for a discussion regarding additionality		
ii. Justification of key assumptions and rationales	EB 41	Ann 12			
iii. Transparent illustration of all data used to determine the baseline scenario (variables, parameters, data sources etc)	EB 41	Ann 12	PP uses an investment analysis to determine that the project is additional. A benchmark analysis is provided. See for detailed discussion item (6) below.	OK	OK
iv. Evidence that the incentive from the CDM was seriously considered in the decision to proceed with the project activity, if the starting date of the project activity is before the date of validation	EB 41	Ann 12	Section B.5 explains that: Project is in its pre-project phase and no "real action" such as signing of construction contract has taken place yet. Until time of this PDD elaboration, only a pre-project study is available. PP states that, therefore, the starting date of the project is considered to be: the date in which PDD was published for global stakeholder comments at the UNFCCC website. CAR 10: In Section B.5 of the PDD version 1, the definition of the starting date as: "the date in which PDD publication for GSC occurred" is not in accordance with the GLOSSARY OF CDM TERMS (VERSION 05).	CAR 10 CAR 11 CAR 12 CL 06 CL 07	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			CAR 11: In Section B.5 of the PDD version 1, PP mentions the older version of the Guidelines on the demonstration and assessment of prior consideration of the CDM. This is not in accordance with paragraph 104 of the CLEAN DEVELOPMENT MECHANISM VALIDATION AND VERIFICATION MANUAL (Version 01.2). CAR 12: In Section B.5 of the PDD version 1, regarding prior consideration, the statement "As SCVI Project Activity start date is after August 2nd, 2008 and the PDD has not been published for global stakeholder consultation until the time of completing this PDD(…)" is not in accordance with the requirements of GUIDELINES ON THE DEMONSTRATION AND ASSESSMENT OF PRIOR CONSIDERATION OF THE CDM (version 03) EB 49 ANN 22. PP has send letters to both Brazilian DNA and the UNFCCC notifying its intention to seek CDM status: - Letter to Brazilian DNA: Send on 22.08.2008 (received on 03.09.2008). - Letter from Brazilian DNA (send on		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			05.12.2008) acknowledging the receipt of the letter from PP. - Letter to UNFCCC: Send on 04.09.2008 - Acknowledge by UNFCCC of the receipt of letter of CDM prior consideration on 28.01.2009: - http://cdm.unfccc.int/Projects/PriorCDM/notifications/index_html (crosschecked by DOE on 22.12.2010). Copies of the above mentioned correspondence was provided to the DOE during the validation. CL 06: Regarding Section B.5 of the PDD version 1, please explain why the letters send to the Brazilian DNA notifying its intention to seek CDM status describes the Project as a 19 MW SHPP with a 0.55 km^2 reservoir are. In Addition, PP also provides Table 5: summary of actions for CDM consideration of the Project Activity: CL 07: In table 5 of Section B.5 of the PDD version 1, PP informs of a BRASCAN ENÉRGÉTICA S.A. Board meeting in which the necessity of CDM registry was discussed and took place on 11.09.2008. Please explain the relation,		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			if any, between project participants and Brascan S.A. PP also provide a list of 5 projects (total of 11 SHPPs) developed by PP and that were registered as CDM activities since 2006. This info is provided by PP to demonstrate its knowledge of the existence of the CDM since 2006 and that the CDM is of key importance for the development of SHPPs by PP. These projects were crosschecked by the DOE on 22.12.2010 on the UNFCCC CDM website: http://cdm.unfccc.int/		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
p. In CDM-PDD section B.6.1 are following provided?	EB 41	Ann 12			
i. Explanation as to how the procedures, in the approved methodology to calculate project emissions, baseline emissions, leakage emissions and emission reductions are applied to the proposed project activity	EB 41	Ann 12	Baseline emissions: The PDD gives the procedures to calculate the baseline emissions of the proposed project activity. The PDD contains the equation to be used and it is in accordance with the relevant methodology (ACM0002v12.1). However, see below: CAR 13: Equation 1 in the Section B.6.1 of the PDD version 1 and the description of its parameters $EG_{PJ,y}$ and $EF_{grid,CM,y}$ are not in accordance with equation 6 of the ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1. To calculate the combined margin CO_2 emission factor for grid connected power generation (needed to calculate baseline emissions), the PPD correctly mentions the "Tool to calculate the emission factor for an electricity system, version 2" as the tool to be used to calculate this data. The PDD describes the seven steps needed for calculation as prescribed by this tool. The PDD	CAR 13 CAR 14 CL 08 CAR 15 CAR 16 CAR 17 CAR 18 CAR 19 CAR 20 CAR 21 CAR 22 CAR 23	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			correctly states that the Brazilian DNA (CIMGC) makes available the OM and BM for the relevant grid (which has also been defined by the DNA) and that the DNA figures will be used to calculate the CM emission factor of the project. However, some errors were found: CAR 14: In Section B.6.1 of the PDD version 1, PP states that: "According to the methodological tool "Tool to calculate the emission factor for an electricity system" (version 2). The following seven steps to the baseline calculation:" However, the tool is used to calculate the emission factor of an electricity system. Therefore, the statement above is not in accordance with ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1. CAR 15: In Section B.6.1 of the PDD version 1 (page 23), PP mentions the 7 steps to be applied to calculate the emission factor of the electricity system. The names of steps 1, 3 and 5 are not in accordance with the TOOL TO CALCULATE THE EMISSION FACTOR FOR AN ELECTRICITY SYSTEM, VERSION 2, EB 50 REPORT, ANNEX 14. Resolution nr. 8 of the Brazilian DNA of 26th of		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			May 2008 that defines the Brazilian Interconnected Grid as a single system to be used as the "electricity system" for CDM projects in Brazil crosschecked on 22.12.2020 by the DOE on: http://www.mct.gov.br/upd_blob/0024/24719.pdf PP provides also the Link to the Brazilian DNA in which the calculations of the OM emission factor following the Dispatch data analysis method can be found: http://www.mct.gov.br/index.php/content/view/4016.html (Crosschecked by DOE on 22.12.2010). CL 08: In Section B.6.1 of the PDD version 1, PP states in the description of Step 2 (to calculate the emission factor of the electricity system) that it has chosen not to include off-grid power plants in the project electricity system. However, according to PP, it is the Brazilian DNA has identified and defined the relevant electricity system. Please clarify what the choice of the Brazilian DNA was regarding the choice to be made in Step 2 and why this option was chosen. CAR 16: In Section B.6.1 of the PDD version 1, in equation 2 (calculation of the OM emission factor) the description of the parameter $EF_{EL,DD,h}$ is not in accordance with the description given for this		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			parameter in equation 10 of the TOOL TO CALCULATE THE EMISSION FACTOR FOR AN ELECTRICITY SYSTEM, VERSION 2, EB 50 REPORT, ANNEX 14. CAR 17: In Section B.6.1 of the PDD version 1, in Step 5, PP does not document which option (option 1 or 2) has been chosen in terms of vintage data to calculate the build margin emission factor. This is not in accordance with the TOOL TO CALCULATE THE EMISSION FACTOR FOR AN ELECTRICITY SYSTEM, VERSION 2, EB 50 REPORT, ANNEX 14. CAR 18: In Section B.6.1 of the PDD version 1, in Step 6, PP does not provide the equation used for calculation the build margin emission factor. This is not in accordance with the GUIDELINES FOR COMPLETING THE PROJECT DESIGN DOCUMENT (CDM-PDD) AND THE PROPOSED NEW BASELINE AND MONITORING METHODOLOGIES (CDM-NM), VERSION 07. Also the following sentence is not in accordance with the equation 13 of the TOOL TO CALCULATE THE EMISSION FACTOR FOR AN ELECTRICITY SYSTEM, VERSION 2, EB 50 REPORT, ANNEX 14: “STEP 6 – Calculate the build margin mission factor ($EF_{BM,y}$)”.		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			CAR 19: In Section B.6.1 of the PDD version 1, in Step 7, the equation 3 is not in accordance with the equation 14 of the TOOL TO CALCULATE THE EMISSION FACTOR FOR AN ELECTRICITY SYSTEM, VERSION 2, EB 50 REPORT, ANNEX 14. Also, the following phrase needs to be corrected to be in accordance with equation 14 of the above mentioned tool: "STEP 7 – Calculate the combined margin (CM) emissions factor EFy." Project emissions: The PDD gives the procedures to calculate the project emissions of the proposed project activity. The PDD contains the equation to be used and it is in accordance with the relevant methodology (ACM0002v12.1, equations 1-5). However, see below: CAR 20: In Section B.6.1 of the PDD version 1, the equation used to calculate project emissions from a reservoir (equation 5) is not in accordance with equation 3 of the ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1. CAR 21: In Section B.6.1 of the PDD version 1,		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			the following sentence is not in accordance with the ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1: "b) If power density (PD) of the project is greater than 10W/m2, PEy = 0." The documents were used by the DOE to check if the values use by PP to calculate PD are accurate: Installed capacity of the plant (CAPpj) and the area of the reservoir (Apj): - The technical chart: FICHA TÉCNICA OF 31.05.2010 (This document is part of the Basic Engineering Project and was presented to ANEEL for approval on 15.06.2010 in accordance with evidence: BER483.2010.pdf). (See CL in item (3.h.ii) where the DOE asks for a copy of this Basic Engineering Project.) Please refer also to CL in item (3.l.i) regarding the discrepancy between the data provided by the Basic Consolidated Engineering Project (2.28 km^2) and the Project's Environmental License - LI number nr. 85/2007-DL (2.97 km^2).		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			Leakage emissions: CAR 22: In section B.6.1 of the PDD version 1, the explanation given by PP regarding the consideration of leakage emissions is not in accordance with the ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1. Moreover, PP does not need to identify leakage emission as the methodology states that leakage emission (whether identified or not) can be neglected. Emission reductions: CAR 23: In Section B.6.1 of the PDD version 1, the equation used to calculate the emission reductions of the project activity (equation 7) and the description of its parameter BE_y are not in accordance with equation 11 of the ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1.		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
ii. Equations used in calculating emission redutions	EB 41	Ann 12	Please refer to item (3.p.i) above.	OK	OK
iii. Explanation and justification for all relevant methodological choices, including different scenarios or cases, options and default values	EB 41	Ann 12	Please refer to item (3.p.i) above.	OK	OK
q. In CDM-PDD section B.6.2 are following provided?	EB 41	Ann 12	See below:		
i. A compilation of information on the data and parameters that are not monitored throughout the crediting period but that are determined only once and thus remains fixed throughout the crediting period AND that are available when validation is undertaken	EB 41	Ann 12	According to the PDD, the following data and parameters that are not monitored throughout the crediting period but that are determined only once and thus remains fixed throughout the crediting period and are available when validation is undertaken: CAP_{BL}: Installed capacity of the hydro power plant before the implementation of the project activity. For new hydro power plants, this value is zero. A_{BL}: Area of the reservoir measured in the surface of the water, before the implementation of the project activity, when the reservoir is full (m^2). For new hydro power plants, this value is zero.	OK	OK
ii. The actual value period	EB 41	Ann 12	Please refer to item (3.q.i)	OK	OK
iii. Explanation and justification for the choice of the source of data	EB 41	Ann 12	Please refer to item (3.q.i)	OK	OK
iv. Clear and transparent references or additional	EB	Ann		OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
documentation in Annex 3	41	12	Annex 3 only provides information regarding baseline calculation. The data / parameter fixed at validation are determined by ACM0002v12.1.		
v. Where values have been measured, a description of the measurement methods and procedures (e.g. which standards have been used), indicated the responsible person/entity having undertaken the measurement, the date of measurement(s) and the measurement results	EB 41	Ann 12	Please refer to item (3.q.i)	OK	OK
r. In CDM-PDD section B.6.3 are following provided?	EB 41	Ann 12			
i. A transparent *ex ante* calculation of project emissions, baseline emissions (or, where applicable, direct calculation of emission reductions) and leakage emissions expected during the crediting period, applying all relevant equations provided in the approved methodology	EB 41	Ann 12	<u>Calculation of project emission:</u> See also item (3.p.i) and item (5.e.b.i.) No project emission is to be considered due to the fact the power density of the project is greater than 10 W/m^2. The PDD provides in item B.6.3 a transparent calculation of the power density: - 25 MW = Installed capacity of project activity - 1.50 km^2 = Reservoir Area produced by the project activity	CAR 24 CAR 25 CAR 26	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			So: 16.67 W/m^2 = Power Density for the project activity. CAR 24: In Section B.6.3 of the PDD version 1, PP calculates the project's power density. The data units used (MW and km^2) are not in accordance with the data units prescribed by ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1 . Calculation of baseline emission: Please refer also to item (3.p.i) and item (5.e.b.ii) PP provides in Section B.6.3 the latest Emission factor values as published by the Brazilian DNA: OM emission factor for 2009: 0.2476 tCO$_2$/MWh BM emission factor for 2009: 0.0794 tCO$_2$/MWh CM emission factor for 2009: 0.1635 tCO$_2$/MWh The DOE was able to validate this values by crosschecking them with the values published by the Brazilian DNA on: http://www.mct.gov.br/index.php/content/view/303		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			076.html#ancora (Crosschecked on 22.12.2010). PP provides table 8 with a calculation of baseline emissions. Also, PP provides a spreadsheet with these calculations. CAR 25: In Section B.6.3 of the PDD version 1, PP describes the emission factors as tCO_2e/MWh. This is not in accordance with the TOOL TO CALCULATE THE EMISSION FACTOR FOR AN ELECTRICITY SYSTEM, VERSION 2, EB 50 REPORT, ANNEX 14. PP determines baseline emissions using the assured energy estimates of 15.20 MW /year. Please refer to CL in item (3.h.ii) where the DOE asks for documented evidence to validate the assured energy. Calculation of leakage: Leakage is zero, see item 3.p.i (3.24.1) and 5.e.b.iii. Calculation of Emission reduction: CAR 26: In Section B.6.3 of the PDD version 1, PP does not provide emission reduction calculation. This is not in accordance with the		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			GUIDELINES FOR COMPLETING THE PROJECT DESIGN DOCUMENT (CDM-PDD) AND THE PROPOSED NEW BASELINE AND MONITORING METHODOLOGIES (CDM-NM), VERSION 07.		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
ii. Documentation how each equation is applied, in a manner that enables the reader to reproduce the calculation	EB 41	Ann 12	Please refer to item (3.r.i)	OK	OK
iii. Additional background information and or data in Annex 3, including relevant electronic files (i.e. spreadsheets)	EB 41	Ann 12	Spreadsheets were provided by PP containing the following information: - Emission factor calculation - Power Density calculations - Baseline calculation - Emission reduction calculation - Project's technical description. Regarding Annex 3: In Annex 3, PP provides information regarding the monthly figures of OM, BM and CM emission factors as calculated by the Brazilian DOE for the year 2009 CAR 27: In Annex 3 of the PP version 1, the link to the Brazilian DNA website where emission factor values are published is not correct. Moreover, it is a link to the 2008 values and the project used the latest (2009) values.	CAR 27	OK
s. In CDM-PDD section B.6.4 are the results of the *ex ante* estimation of emission reductions for all years of the crediting period, provided in a tabular format?	EB 41	Ann 12	Yes, the results of the ex ante estimation of emission reductions for all years of the crediting period, provided in a tabular format.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			Please refer to CAR in item (3.i) where the DOE discusses values of tables 4, 8 and 9.		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
t. In CDM-PDD section B.7.1 are following provided?	EB 41	Ann 12			
i. Specific information on how the data and parameters that need to be monitored would actually be collected during monitoring for the project activity	EB 41	Ann 12	Regarding data/parameter $EG_{facility,y}$ CAR 28: In Section B.7.1 of the PDD version 1, PP correctly states that the parameter $EG_{facility,y}$ will be monitored during the project activity. However, this parameter is not mentioned in the remaining of the PDD. More specifically, this parameter is not discussed in Section B.3, B.6.1 and B.6.3. This is not in accordance with ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1. CL 09: Regarding the monitoring of the data/parameter $EG_{facility,y}$, please clarify the following sentence in Section B.7.1 of the PDD version 1: "Double checked by Project Sponsors internal control and sales receipt or evidences from Câmara Comercializadora de Energia Elétrica – CCEE(…)" More specifically, please explain the following: (1) Who are project sponsors? (2) What will be the first source of evidence and what will be the crosscheck of this evidence? Please clarify these issues so the DOE can understand if monitoring procedure will be	CAR 28 CL 09 CL 10 CAR 29 CAR 30	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			done in accordance with the relevant monitoring methodology, which prescribes: cross checks of measurement results with records of sold energy. CL 10: Regarding the monitoring of the data/parameter $EG_{facility,y}$, PP states in Section B.7.1 of the PDD version 1 that measurement will be made hourly. However, the methodology (ACM0002v12.1) states that measurements should be made continuously. Please clarify if measurements can be done continuously. Regarding data/parameter CAP_{pj} and A_{Pj}: CAR 29: Regarding the monitoring of the data/parameter CAP_{pj} and A_{Pj}, in Section B.7.1 of the PDD version 1, the data units of both parameters are not in accordance with ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1 Regarding data/parameter $EF_{grid.CM.y}$, $EF_{grid.OM.y}$ and $EF_{grid.BM.y}$: CAR 30: In section B.7.1 of the PDD version 1, regarding data/parameter $EF_{grid.CM.y}$, $EF_{grid.OM.y}$ and $EF_{grid.BM.y}$, the descriptions of measuring methods		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			are not in accordance with the remaining of the PDD, wherein is stated that 2009 data will be used.		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
ii. For each parameter the following below information, using the table provided:	EB 41	Ann 12			
a. The source(s) of data that will be actually used for the proposed project activity (e.g. which exact national statistics). Where several sources may be used, explain and justify which data sources should be preferred.	EB 41	Ann 12	The sources of data for the following data/parameters are: Regarding data/parameter $EG_{facility,y}$ Project site Regarding data/parameter CAP_{Pi}: Project site Regarding data/parameter A_{Pi}: Project site Regarding data/parameter $EF_{grid.CM.y}$, $EF_{grid.OM.y}$ and $EF_{grid.BM.y}$: Calculated following the steps provided by the "Tool to calculate the emission factor for an electricity system" applying the numbers published by the Brazilian DNA website: (http://www.mct.gov.br/index.php/content/view/4016.html)		
b. Where data or parameters are supposed	EB	Ann		CAR 31	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
to be measured, specify the measurement methods and procedures, including a specification which accepted industry standards or national or international standards will be applied, which measurement equipment is used, how the measurement is undertaken, which calibration procedures are applied, what is the accuracy of the measurement method, who is the responsible person/entity that should undertake the measurements and what is the measurement interval; (i) A description of the QA/QC procedures (if any) that should be applied; (ii) Where relevant: any further comment. Provide any relevant further background documentation in Annex 4.	41	12	Regarding the parameters that are supposed to be measured: $EG_{facility,y}$ and A_{pj}: CAR 31: In Section B.7.1 of the PDD version 1, for the parameter: $EG_{facility,y}$, the following descriptions of measurement methods is missing: (1) a specification which accepted industry standards or national or international standards will be applied, (2) which measurement equipment is used, (3), which calibration procedures are applied (if applicable), (4) what is the accuracy of the measurement method and (5) who is the responsible person/entity that should undertake the measurements. This is not in accordance with the GUIDELINES FOR COMPLETING THE PROJECT DESIGN DOCUMENT (CDM-PDD) AND THE PROPOSED NEW BASELINE AND MONITORING METHODOLOGIES (CDM-NM), VERSION 07.		
u. In CDM-PDD section B.7.2 are following provided?	EB 41	Ann 12			
i. A detailed description of the monitoring plan	EB 41	Ann 12	Yes, a detailed description is provided: "(…) the project monitoring consists in using a meter equipment projected to registry and verifies the energy dispatched to the grid by the facility. (…) Together with the information produced by	CAR 32	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			both ANEEL and ONS, it will be possible to monitor the installed capacity of the project and the grid power mix. Also, information about power generation and energy supplied to the grid are controlled by the Chamber of Electric Energy Commercialization (CCEE from the Portuguese Câmara de Comercialização de Energia Elétrica). CCEE makes feasible and regulates the electricity energy commercialization. There will be two energy meters (principal and back up) specified by CCEE and, before the operations start, CCEE demands that these meters are calibrated by an entity with Rede Brasileira de Calibração (RBC) credential. Measurements will be controlled in real time by the Operation and Management System Center (COGS) in Curitiba. Measurement data will be compared between the meters, so that any problems can be detected. In case of any problem, plant personnel will be put in action. A measurement report will be signed monthly by the PCH and sent to CCEE for approval. After approval, a bill of sale will be emitted by CCEE. When data will be submitted for verification, the PCH will provide all the measurement maps. BER will be responsible for the calibration (each 2 years) and maintenance of the monitoring equipment, for dealing with possible monitoring data adjustments and uncertainties, for review of reported results/data, for internal audits of GHG		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			project compliance with operational requirements and for corrective actions. BER is responsible for the project management, as well as for organising and training of the staff in the appropriate monitoring, measurement and reporting techniques. (…) Data monitored and required for verification and issuance will be kept for two years after the end of the crediting period or the last issuance of CERs for this project activity, whichever occurs later." CAR 32: In Section B.7.2 of the PDD version 1 and in Annex 4 the following methodology title: "As of the procedures set by the "Approved consolidated monitoring methodology ACM0002" – "Consolidated monitoring methodology for zero-emissions grid-connected electricity generation from renewable sources" is not in accordance with the ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1.		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
ii. The operational and management structure that the project operator will implement in order to monitor emission reductions and any leakage effects generated by the project activity	EB 41	Ann 12	Yes, BER is responsible for the project management, as well as for organizing and training of the staff in the appropriate monitoring, measurement and reporting techniques. Also, PP has provided the DOE with the following document: Procedures with guidelines for all steps of carbon credit projects (NPE-016 version 02/2009). This document contains guidelines for the development of a CDM project. Item 6 of this document describes the responsibilities for monitoring.	OK	OK
iii. The responsibilities for and institutional arrangements for data collection and archiving	EB 41	Ann 12	PP has provided the DOE with the following document: Procedures with guidelines for all steps of carbon credit projects (NPE-016 version 02/2009). This document contains guidelines for the development of a CDM project. Item 6 of this document describes the responsibilities for monitoring.	OK	OK
iv. Indication that the monitoring plan reflect good monitoring practice appropriate to the type of project activity	EB 41	Ann 12	Yes, PP has developed its own documented procedure (NPE-016 version 02/2009) which includes guidelines for monitoring activities.	OK	OK
v. Relevant further background information in Annex 4	EB 41	Ann 12	Annex 4 only refers to the relevant monitoring methodology.	OK	OK
v. In CDM-PDD section B.8 are following provided?	EB	Ann			

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
	41	12			

<table>
<tr><th>CHECKLIST QUESTION</th><th>Ref.</th><th>§</th><th>COMMENTS</th><th>Draft Concl</th><th>Final Concl</th></tr>
<tr><td>i. Date of completion of the application of the methodology to the project activity study in DD/MM/YYYY</td><td>EB 41</td><td>Ann 12</td><td>Yes: 05/08/2010.</td><td>OK</td><td>OK</td></tr>
<tr><td>ii. Contact information of the person(s)/entity(ies) responsible for the application of the baseline and monitoring methodology to the project activity</td><td>EB 41</td><td>Ann 12</td><td>Name of person/entity determining the baseline:
<table><tr><td>Company:</td><td>Ecopart Assessoria em Negócios Empresariais Ltda.</td></tr><tr><td>Address:</td><td>Rua Padre João Manoel, 222</td></tr><tr><td>Zip code + city address:</td><td>01411-000 São Paulo, SP</td></tr><tr><td>Country:</td><td>Brazil</td></tr><tr><td>Contact person:</td><td>(Mr.) Gustavo M. Ribeiro</td></tr><tr><td>Job title:</td><td>Project Analyst</td></tr><tr><td>Telephone number:</td><td>+55 (11) 3063-9068</td></tr><tr><td>Fax number</td><td>+55 (11) 3063-9069</td></tr><tr><td>Personal e-mail:</td><td>gustavo.ribeiro@ecopart.com.br</td></tr></table></td><td>OK</td><td>OK</td></tr>
<tr><td>iii. Indication if the person/entity is also a project</td><td>EB</td><td>Ann</td><td></td><td>OK</td><td>OK</td></tr>
</table>

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
participant listed in Annex 1	41	12	Ecopart Assessoria em Negócios Empresariais Ltda. is Project Advisor and Project Participant.		
w. In CDM-PDD section C.1.1 are following provided?	EB 41	Ann 12		OK	OK
i. The starting date of a CDM project activity, which is the earliest of the date(s) on which the implementation or construction or real action of a project activity begins/has begun (EB33, Para 76/CDM Glossary of terms/EB41, Para 67)	EB 41	Ann 12	No. please refer to CAR in item (3.o.iv)	OK	OK
ii. A description of how this start date has been determined, and a description of the evidence available to support this start date	EB 41	Ann 12	Please refer to CAR in item (3.o.iv)	OK	OK
iii. If this starting date is earlier than the date of publication of the CDM-PDD for global stakeholder consultation by a DOE, description in Section B.5 contain a of how the benefits of the CDM were seriously considered prior to the starting date (EB41, Para 68).	EB 41	Ann 12	Please refer to CAR in item (3.o.iv)	OK	OK
x. In CDM-PDD section C.1.2 is the expected operational lifetime of the project activity in years and months provided?	EB 41	Ann 12	Yes, 25 years. CL 11: Please clarify how the operational lifetime, described in Section C.1.2 of the PDD (version 1) of the project activity was defined. Please provide third party evidence so the DOE can validate the project's operational lifetime.	CL 11	OK
y. In CDM-PDD section C.2 is it stated whether the	EB	Ann	Yes, project will use renewal crediting period.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
project activity will use a renewable or a fixed crediting period and is C.2.1 or C.2.2 completed accordingly?	41	12			
z. In CDM-PDD section C.2.1 is it indicated that each crediting period shall be at most 7 years and may be renewed at most two times, provided that, for each renewal, a designated operational entity determines and informs the Executive Board that the original project baseline is still valid or has been updated taking account of new data where applicable?	EB 41	Ann 12	CAR 33: In Section C.2.1 of the PDD version 1, PP does not indicate that each crediting period shall be at most 7 years and may be renewed at most two times, provided that, for each renewal, a designated operational entity determines and informs the Executive Board that the original project baseline is still valid or has been updated taking account of new data where applicable. This is not in accordance with the GUIDELINES FOR COMPLETING THE PROJECT DESIGN DOCUMENT (CDM-PDD) AND THE PROPOSED NEW BASELINE AND MONITORING METHODOLOGIES (CDM-NM), VERSION 07	CAR 33	OK
aa. In CDM-PDD section C.2.1.1 are dates in the following format: (DD/MM/YYYY) provided?	EB 4	Ann 12	Yes: 01.06.2010 CAR 34: Regarding Section C.2.1.1 of the PDD version 1, the expected operation start of the power plant (12.12.2012) in this Section differs from information provided in the remaining of the PDD. CL 12: Please clarify how the expected operation start of the power plant was defined.	CAR 34 CL 12	OK
bb. In CDM-PDD section C.2.1.2 is the length of the first crediting period in years and months	EB 41	Ann 12	Yes. 7 years and 0 months	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
provided?					
cc. In CDM-PDD section C.2.2 is the fixed crediting period at most ten (10) years provided?	EB 41	Ann 12	Not applicable.	OK	OK
dd. In CDM-PDD section C.2.2.1are the dates provided in the following format: (DD/MM/YYYY)?	EB 41	Ann 12	Not applicable.	OK	OK
ee. In CDM-PDD section C.2.2.2 is te length of the crediting period in years and months Provided?	EB 41	Ann 12	Not applicable.	OK	OK
ff. In CDM-PDD section D.2 are the conclusions and all references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the Host Party, if environmental impacts are considered significant by the project participants or the Host, provided?	EB 41	Ann 12	The plant possesses Preliminary License nr. 701/2008-DL, issued by the Rio Grande do Sul Environmental Agency (FEPAM - Fundação Estadual de Proteção Ambiental Henrique Luiz Roessler) on 10th June, 2008. The DOE was presented with a copy. The preliminary license is valid until 23rd November, 2008. Given this, the project does not imply in any negative transboundary environmental impacts; the license would not have been issued if the project had negative transboundary environmental impacts existed. A request for Construction License obtaining was made on August 12th, 2008 to FEPAM. Project sponsors are still waiting FEPAM's authorization. CL 13: Regarding Section D.1 of the PDD version	CL 13	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			1, please provide a copy of the Environmental Impact Analysis of the Project, as well as evidence regarding the following statement: “A request for Construction License obtaining was made on August 12th, 2008 to FEPAM”.		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
gg. In CDM-PDD section E.1 are the following provided?	EB 41	Ann 12			
i. The process by which comments by local stakeholders have been invited and compiled. An invitation for comments by local stakeholders shall be made in an open and transparent manner, in a way that facilities comments to be received from local stakeholders and allows for a reasonable time for comments to be submitted.	EB 41	Ann 12	PP states in the PDD that resolution 7 of the Brazilian DNA of 2008 prescribes how the local stakeholders consultation is to be carried out (crosschecked by the DOE on 22.12.2010 on http://www.mct.gov.br/upd_blob/0023/23744.pdf) CAR 35: In Section E.1 of the PDD version 1, PP states that letters were send to municipality Jaquirana and not to Monte Alegre dos Campos and São Francisco de Paula. This is not in accordance with Section A.4.1.3 of the PDD. Copy of letters and copy of the post office confirmation of receipt of communication were provided by PP to the DOE. CL 14: Regarding Section E.1 of the PDD version 1, Please provide copy of the letters send to the Environmental Agency of Monte Alegre dos Campos and São Francisco de Paula. CL 15: In section E.1 of the PDD version 1, PP states that letters were send to local stakeholders, inviting them to comment on the Project. According to evidence provided by PP, letters were sent on the 10th of September 2010 and	CL 14 CL 15 CAR 35	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			received by local stakeholders between 15 and 27 of September 2010. However, the first version of the PDD that was presented to the DOE for validation was finalized on the 05th of August 2010. Please clarify if PP has allowed for a reasonable time for comments to be submitted.		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
ii. The project activity is described in a manner, which allows the local stakeholders to understand the project activity, taking into account confidentiality provisions of the CDM modalities and procedures.	EB 41	Ann 12	Copies of letters were provided by PP. The project activity is described in a manner, which allows the local stakeholders to understand the project activity.	OK	OK
iii. The local stakeholder process has been completed before submitting the proposed project activity to the DOE for validation.	EB 41	Ann 12	Yes. PDD was submitted to the DOE for validation on the 25th of November 2010 (date of publication for GSC). Local stakeholders received invitations to comment before the end of September 2010.	OK	OK
hh. In CDM-PDD section E.2 are following provided?	EB 41	Ann 12			
i. Identification of local stakeholders that have made comments	EB 41	Ann 12	CAR 36: According to Section E.2 of the PDD version 1, no comments were received from local stakeholders. However, during site visit, the DOE was able to observe that comments were received.	CAR 36	OK
ii. A summary of this comments.	EB 41	Ann 12	Please refer to item (3.hh.i)	OK	OK
ii. In CDM-PDD section E.3 is the explanation of how due account have been taken of comments received from local stakeholders provided?	EB 41	Ann 12	Please refer to item (3.hh.i)	OK	OK
jj. In CDM-PDD Annex 1 are the following provided?	EB 41	Ann 12		OK	OK
i. Contact information of project participants	EB 41	Ann 12	Yes, contact information of the project participants is provided.	OK	OK
ii. For each organisation listed in section A.3 the	EB	Ann		OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
following mandatory fields: Organization, Name of contact person, Street, City, Postfix/ZIP, Country, Telephone and Fax or e-mail	41	12	All mandatory fields are listed.		
kk. In CDM-PDD Annex 2 is information from Parties included in Annex I on sources of public funding for the project activity which shall provide an affirmation that such funding does not result in a diversion of official development assistance and is separate from and is not counted towards the financial obligations of those Parties provided?	EB 41	Ann 12	No public funding will be used in this project activity.	OK	OK
ll. In CDM-PDD Annex 3 is the background information used in the application of the baseline methodology provided?	EB 41	Ann 12	Yes, data regarding the operation margin, build margin and combined margin data for the year 2009 (as calculated by the Brazilian DNA) is provided in this section.	OK	OK
mm. In CDM-PDD Annex 4 is the background information used in the application of the monitoring methodology provided?	EB 41	Ann 12	No, reference is made to the applicable methodology and to Section B.7.2 of the PDD.	OK	OK
4. Project description					
a. Does the PDD 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?	VVM	58	Yes, in Section A.2 and in Section A.4.3, the PDD provides a clear description of the project activity and the technical aspects of its implementation:	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			The project activity involves the development of a Greenfield plant consistent in a run-of-river power plant with 25 MW installed capacity and a reservoir area of 1.50 km^2. Please refer to item (3.d) up to (3.h) for a discussion on the project description, including all technical aspects and CARs and CLs raised by the DOE.		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
b. Is the description of the proposed CDM project activity as contained in the PDD:	VVM	59	Please refer to items (3.d), (3.f) and (3.h) above	OK	OK
i. sufficiently covering all relevant elements?	VVM	59	Please refer to items (3.d), (3.f) and (3.h) above	OK	OK
ii. acurate?	VVM	59	Please refer to items (3.d), (3.f) and (3.h) above	OK	OK
iii. providing the reader with a clear understanding of the nature of the proposed CDM project activity?	VVM	59	Please refer to items (3.d), (3.f) and (3.h) above	OK	OK
iv. Are there any changes/modifications compared to the webhosted PDD?	VVM	59	No. During site visit held on the 13th of December 2010, the DOE could assess that the construction of the small hydropower plant is planned in accordance to the description provided in the webhosted PDD. All technical documentation (including Basic Engineering Project) describes the project in accordance to the webhosted PDD.	OK	OK
c. Is the proposed CDM project activity in existing facilities or or utilizing existing equipments?	VVM	60	No, the project activity involves the development of a Greenfield plant consistent in a run-of-river power plant with 25 MW installed capacity and a reservoir area of 1.50 km^2.	OK	OK
d. Is the CDM project activity one of the following types:	VVM	60			
i. Large scale?	VVM	60	Yes. The following large scale methodology is applicable: ACM0002v12.1	OK	OK
ii. Non-bundled small scale projects with emission reductions exceeding 15,000 tonnes per year?	VVM	60	The project is a large scale activity.	OK	OK
iii. Bundled small scale projects, each with emission reductions not exceeding 15,000 tonnes?	VVM	60	The project is a large scale activity.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
e. If yes to (c) and (d) above, was a physical site inspection conducted to confirm that the description in the PDD reflects the proposed CDM project activity, unless other means are specified in the methodology?	VVM	60	No. During site visit held on the 13th of December 2010, the DOE could assess that the construction of the small hydropower plant is planned in accordance to the description provided in the webhosted PDD. All technical documentation (including Basic Engineering Project) describes the project in accordance to the webhosted PDD.		
f. If yes to (d.iii) above, was the number of physical site visits base on samping?	VVM	60	The project is a large scale activity.	OK	OK
g. If yes is the sampling size appropriately justified through statistical analysis?	VVM	60	The project is a large scale activity.	OK	OK
h. For other individual proposed small scale CDM project activities with emission reductions not exceeding 15,000 tonnes per year, was a physical site inspection conducted?	VVM	61	The project is a large scale activity.	OK	OK
i. For all other proposed CDM project activities not referred to in paragraphs 59 – 61, was a physical site inspection conducted?	VVM	62	Please refer to item (4.e) above.	OK	OK
j. If no, was it appropriately justified?	VVM	62	Not applicable	OK	OK
k. Does the proposed CDM project activity involve the alteration of an existing installation or process?	VVM	63	No, the project activity involves the development of a Greenfield plant consistent in a run-of-river power plant with 25 MW installed capacity and a reservoir area of 1.50 km^2.	OK	OK
l. If yes, does the project description clearly state the differences resulting from the project activity compared to the pre-project situation?	VVM	63	N/A	OK	OK
5. Baseline and monitoring methodology					

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
a. General requirement					
a. Do the the baseline and monitoring methodologies selected by the project participants comply with the methodologies previously approved by the CDM Executive Board?	VVM	65	Yes, the selected methodology is: Approved consolidated baseline and monitoring methodology ACM0002: "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" (version 12.1).	OK	OK
b. Is the selected methodology applicable to the project activity?	VVM	66	Refer to (5.b.a) below	-	-
c. Had the PP correctly applied the selected methodology?	VVM	66	Refer to (5.b.d) below	-	-
d. Had the selected methodology been correctly applied with respect to project boundary?	VVM	67	Refer to (5.c) below	-	-
e. Had the selected methodology been correctly applied with respect to baseline identification?	VVM	67	Refer to (5.d) below	-	-
f. Had the selected methodology been correctly applied with respect to Algorithms and/or formulae used to determine emission reductions?	VVM	67	Refer to (5.e) below	-	-
g. Had the selected methodology been correctly applied with respect to additionality?	VVM	67	Please refer to item (6) below: Additionality of a project activity		
i. Has the additionality of the project activity been demonstrated and assessed using the latest version of the "Tool for the demonstration and assessment of additionality" agreed by the Board, which is available on the UNFCCC website?	ACM	0002 v.12.1	Yes, the latest version of the Tool has been used: "Tool for the demonstration and assessment of additionality" (Version 05.2).	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
h. Had the selected methodology been correctly applied with respect to monitoring methodology?	VVM	67	Refer to (7.g), (7.h), (7.i), (7.j) and (7.k) below	OK	OK
b. Applicability of the selected methodology to the project activity					
a. Is the selected baseline and monitoring methodology, previously approved by the CDM Executive Board, applicable to the project activity? Is the used version valid?	VVM	68			
i. This methodology is applicable to grid-connected renewable power generation project activities that (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 plants); (b) involve a capacity addition; (c) involve a retrofit of (an) existing plant(s); or (d) involve a replacement of (an) existing plant(s).	ACM	0002 v.12. 1	Yes, the methodology is applicable: see below. The used version (version 12) is also valid: http://cdm.unfccc.int/methodologies/DB/C505BVV9P8VSNNV3LTK1BP3OR24Y5L (accessed by the DOE on 22.12.2010).	OK	OK
b. Has the DOE applied specific guidance provided by the CDM Executive Board in respect to the applicable approved methodology?	VVM	69	Yes, the following guidance were applied: GUIDELINES FOR COMPLETING THE PROJECT DESIGN DOCUMENT (CDM-PDD) AND THE PROPOSED NEW BASELINE AND MONITORING METHODOLOGIES (CDM-NM), VERSION 07	OK	OK
c. Is the methodology correctly quoted?	VVM	70	See item (3.k.i).	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
d. Are the applicability conditions of the methodology met?	VVM	71			
i. The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit	ACM	0002 v.12. 1	The project activity involves the development of a Greenfield plant consistent in a run-of-river power plant with 25 MW installed capacity and a reservoir area of 1.50 km^2. See item (3.l.i) above for a discussion on how the DOE has validated the project's applicability.	OK	OK
ii. In the case of capacity additions, retrofits or replacements (except for wind, solar, wave or tidal power capacity addition projects which use Option 2: on page 10 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.	ACM	0002 v.12. 1	Not applicable, see above.	OK	OK
iii. In case of hydro power plants, one of the following conditions must apply: - The project activity is implemented in an existing reservoir, with no change in the	ACM	0002 v.12. 1	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.	OK	OK

	CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
	volume of reservoir; or - 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; 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.					
iv.	The methodology is not applicable to the following conditions. Please confirm - Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity - Biomass fired power plants; - Hydro power plants that result in new reservoirs or in the increase in existing reservoirs where the power density of the power plant is less than 4 W/m2.	ACM	0002 v.12.1	CAR 37: In the Section B.2 of the PDD version 1, PP does not confirm that its project activity does not comprises one of the following conditions: (1) Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity and (2) Biomass fired power plants. This is not in accordance with the ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1.	CAR 37	OK
v.	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	ACM	0002 v.12.1	Not applicable.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
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".					
e. Is the proeject activity expected to result in emissions other than those allowed by the methodology?	VVM	71	No Project emission is expected.	OK	OK
f. Is the choice of the methodology justified?	VVM	71	Yes.	OK	OK
g. Have the project participants shown that the project activity meets each of the applicability conditions or the approved methodology?	VVM	71	Refer to (5.b.d) above	-	-
h. Have the project participants shown that the project activity meets each of the applicability conditions of any tool or other methodology component referred to the methodology?	VVM	71	Yes: See below:	OK	OK
i. Are each of the applicability conditions of the "Tool to calculate the emission factor for an electricity system" met?	EB 50	Ann 40	Yes: "This tool may be applied to estimate the OM, BM and/or CM when calculating baseline emissions for a project activity that substitutes grid electricity, i.e. where a project activity supplies electricity to a grid or a project activity that results in savings of electricity that would have been provided by the grid (e.g. demand-side energy efficiency projects)."	OK	OK
ii. Are each of the applicability conditions of the "Tool for the demonstration and assessment of additionality" met?	EB 39	Ann 10	Yes: "The document [additionality tool] provides a	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			general framework for demonstrating and assessing additionality and is applicable to a wide range of project types."		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
iii. Are each of the applicability conditions of the "Combined tool to identify the baseline scenario and demonstrate additionality" met?	EB 28	Ann 14	Not applicable.	OK	OK
iv. Are each of the applicability conditions of the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" met?	EB 41	Ann 11	Not applicable.	OK	OK
i. Is the DOE, based on local and sectoral knowledge, aware that comparable information is available from sources other than that used in the PDD?4	VVM	71	Yes, see below:	OK	OK
j. If yes, was the PDD cross checked agains the other sources to confirm that the project activity meets the applicability conditions of the methodology? (provide the reference to these choices)	VVM	71	Please refer to item (3.l.ii) above.		
k. Can a determination regarding the applicability of the selected methodology to the proposed CDM project activity be made?	VVM	72	Yes, the project is applicable. See item (5.b.d) above.	OK	OK
l. If no, clarification of the methodoloy was requested, in accordance with the guidance provided by the CDM Executive Board?	VVM	72	Not applicable.	OK	OK
m. If answer to (5.b.d) above is "no", revision or deviation from the methodology was requested, in accordance with the guidance provided by the CDM Executive Board?	VVM	73	Not applicable.	OK	OK
n. If yes to (5.b.l) and (5.b.m) above, a request for registration was submited before the CDM Executive Board has approved the proposed deviation or revision?	VVM	74	Not applicable.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
c. Project boundary					
a. Does the PDD 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?	VVM	78	According to the relevant methodology (ACM002, version 12.1), the project boundary is: "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" **Refer to the latest approved version of the "Tool to calculate the emission factor for an electricity system" for definition of an electricity system: According to the latest approved version of the "Tool to calculate the emission factor for an electricity system" (version 02), If the DNA of the host country has published a delineation of the project electricity system and connected electricity systems, these delineations should be used. According to the PDD, the electricity system that defines the project boundary is the SIN, the Brazilian National Interconnected Energy System. This includes the project's Plant and all the other power plants connected to the SIN. Still according to the PDD, the definition of the SIN as the electricity system that delimits the project boundary is based on Resolution Nº8, of May 26th 2008 of the Brazilian DNA. The DOE has crosschecked this information on the DNA's	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			website and has found it to be correct: http://www.mct.gov.br/upd_blob/0024/24719.pdf (resolution Nº8, accessed on 22/12/2010).		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
i. Does the extent of the project boundary, as described in the PDD, includes the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to?	ACM	0002 v12. 1	See items (3.m.i), (3.m.ii) and (3.m.iii) above for a discussion regarding project boundary and how the project electricity system has been defined.	OK	OK
ii. Are the greenhouse gases and emission sources that are included in or excluded from the project boundary shown in a table format as per applicable methodology?	ACM	0002 v12. 1	Yes, See items (3.m.i), (3.m.ii) and (3.m.iii) above for a discussion regarding project boundary	OK	OK
b. Is the delineation in the PDD of the project boundary correct and include identification of all locations, processes and equipment including secondary equipment and associated processes such as logistics etc.?	VVM	79	Yes, the PP section B.3 contains a delineation of the project boundary in accordance with the relevant methodology. It includes identification of all locations, processes and equipment associated with the project activity. See items (3.m.i), (3.m.ii) and (3.m.iii) above for a discussion regarding project boundary	OK	OK
c. Does the delineation in the PDD of the project boundary meet the requirements of the selected baseline?	VVM	79	Please refer to items (5.c.a.i), (5.c.a.ii) above.	OK	OK
d. Have changes been made to the project boundary in comparison to the webhosted PDD. If yes please comment on the reason for the changes.	VVM	79	No. During site visit held on the 13th of December 2010, the DOE could assess that the construction of the small hydropower plant is planned in accordance to the description provided in the webhosted PDD. All technical documentation (including Basic Engineering Project) describes the project in accordance to the webhosted PDD.	OK	OK
e. Have all sources and GHGs required by the	VVM	79	Yes. GHG included:	OK	OK

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methodology been included within the project boundary?			Baseline: CO_2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity.		
f. Does the methodology allow project participant to choose whether a source or gas is to be included within the project boundary	VVM	79	No, the methodology prescribes which gases are to be included within the project boundary.	OK	OK
g. If yes, have the project participants justified that choice?	VVM	79	Not applicable.	OK	OK
h. If yes, is the justification provided reasonable? (provide reference to the supporting documented evidence provided by the project participants)	VVM	79	Not applicable	OK	OK
d. Baseline identification					
a. Does the PDD 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?	VVM	81	Yes, the baseline scenario is identified in accordance with the relevant methodology (ACM0002, version 12.1). See item 5.d.b.i.	OK	OK
b. Has any procedure contained in the methodology to identify the most reasonable baseline scenario, been correctly applied?	VVM	82	For greenfield plants no procedure needs to be applied according to the relevant methodology (ACM0002, version 12.1). See item 5.d.b.i	OK	OK
i. If the project activity is the install a new grid-connected renewable power plant/unit (greenfield plant), is the baseline scenario identified appropriately in accordance with the ACM0002 ver.12.1?	ACM	0002 v12.1	Yes, the project activity is the install a new grid-connected renewable power plant/unit (greenfield plant) and the baseline scenario is identified in accordance with the Methodology ACM0002, version 12.1: "Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and	OK	OK

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			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”		

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ii. If the project activity is a capacity addition to existing grid-connected renewable power plant/unit, is the baseline scenario identified appropriately in accordance with the ACM0002 ver. 12.1? And is the point of time at which the generation facility would likely be replaced or retrofitted (DATE Baseline Retrofit) reasonably defined?	ACM	0002 v11	Not applicable, see item (5.d.b.i)	OK	OK
iii. If the project activity is the retrofit or replacement of existing grid-connected renewable power plant/unit, is the baseline scenario identified following the step-wise procedure in accordance with the ACM0002 ver.12.1?	ACM	0002 v12. 1	Not applicable, see item (5.d.b.i)	OK	OK
iv. Are the realistic and credible alternative baseline scenarios for power generation appropriately identified following the Step 1 of the "Combined tool to identify the baseline scenario and demonstrate additionality"? (Step 1)	ACM	0002 v12. 1	Not applicable, see item (5.d.b.i)	OK	OK
v. Are the realistic and credible alternative baseline scenarios i.e. P1, P2 and P3 appropriately applied ***Barrier analysis*** following the Step 2 of the "Combined tool to identify the baseline scenario and demonstrate additionality"? (Step 2)	ACM	0002 v12. 1	Not applicable, see item (5.d.b.i)	OK	OK
vi. If more than one alternative is remaining after Step 2, is ***Investment analysis*** appropriately applied (apply an Investment Comparison as	ACM	0002 v12. 1	Not applicable, see item (5.d.b.i)	OK	OK

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per step 3 of the "Combined tool to identify the baseline scenario and demonstrate additionality" or a Benchmark Analysis as per step 2b of the "Tool for the demonstration and assessment of additionality")? (Step 3)					
c. Does the selected methodology require 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?	VVM	82	No, the baseline scenario for greenfield hydropower plants is given by the relevant methodology (ACM0002, version 12.1). See item (5.d.b.i)	OK	OK
d. If yes, was the methodology consulted on the application of these tools? (In such cases, the guidance in the methodology shall supersede the tool.)	VVM	82	N/A	OK	OK
e. Does the methodology require several alternative scenarios to be considered in the identification of the most reasonable baseline scenario?	VVM	83	No, the baseline scenario for greenfield hydropower plants is given by the relevant methodology (ACM0002, version 12.1). See item 5.d.b.i	OK	OK
f. If yes, are all scenarios that are considered by the project participants and are supplementary to those required by the methodology reasonable in the context of the proposed CDM project activity?	VVM	83	N/A	OK	OK
g. Has any reasonable alternative scenario been excluded?	VVM	83	The baseline scenario for greenfield hydropower plants is given by the relevant methodology (ACM0002, version 12.1). See item 5.d.b.i	OK	OK
h. Is the baseline scenario identified reasonably supported by:	VVM	84	The baseline scenario for greenfield hydropower plants is given by the relevant methodology (ACM0002, version 12.1). See item 5.d.b.i	OK	OK

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i. Assumptions?	VVM	84	Please refer to (5.d.h.)	OK	OK
ii. Calculations?	VVM	84	Please refer to (5.d.h.)	OK	OK
iii. Rationales?	VVM	84	Please refer to (5.d.h.)	OK	OK
i. Are the documents and sources referred to in the PDD correctly quoted and interpreted?	VVM	84	Sources referred in this section of the PDD (Section B.4): Methodology ACM0002 version 12.1: correctly quoted. See item (5.d.b.i).	OK	OK
j. Was the information provided in the PDD cross checked with other verifiable and credible sources, such as local expert opinion, if available? (identify the sources)	VVM	84	Yes, the information provided in the PDD was crosschecked by the DOE using the UNFCCC website. See Section B.5 of the PDD for detailed information regarding why the identified baseline is the expected baseline scenario for this project.	OK	OK
k. Have all applicable CDM requirements been taken into account in the identification of the baseline scenario for the proposed CDM project activity?	VVM	85	Yes, the baseline scenario for greenfield hydropower plants is given by the relevant methodology (ACM0002, version 12.1). See item 5.d.b.i.	OK	OK
l. Have all relevatn policies and circumstances been identified and correctly considered in the PDD, in accordance with the guidance by the CDM Executive Board?	VVM	85	Yes, the baseline scenario for greenfield hydropower plants is given by the relevant methodology (ACM0002, version 12.1). See item 5.d.b.i.	OK	OK
m. Does the PDD provide 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?	VVM	86	Yes, the baseline scenario is identified as the continuation of the current (previous) situation of electricity supplied by the grid.	OK	OK
e. Algorithms and/or formulae used to determine emission reductions					

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a. Do the steps taken and equations applied to calculate project emissions, baseline emissions, leakage and emission reductions comply with the requirements of the selected baseline and monitoring?	VVM	89	Yes. However, some errors were found in the equations. Please refer to item (3.p.i.)	OK	OK
b. Have the equations and parameters in the PDD been correctly applied with respect to those in the select approved methodology?	VVM	90	Yes. However, see CARs and CLs in items (3.p).	OK	OK
i. Are the Project emissions appropriately calculated?.	ACM	0002 v.12. 1	Project Power Density (needed to define project emission) has been calculated using the equation prescribed by the applicable methodology. Project Density is, according to calculations, 16.67 W/m^2. As it is above 10 W/m^2, no project emissions need to be contemplated according to the prescriptions of the methodology (ACM0002v12.1).		
ii. Are the Baseline emissions appropriately calculated specifically for (a)greenfield plants or (b) retrofit and replacements or (c) capacity additions?	ACM	0002 v.12. 1	Yes. However, see CARs and CLs in items (3.p)	OK	OK
iii. Are the Leakage appropriately calculated?	ACM	0002 v.12. 1	No leakage needs to be considered in accordance with the relevant methodology (ACM0002v12.1).	OK	OK
iv. Are the Emission reductions appropriately calculated?	ACM	0002 v.12. 1	Please refer to section 3.p.i.		
c. Have project participants prepared as part of the CDM-PDD an estimate of likely emission reductions for the proposed crediting period? This estimate should, in principle, employ the	ACM	0002 v.12. 1	Yes, the estimates are: Average of 21,770 tCO2e per year for 7 years crediting period.	OK	OK

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same methodology as selected for the calculation of emission reductions. Where the grid emission factor (EFCM,grid,y) is determined ex post during monitoring, project participants may use models or other tools to estimate the emission reductions prior to validation.					
d. Does the methodology provide for selection between different options for equations or parameters?	VVM	90	Yes, for the calculation of: Project emission: choice between option (a) and (b), depending on the power density of the project. Baseline emission, which depends on the options chosen for the calculation of the emission factor as prescribed by the latest version of the Tool to calculate the emission factor for an electricity system. See item (3.p.i) for a discussion on the above mentioned issues.	OK	OK
e. If yes, has adequate justification been provided (based on the choice of the baseline scenario, context of the proposed CDM project activity and other evidence provided)?	VVM	90	Project Emission: Yes, the power density of the project is above 10 W/m^2. Therefore, option (b) has been chosen correctly. See further items (3.p.i) and (5.e.b.i).	OK	OK
f. If yes, have correct equations and parameters been used, in accordance with the methodology selected?	VVM	90	Refer to (5.e.b) above	-	-

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g. Will data and parameters be monitored throughout the crediting period of the proposed CDM project activity?	VVM	91	Yes. However, some parameters will not be monitored.	OK	OK
h. If no, and these data and parameters will remain fixed throughout the crediting period, are all data sources and assumptions:	VVM	91			
i. Appropriate and correct?	VVM	91	Please refer to items (3.p.i) and (5.e.a)	OK	OK
ii. Applicable to the proposed CDM project activity?	VVM	91	Please refer to items (3.p.i) and (5.e.a)	OK	OK
iii. Resulting in a conservative estimate of the emission reductions?	VVM	91	Please refer to items (3.p.i) and (5.e.a)	OK	OK
i. Will data and parameters be monitored on implementation and hence become available only after validation of the project activity?	VVM	91	Yes, Please refer to item (3.t) above.	OK	OK
j. If yes, are the estimates provided in the PDD for these data and parameters reasonable?	VVM	91	Please refer to item (3.t) above.	OK	OK
6. Additionality of a project activity					
a. Does the PDD describe how a proposed CDM projet activity is additional?	VVM	94	Yes, the PDD describes the additionality of the project by using the latest version of the additionality tool and by using an investment analysis (benchmark analysis).	OK	OK
b. Does the CDM-PDD state the latest version of the additionality tool being used?	ACM	0002 v.12.1	Yes, the PDD describes the additionality of the project by using the latest version of the additionality tool (version 05.2) and by using an investment analysis (benchmark analysis).	OK	OK
c. Were the following steps of the tool to assess additionality used:	EB 39	Ann 10			
i. Identification of alternatives to the project	EB	Ann	Yes, PP identified two alternative scenarios.	OK	OK

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activity?	39	10			
ii. Investment analysis to determine that the proposed project activity is either: 1) not the most economically or financially attractive, or 2) not economically or financially feasible?	EB 39	Ann 10	Yes, PP applied a benchmark analysis.	OK	OK
iii. Barriers analysis?	EB 39	Ann 10	No barrier analysis has been presented by PP.	OK	OK
iv. Common practice analysis?	EB 39	Ann 10	Yes, PP provides a common practice analysis.	OK	OK
d. In step 1 (i) have all the sub-steps as below been followed?	EB 39	Ann 10			
i. Sub-step 1a: Define alternatives to the project activity	EB 39	Ann 10	Yes, PP defines two alternatives to the project activity: Scenario 1: The alternative to the project activity is the continuation of the current (previous) situation, which is the supply of electricity by the National Interconnected System (SIN, from the Portuguese "Sistema Interligado Nacional"). Scenario 2: The proposed project activity undertaken without being registered as a CDM project activity.	OK	OK
ii. Sub-step 1b: Consistency with mandatory laws and regulations	EB 39	Ann 10	Yes, please refer to items (6.h-j) below.	OK	Ok
e. Have the following alternatives been included while defining alternatives as per sub-step 1a?	EB 39	Ann 10			

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i. (a) The proposed project activity undertaken without being registered as a CDM project activity;	EB 39	Ann 10	Yes: Scenario 2: The proposed project activity undertaken without being registered as a CDM project activity	OK	OK
ii. (b) Other realistic and credible alternative scenario(s) to the proposed CDM project activity scenario that deliver outputs services or services with comparable quality, properties and application areas, taking into account, where relevant, examples of scenarios identified in the underlying methodology;	EB 39	Ann 10	CAR 38: In Section B.5 of the PDD version 1, in sub-step 1.a of the additionality analysis, PP has not included as alternative to the project activity: Other realistic and credible alternative scenario(s) to the proposed CDM project activity scenario that deliver outputs services or services with comparable quality, properties and application areas. This is not in accordance with the "TOOL FOR THE DEMONSTRATION AND ASSESSMENT OF ADDITIONALITY" (VERSION 05.2). EB 39 ANN 10.	CAR 38	OK
iii. (c) If applicable, continuation of the current situation (no project activity or other alternatives undertaken).	EB 39	Ann 10	Yes: Scenario 1: The alternative to the project activity is the continuation of the current (previous) situation, which is the supply of electricity by the National Interconnected System (SIN, from the Portuguese "Sistema Interligado Nacional").	OK	OK
f. Has the project participant included the	EB	Ann	No, please refer to item (6.e.ii.b) above.	OK	OK

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technologies or practices that provide outputs or services with comparable quality, properties and application areas as the proposed CDM project activity and that have been implemented previously or are currently being introduced in the relevant country/region?	39	10			
g. Has the outcome of Step 1a: Identified realistic and credible alternative scenario(s) to the project activity done correctly? Please briefly mention the outcome.	EB 39	Ann 10	Yes, PP defines two alternatives to the project activity: Scenario 1: The alternative to the project activity is the continuation of the current (previous) situation, which is the supply of electricity by the National Interconnected System (SIN, from the Portuguese "Sistema Interligado Nacional"). Scenario 2: The proposed project activity undertaken without being registered as a CDM project activity. See however CAR in item (6.e.ii.b) above.	OK	OK
h. Is the alternative(s) in compliance with all mandatory applicable legal and regulatory requirements, even if these laws and regulations have objectives other than GHG reductions, e.g. to mitigate local air pollution.?	EB 39	Ann 10	Yes. Alternative scenarios are in compliance with all mandatory applicable legal and regulatory requirements: Scenario 1: The current (previous) situation is the supply of electricity by the National Interconnected	OK	OK

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			System (SIN, from the Portuguese "Sistema Interligado Nacional"). This scenario is regulated by the following government entities: - National Electric System Operator (ONS from the Portuguese Operador Nacional do Sistema Elétrico); - Electricity Regulatory Agency (ANEEL from the Portuguese Agência Nacional de Energia Elétrica); - The Chamber of Electrical Energy Commercialization (CCEE from the Portuguese Câmara de Comercialização de Energia Elétrica); - Mines and Energy Ministry (MME from the Portuguese Ministério de Minas e Energia); - Rio Grande do Sul Environmental Agency (from the Portuguese FEPAM - Fundação Estadual de Proteção Ambiental Henrique Luiz Roessler); The other scenario (Scenario 2: The proposed project activity undertaken without being registered as a CDM project activity) is also in compliance with all mandatory applicable legal and regulatory requirements: There are a total of 382 Small Hydro Power Plants operating in Brazil (checked on 22.12.2010 on: http://www.aneel.gov.br/aplicacoes/capacidadebra		

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			sil/capacidadebrasil.asp)		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
i. If an alternative does not comply with all mandatory applicable legislation and regulations, has it been shown that, based on an examination of current practice in the country or region in which the law or regulation applies, those applicable legal or regulatory requirements are systematically not enforced and that noncompliance with those requirements is widespread in the country?	EB 39	Ann 10	Not applicable.	OK	OK
j. Has the outcome of Step 1b: Identified realistic and credible alternative scenario(s) to the project activity that are in compliance with mandatory legislation and regulations taking into account the enforcement in the region or country and EB decisions on national and/or sectoral policies and regulations done correctly? Please state the outcome.	EB 39	Ann 10	Yes. Both identified options are in compliance with mandatory legislation and regulations. See however CAR in item (6.e.ii.b) above.	OK	OK
k. Has PP selected Step 2 (Investment analysis) or Step 3 (Barrier analysis) or both Steps 2 and 3?	EB 39	Ann 10	PP has selected only Step 2 (investment analysis).	OK	OK
l. In step 2, have all the sub-steps as below been followed?	EB 39	Ann 10	Yes, Please refer to item (6.c – Investment Analysis) below.	OK	OK
i. Sub-step 2a: Determine appropriate analysis method;	EB 39	Ann 10	Yes, Please refer to item (6.c – Investment Analysis) below.	OK	OK
ii. Sub-step 2b: Option I. Apply simple cost analysis;	EB 39	Ann 10	No, PP has chosen option III. Apply benchmark analysis.	OK	OK
iii. Sub-step 2b: Option II. Apply investment comparison analysis;	EB 39	Ann 10	No, PP has chosen option III. Apply benchmark analysis.	OK	OK

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iv. Sub-step 2b: Option III. Apply benchmark analysis;	EB 39	Ann 10	Yes, Please refer to item (6.c – Investment Analysis) below.	OK	OK
v. Sub-step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III);	EB 39	Ann 10	Yes, Please refer to item (6.c – Investment Analysis) below.	OK	OK
vi. Sub-step 2d: Sensitivity analysis (only applicable to Options II and III).	EB 39	Ann 10	Yes, Please refer to item (6.c – Investment Analysis) below.	OK	OK
m. In sub-step 2a has the determination of appropraite method of analysis done as per the guidance as below?	EB 39	Ann 10	Please refer to item (6.c – Investment Analysis) below.	OK	OK
i. Simple cost analysis if the CDM project activity and the alternatives identified in Step 1 generate no financial or economic benefits other than CDM related income (Option I).	EB 39	Ann 10	Please refer to item (6.c – Investment Analysis) below.	OK	OK
ii. Otherwise, use the investment comparison analysis (Option II) or the benchmark analysis (Option III). Specify option used with justification.	EB 39	Ann 10	Please refer to item (6.c – Investment Analysis) below.	OK	OK
n. Has the below guideline followed for sub-step 2b Option I. Apply simple cost analysis? Document the costs associated with the CDM project activity and the alternatives identified in Step1 and demonstrate that there is at least one alternative which is less costly than the project activity.	EB 39	Ann 10	Please refer to item (6.c – Investment Analysis) below.	OK	OK
o. Has the below guideline followed for sub-step 2b Option II. Apply investment comparison analysis? Identify the financial indicator, such as IRR, NPV,	EB 39	Ann 10	Please refer to item (6.c – Investment Analysis) below.	OK	OK

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cost benefit ratio, or unit cost of service most suitable for the project type and decision-making context. Please specify					
p. Has the below guideline followed for Sub-step 2b: Option III. Apply benchmark analysis?	EB 39	Ann 10	Please refer to item (6.c – Investment Analysis) below.	OK	OK
i. Identify the financial/economic indicator, such as IRR, most suitable for the project type and decision context.	EB 39	Ann 10	Please refer to item (6.c – Investment Analysis) below.	OK	OK
ii. When applying Option II or Option III, the financial/economic analysis shall be based on parameters that are standard in the market, considering the specific characteristics of the project type, but not linked to the subjective profitability expectation or risk profile of a particular project developer. Only in the particular case where the project activity can be implemented by the project participant, the specific financial/economic situation of the company undertaking the project activity can be considered.	EB 39	Ann 10	Please refer to item (6.c – Investment Analysis) below.	OK	OK
iii. Discount rates and benchmarks shall be derived from: (a) Government bond rates, increased by a suitable risk premium to reflect private investment and/or the project type, as substantiated by an independent (financial) expert or documented by official publicly available financial data; (b) Estimates of the cost of financing and required return on capital	EB 39	Ann 10	Please refer to item (6.c – Investment Analysis) below.	OK	OK

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(e.g. commercial lending rates and guarantees required for the country and the type of project activity concerned), based on bankers views and private equity investors/funds' required return on comparable projects; (c) A company internal benchmark (weighted average capital cost of the company), only in the particular case referred to above in 2. The project developers shall demonstrate that this benchmark has been consistently used in the past, i.e. that project activities under similar conditions developed by the same company used the same benchmark; (d) Government/official approved benchmark where such benchmarks are used for investment decisions; (e) Any other indicators, if the project participants can demonstrate that the above Options are not applicable and their indicator is appropriately justified. Please specify benchmark and justify.					
q. Has the below guideline followed for Sub-step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III)?	EB 39	Ann 10	Please refer to item (6.c – Investment Analysis) below.	OK	OK
i. Calculate the suitable financial indicator for the proposed CDM project activity and, in the case of Option II above, for the other alternatives. Include all relevant costs (including, for example, the investment cost, the operations and maintenance costs), and revenues (excluding CER revenues, but possibly	EB 39	Ann 10	Please refer to item (6.c – Investment Analysis) below.	OK	OK

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including inter alia subsidies/fiscal incentives, ODA, etc, where applicable), and, as appropriate, non-market cost and benefits in the case of public investors if this is standard practice for the selection of public investments in the host country.					
ii. Present the investment analysis in a transparent manner and provide all the relevant assumptions, preferably in the CDM-PDD, or in separate annexes to the CDM-PDD.	EB 39	Ann 10	Please refer to item (6.c – Investment Analysis) below.	OK	OK
iii. Justify and/or cite assumptions.	EB 39	Ann 10	Please refer to item (6.c – Investment Analysis) below.	OK	OK
iv. In calculating the financial/economic indicator, the project's risks can be included through the cash flow pattern, subject to project-specific expectations and assumptions.	EB 39	Ann 10	Please refer to item (6.c – Investment Analysis) below.	OK	OK
v. Assumptions and input data for the investment analysis shall not differ across the project activity and its alternatives, unless differences can be well substantiated.	EB 39	Ann 10	Please refer to item (6.c – Investment Analysis) below.	OK	OK
vi. Present in the CDM-PDD a clear comparison of the financial indicator for the proposed CDM activity.Please specify details for above.	EB 39	Ann 10	Please refer to item (6.c – Investment Analysis) below.	OK	OK
r. Has the below guideline followed for Sub-step 2d: Sensitivity analysis (only applicable to Options II and III)? Include a sensitivity analysis that shows whether the conclusion regarding the financial/economic attractiveness is robust to	EB 39	Ann 10	Please refer to item (6.c – Investment Analysis) below.	OK	OK

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reasonable variations in the critical assumptions.					
s. Has the outcome of Step 2 clearly mentioned with justification?	EB 39	Ann 10	Please refer to item (6.c – Investment Analysis) below.	OK	OK
t. In step 3: Barrier analysis have all the sub-steps as below been followed?	EB 39	Ann 10	Not Applicable. PP chooses not to apply a barrier analysis.	OK	OK
i. Sub-step 3a: Identify barriers that would prevent the implementation of the proposed CDM project activity;	EB 39	Ann 10	Not Applicable. PP chooses not to apply a barrier analysis.	OK	OK
ii. Sub-step 3 b: Show that the identified barriers would not prevent the implementation of at least one of the alternatives (except the proposed project activity).	EB 39	Ann 10	Not Applicable. PP chooses not to apply a barrier analysis.	OK	OK
u. Has the below guideline followed for Sub-step 3a: Identify barriers that would prevent the implementation of the proposed CDM project?	EB 39	Ann 10	Not Applicable. PP chooses not to apply a barrier analysis.	OK	OK
i. (a) Investment barriers: For alternatives undertaken and operated by private entities: Similar activities have only been implemented with grants or other non-commercial finance terms. No private capital is available from domestic or international capital markets due to real or perceived risks associated with investment in the country where the proposed CDM project activity is to be implemented, as demonstrated by the credit rating of the country or other country investments reports of reputed origin.	EB 39	Ann 10	Not Applicable. PP chooses not to apply a barrier analysis.	OK	OK
ii. (b) Technological barriers: Skilled and/or	EB	Ann	Not Applicable. PP chooses not to apply a barrier	OK	OK

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properly trained labour to operate and maintain the technology is not available in the relevant country/region, which leads to an unacceptably high risk of equipment disrepair and malfunctioning or other underperformance; Lack of infrastructure for implementation and logistics for maintenance of the technology, Risk of technological failure: the process/technology failure risk in the local circumstances is significantly greater than for other technologies that provide services or outputs comparable to those of the proposed CDM project activity, as demonstrated by relevant scientific literature or technology manufacturer information, The particular technology used in the proposed project activity is not available in the relevant region.	39	10	analysis.		
iii. (c) Barriers due to prevailing practice: The project activity is the “first of its kind”.	EB 39	Ann 10	Not Applicable. PP chooses not to apply a barrier analysis.	OK	OK
iv. (d) Other barriers, preferably specified in the underlying methodology as examples.	EB 39	Ann 10	Not Applicable. PP chooses not to apply a barrier analysis.	OK	OK
v. Has the outcome from Step 3a clearly mentioned in PDD?	EB 39	Ann 10	Not Applicable. PP chooses not to apply a barrier analysis.	OK	OK
w. Has the below guideline followed for Sub-step 3 b: Show that the identified barriers would not prevent the implementation of at least one of the alternatives (except the proposed project activity)?	EB 39	Ann 10	Not Applicable. PP chooses not to apply a barrier analysis.	OK	OK
i. If the identified barriers also affect other	EB	Ann	Not Applicable. PP chooses not to apply a barrier	OK	OK

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alternatives, explain how they are affected less strongly than they affect the proposed CDM project activity. In other words, demonstrate that the identified barriers do not prevent the implementation of at least one of the alternatives. Any alternative that would be prevented by the barriers identified in Sub-step 3a is not a viable alternative, and shall be eliminated from consideration.	39	10	analysis.		
ii. Provide transparent and documented evidence, and offer conservative interpretations of this documented evidence, as to how it demonstrates the existence and significance of the identified barriers and whether alternatives are prevented by these barriers.	EB 39	Ann 10	Not Applicable. PP chooses not to apply a barrier analysis.	OK	OK
iii. The type of evidence to be provided should include at least one of the following: (a) Relevant legislation, regulatory information or industry norms; (b) Relevant (sectoral) studies or surveys (e.g. market surveys, technology studies, etc) undertaken by universities, research institutions, industry associations, companies, bilateral/multilateral institutions, etc; (c) Relevant statistical data from national or international statistics; (d) Documentation of relevant market data (e.g. market prices, tariffs, rules); (e) Written documentation of independent expert judgments from industry, educational institutions (e.g. universities,	EB 39	Ann 10	Not Applicable. PP chooses not to apply a barrier analysis.	OK	OK

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technical schools, training centres), industry associations and others. Please specify.					
x. Has the outcome from Step 3 clearly mentioned in PDD?	EB 39	Ann 10	Not Applicable. PP chooses not to apply a barrier analysis.	OK	OK
y. In step 4: Common practise analysis have all the sub-steps as below followed?	EB 39	Ann 10	Yes, sub-steps 4.a. and 4.b have been followed.	OK	OK
i. Sub-step 4a: Analyze other activities similar to the proposed project activity;	EB 39	Ann 10	Yes. Please refer to item 6.z below.	OK	OK
ii. Sub-step 4b: Discuss any similar Options that are occurring.	EB 39	Ann 10	Yes. Please refer to item 6.aa below.	OK	OK
z. Has the below guideline followed for Sub-step 4a: Analyze other activities similar to the proposed project activity? Provide an analysis of any other activities that are operational and that are similar to the proposed project activity. Other CDM project activities are not to be included in this analysis. Provide documented evidence and, where relevant, quantitative information. On the basis of that analysis, describe whether and to which extent similar activities have already diffused in the relevant region.	EB 39	Ann 10	PP identifies similar activities as following: <u>Country / region scope:</u> Due to the size of Brazil (more than 8 million KM^2) and to the fact that the country has 6 different climate regions (sub-tropical, semi-arid, equatorial, tropical, highland-tropical and Atlantic-tropical) a region approach is more suitable than a country approach. PP comes to this conclusion seeing that the above mentioned aspects have a strong influence in the technical aspects related to a SHPP's implementation. Also, according to the PDD, hydroelectric projects can differ significantly from each other considering the region to be implemented, climate, topography, availability of transmissions lines, river flow regularity, etc. For those reasons alone it is extremely difficult and	CAR 39 CAR 40 CAR 41 CAR 42 CL 16 CL 17 CL 18 CL 19	OK

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			frequently not reasonable to compare different hydropower potential and plants. Seeing the above, PP has chosen to analyze similar activities that are occurring in the Rio Grande do Sul State. This state has almost 300.000 km^2. CL 16: In Section B.5 of the PDD version 1, in item 4.a of the additionality analysis, please provide a reference for the information regarding the fact that Brazil has 6 different climate regions. Scale: Only Small Hydro Power Plants (below 30 MW and above 1 MW of installed capacity) according to Brazilian legislation (ANEEL – Agência Nacional de Energia Elétrica. Resolution # 652, issued on December 9th, 2003. - http://www.aneel.gov.br/cedoc/res2003652.pdf (checked on 22.12.2010) have been analyzed. In Addition, only plants with installed capacity 50% lower and 50% higher than SCV I project were analyzed (i.e. between 12.5 and 37.5 MW). Seeing that only projects up to 30 MW of installed capacity are being considered, the scale range is: 12.5 – 30 MW. CAR 39: In item B.5 of the PDD version 1, in sub-		

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			item 4.a of the additionality analysis, the following inconsistency was found: The scale of similar projects is according to PP: projects with an installed capacity of 50% lower and 50% higher than 25 MW (this means 12.5 MW – 37.5 MW). However, PP mentions a range of 10.5 MW – 37.5 MW. Same environmental with respect to regulatory framework: PP included only projects starting after March 2004, due to the fact that the new structure for the electricity marked institutional framework was approved by a law on this date: http://www.planalto.gov.br/CCIVIL/_Ato2004-2006/2004/Lei/L10.848.htm (checked by DOE on 22.12.2010). CL 17: In Section B.5 of the PDD version 1, in item 4.a of the additionality analysis, please provide third party documented reference so the DOE can validate the statement that that since March 2004 a new structure for the electricity marked institutional framework was adopted in Brazil. CL 18: In Section B.5 of the PDD version 1, in item 4.a of the additionality analysis, please clarify if the region selected for the common practice analysis (Rio Grande do Sul State) has a different environment with respect		

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			to regulatory framework than the remaining of the country. Same environment with respect to investment climate, access to technology and financing: PP concludes that: "financial information should be considered when small hydro projects were analyzed. However, Project Participants decided to do their upmost in making a reasonable comparison for the purpose of common practice analysis even without investment information available." CL 19: In Section B.5, in item 4.a of the additionality analysis, please clarify if the if the region selected for the common practice analysis (Rio Grande do Sul State) has a different environment with respect to investment climate (investment possibilities), access to technology and access to financing. With the premises above, PP concludes that there are some projects similar to the proposed project activity. CAR 40: In Section B.5 of the PDD version 1, in item 4.a of the additionality analysis, PP has included CDM projects in its analysis. This is not in accordance with the "TOOL FOR THE		

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			DEMONSTRATION AND ASSESSMENT OF ADDITIONALITY" (VERSION 05.2). EB 39 ANN 10. CAR 41: In item B.5 of the PDD version 1, in sub-item 4.a of the additionality analysis, PP's analysis of similar projects on table 07 (page 20) and page 21 is inconsistent. Moreover, information provided by PP on table 7 is not in accordance with the reference provided by PP and not in accordance with information provided on page 21 of the PDD. CAR 42: In Section B.5 of the PDD version 1, in sub-step 4.a. of the additionality analysis, PP describes the essential distinctions between identified similar activities. This is not in accordance with the "TOOL FOR THE DEMONSTRATION AND ASSESSMENT OF ADDITIONALITY" (VERSION 05.2). EB 39 ANN 10. Moreover, this should be done in sub-step 4.b. PP should in sub-step 4.a only provide a clear identification of similar activities (according to the criteria adopted by PP).		
aa. Has the below guideline followed for Sub-step 4b: Discuss any similar Options that are occurring? If similar activities are identified, then it is necessary to demonstrate why the existence of	EB 39	Ann 10	CAR 43: In Section B.5 of the PDD version 1, in sub-step 4.b. of the additionality analysis, PP does not discuss similar activities that were identified in	CAR 43	OK

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these activities does not contradict the claim that the proposed project activity is financially/economically unattractive or subject to barriers. This can be done by comparing the proposed project activity to the other similar activities, and pointing out and explaining essential distinctions between them that explain why the similar activities enjoyed certain benefits that rendered it financially/economically attractive (e.g., subsidies or other financial flows) and which the proposed project activity cannot use or did not face the barriers to which the proposed project activity is subject. In case similar projects are not accessible, the PDD should include justification about non-accessibility of data/information.			sub-step 4.a. Moreover, in sub-step 4.b, PP does not compare the proposed project activity to the other similar activities, pointing out and explaining essential distinctions between them. Also, PP provides in sub-step 4.b general information regarding the Brazilian energy sector.This is not in accordance with the "TOOL FOR THE DEMONSTRATION AND ASSESSMENT OF ADDITIONALITY" (VERSION 05.2). EB 39 ANN.		
bb. Has the outcome from Step 4 clearly mentioned in PDD?	EB 39	Ann 10	Please refer to items (6.z) and (6.aa) above.	OK	OK
cc. Has it been proved that the porject is additional?	EB 39	Ann 10	Please refer to item (6) above.	OK	OK

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a. Prior consideration of the clean development mechanism					
a. Is the project ativity start date prior to the date of publication of the PDD for stakeholder comments?	VVM	98	CAR has been raised regarding how PP has defined the Project's Starting Date. Please refer to item (3.o.iv) above.	OK	OK
b. If yes, were the CDM benefits considered necessary in the decision to undertake the project as a proposed CDM project activity?	VVM	98	CAR has been raised regarding how PP has defined the Project's Starting Date. Please refer to item (3.o.iv) above. However: PP informed the host Party DNA and the UNFCCC secretariat in writing of the commencement of the project activity and of their intention to seek CDM status in the year 2008. Please refer to item (3.o.iv) above. Also PP has provided the DOE with documentation, more specifically minutes of board meetings, in which the benefits of the CDM were considering in a pre-project phase. Please refer to item (3.o.iv) above.	OK	OK
c. Is the start date of the project activity, reported in the PDD, in accordance with the "Glossary of CDM terms", which states that "The starting date of a CDM project activity is the earliest date at which either the implementation or construction or real action of a project activity begins."?	VVM	99	CAR has been raised regarding how PP has defined the Project's Starting Date. Please refer to item (3.o.iv) above.	OK	OK

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d. Does the project activity require construction, retrofit or other modifications?	VVM	99	Yes. Project requires construction of a Small Hydro Power Plant (Greenfield).	OK	OK
e. If yes, is it ensured that the date of commissioning cannot be considered as the project activity start date?	VVM	99	CAR has been raised regarding how PP has defined the Project's Starting Date. Please refer to item (3.o.iv) above.	OK	OK
f. Is it a new project activity (a project activity with a start date on or after 02 August 2008) or an existing project activity (a project activity with a start date before 02 August 2008)?	VVM	100	CAR has been raised regarding how PP has defined the Project's Starting Date. Please refer to item (3.o.iv) above.	OK	OK
g. For a new project, for which PDD has not been published for global stakeholder consultation or a new methodology proposed to the CDM Executive Board before the project activity start date, had PPs informed the host Party DNA and the UNFCCC secretariat in writing of the commencement of the project activity and of their intention to seek CDM status? (Provide reference to such confirmation from host Party DNA and UNFCCC secretariat).	VVM	101	CAR has been raised regarding how PP has defined the Project's Starting Date. Please refer to item (3.o.iv) above.	OK	OK
h. For an existing project activity, for which the start date is prior to the date of publication of the PDD for global stakeholder consultation, are the following evidences provided:	VVM	102	CAR has been raised regarding how PP has defined the Project's Starting Date. Please refer to item (3.o.iv) above.	OK	OK
ii. 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	VVM	102	CAR has been raised regarding how PP has defined the Project's Starting Date. Please refer to item (3.o.iv) above.	OK	OK

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the project, including, inter alia:					
a. 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?	VVM	102	CAR has been raised regarding how PP has defined the Project's Starting Date. Please refer to item (3.o.iv) above.	OK	OK
iii. 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, including, inter alia:	VVM	102	CAR has been raised regarding how PP has defined the Project's Starting Date. Please refer to item (3.o.iv) above.	OK	OK
a. contract with consultants for CDM/PDD/methodology services?	VVM	102	CAR has been raised regarding how PP has defined the Project's Starting Date. Please refer to item (3.o.iv) above.	OK	OK
b. Emission Reduction Purchase Agreements or other documentation related to the sale of the potential CERs (including correspondence with multilateral financial institutions or carbon funds)?	VVM	102	CAR has been raised regarding how PP has defined the Project's Starting Date. Please refer to item (3.o.iv) above.	OK	OK
c. evidence of agreements or negotiations with a DOE for validation services?	VVM	102	CAR has been raised regarding how PP has defined the Project's Starting Date. Please refer to item (3.o.iv) above.	OK	OK
d. submission of a new methodology to the CDM Executive Board?	VVM	102	CAR has been raised regarding how PP has defined the Project's Starting Date. Please refer to item (3.o.iv) above.	OK	OK

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e. publication in newspaper?	VVM	102	CAR has been raised regarding how PP has defined the Project's Starting Date. Please refer to item (3.o.iv) above.	OK	OK
f. interviews with DNA?	VVM	102	CAR has been raised regarding how PP has defined the Project's Starting Date. Please refer to item (3.o.iv) above.	OK	OK
g. earlier correspondence on the project with the DNA or the UNFCCC secretariat?	VVM	102	CAR has been raised regarding how PP has defined the Project's Starting Date. Please refer to item (3.o.iv) above.	OK	OK
h. Has the chronology of events including time lines been appropriately captured and explained/detailed in the PDD?	VVM	102	CAR has been raised regarding how PP has defined the Project's Starting Date. Please refer to item (3.o.iv) above.	OK	OK
b. Identification of alternatives					
a. Does the approved methodology that is selected by the proposed CDM project activity prescribe the baseline scenario and hence no further analysis is required?	VVM	105	Yes, the relevant methodology (ACM0002.v12.1) prescribe the baseline scenario and hence no further analysis is required	OK	OK
b. If no, does the PDD identify credible alternatives to the project activity in order to determine the most realistic baseline scenario?	VVM	105	Not applicable. The relevant methodology (ACM0002.v12.1) prescribe the baseline scenario and hence no further analysis is required	OK	OK
c. Does the list of alternatives given in the PDD esure that:	VVM	106	Not applicable. The relevant methodology (ACM0002.v12.1) prescribe the baseline scenario and hence no further analysis is required	OK	OK
i. the list of alternatives includes as one of the	VVM	106	Not applicable. The relevant methodology	OK	OK

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options that the project activity is undertaken without being registered as a proposed CDM project activity?			(ACM0002.v12.1) prescribe the baseline scenario and hence no further analysis is required		
ii. 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?	VVM	106	Not applicable. The relevant methodology (ACM0002.v12.1) prescribe the baseline scenario and hence no further analysis is required	OK	OK
iii. the alternatives comply with all applicable and enforced legislation?	VVM	106	Not applicable. The relevant methodology (ACM0002.v12.1) prescribe the baseline scenario and hence no further analysis is required	OK	OK
c. Investment analysis					
a. Has investment analysis been used to demonstrate the additionality of the proposed CDM project activity?	VVM	108	Yes.		OK
b. If yes, does the PDD provide evidence that the proposed CDM project activity would not be:	VVM	108	See below.		
i. the most economically or financially attractive alternative?	VVM	108	Not applicable.		NA
ii. economically or financially feasible, without the revenue from the sale of certified emission reductions (CERs)?	VVM	108	A benchmark analysis (Option III) was selected as the most appropriate analysis method to consider.		OK
c. Was this shown by one of the following approaches?	VVM	109	See below.		
i. The proposed CDM project activity would produce no financial or economic benefits other than CDM-related income. Document the costs associated with the proposed	VVM	109	Not applicable.		NA

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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.					
ii. The proposed CDM project activity is less economically or financially attractive than at least one other credible and realistic alternative.	VVM	109	Not applicable.		NA
iii. The financial returns of the proposed CDM project activity would be insufficient to justify the required investment.	VVM	109	A benchmark analysis (Option III) was selected as the most appropriate analysis method to consider.		OK
d. Is the period of assessment limited to the proposed crediting period of the CDM project activity?	EB 51	Ann 58	No.		OK
e. Does the project IRR and equity IRR calculations reflect the period of expected operation of the underlying project activity (technical lifetime), or - if a shorter period is chosen - include the fair value of the project activity assets at the end of the assessment period?	EB 51	Ann 58	Yes, it reflects the concession period.		OK
f. Does the IRR calculation include the cost of major maintenance and/or rehabilitation if these are expected to be incurred during the period of assessment?	EB 51	Ann 58	Yes.		OK
g. Do the project participants justify the appropriateness of the period of assessment in the context of the underlying project activity, without reference to the proposed CDM crediting period?	EB 51	Ann 58	Yes, the period of assessment reflects the concession period.		OK

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h. Does the cash flow in the final year include a fair value of the project activity assets at the end of the assessment period?	EB 51	Ann 58	Yes.		OK
i. Has the fair value been calculated in accordance with local accounting regulations where available, or international best practice?	EB 51	Ann 58	Yes.		OK
j. Does the fair value calculations include both the book value of the asset and the reasonable expectation of the potential profit or loss on the realization of the assets?	EB 51	Ann 58	Yes.		OK
k. Was depreciation, and other non-cash items related to the project activity, which have been deducted in estimating gross profits on which tax is calculated, added back to net profits for the purpose of calculating the financial indicator (e.g. IRR, NPV)?	EB 51	Ann 58	Yes.		OK
l. Has taxation been included as an expense in the IRR/NPV calculation in cases where the benchmark or other comparator is intended for post-tax comparisons?	EB 51	Ann 58	Not applicable.		NA
m. Are the input values used in all investment analysis valid and applicable at the time of the investment decision taken by the project participant?	EB 51	Ann 58	**CAR BQA 1** - Provide a spreadsheet containing all the assumptions and input values used in the investment analysis with its respective description and provide the evidences to justify the respective evidence, the description of the evidence and evidence's date. Make sure that all information and evidences are based on the relevant information available at the time of the investment decision and not information available at an earlier	CAR BQA 1	OK

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			or later point. (Total investment, energy price, plant load factor, O&M costs and among others)		

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n. Is the timing of the investment decision consistent and appropriate with the input values?	EB 51	Ann 58	Refer to CAR BQA 1.	CAR BQA 1	OK
o. Are all the listed input values been consistently applied in all calculations?	EB 51	Ann 58	Yes.		OK
p. Does the investment analysis reflect the economic decision making context at point of the decision to recomence the project in the case of project activities for which implementation ceases after the commencement and where implementation is recommenced due to consideration of the CDM?	EB 51	Ann 58	Not applicable.		NA
q. Have project participants supplied the spreadsheet versions of all investment analysis?	EB 51	Ann 58	**CAR BQA 2** – The spreadsheet of the sensitivity analysis was not presented.	CAR BQA 2	OK
r. Are all formulas used in this analysis readable and all relevant cells be viewable and unprotected?	EB 51	Ann 58	Yes.		OK
s. In cases where the project participant does not wish to make such a spreadsheet available to the public has the PP provided an exact read-only or PDF copy for general publication?	EB 51	Ann 58	Not applicable.		NA
t. In case the PP wishes to black-out certain elements of the publicly available version, is it justifiable?	EB 51	Ann 58	Not applicable.		NA
u. Was the cost of financing expenditures (i.e. loan repayments and interest) included in the calculation of project IRR?	EB 51	Ann 58	Not applicable.		NA
v. In the calculation of equity IRR, has only the portion of investment costs which is financed by equity been considered as the net cash outflow?	EB 51	Ann 58	Not applicable.		NA

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w. Has the portion of the investment costs which is financed by debt been considered a cash outflow in the calcualtion of equity IRR? (this is not allowed)	EB 51	Ann 58	Not applicable.		NA
x. Was a pre-tax benchmark be applied?	EB 51	Ann 58	Yes.		OK
y. In cases where a post-tax benchmark is applied, is actual interest payable taken into account in the calculation of income tax?	EB 51	Ann 58	Not applicable.		NA
z. In such situations, was interest calculated according to the prevailing commercial interest rates in the region, preferably by assessing the cost of other debt recently acquired by the project developer and by applying a debt-equity ratio used by the project developer for investments taken in the previous three years?	EB 51	Ann 58	Not applicable.		NA
aa. In cases where a benchmark approach is used is the applied benchmark appropriate to the type of IRR calculated?	EB 51	Ann 58	**CL BQA 1** – Why the benchmark showed in the PDD differs from the benchmark calculated in the document "WACC_ElectricGen_2008.07"?	CL BQA 1	OK
bb. Has local commercial lending rates or weighted average costs of capital (WACC) selected as appropriate benchmarks for a project IRR?	EB 51	Ann 58	Yes.		OK
cc. Has required/expected returns on equity selected as appropriate benchmark for an equity IRR?	EB 51	Ann 58	Not applicable.		NA
dd. In case benchmarks supplied by relevant national authorities selected is it applicable to the project activity and the type of IRR calculation presented?	EB 51	Ann 58	Not applicable.		NA
ee. In the cases of projects which could be	EB	Ann	Yes.		OK

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developed by an entity other than the project participant is the benchmark applied based on publicly available data sources which can be clearly validated?	51	58			
ff. Have internal company benchmarks/expected returns (including those used as the expected return on equity in the calculation of a weighted average cost of capital - WACC) been applied in cases where there is only one possible project developer?	EB 51	Ann 58	Not applicable.		NA
gg. In such cases, have these values been used for similar projects with similar risks, developed by the same company or, if the company is brand new, would have been used for similar projects in the same sector in the country/region?	EB 51	Ann 58	Not applicable.		NA
hh. Has a minimum clear evidence of the resolution by the company's Board and/or shareholders been provided to the effect as above?	EB 51	Ann 58	Not applicable.		NA
ii. Has a thorough assessment of the financial statements of the project developer - including the proposed WACC - to assess the past financial behavior of the entity during at least the last 3 years in relation to similar projects been conduted?	EB 51	Ann 58	Not applicable.		NA
jj. Does the risk premiums applied in the determination of required returns on equity reflect the risk profile of the project activity being assessed, established according to national/international accounting principles? (It is	EB 51	Ann 58	Yes.		OK

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not considered reasonable to apply the rate general stock market returns as a risk premium for project activities that face a different risk profile than an investment in such indices.)					
kk. Has an investment comparison analysis and not a benchmark analysis used when the proposed baseline scenario leaves the project participant no other choice than to make an investment to supply the same (or substitute) products or services?	EB 51	Ann 58	Not applicable.		NA
ll. Have variables, including the initial investment cost, that constitute more than 20% of either total project costs or total project revenues been subjected to reasonable variation (positive and negative) and the results of this variation been presented in the PDD and be reproducible in the associated spreadsheets?	EB 51	Ann 58	**CAR BQA 3** – The PP should explain how it has determined that the parameters used in the sensitivity analysis are the most critical and that the ranges of variations are appropriate.	CAR BQA 3	OK
mm. Have a corrective action been raised for a variable to be included in the sensitivity analysis which constitute less than 20% and have a material impact on the analysis ?	EB 51	Ann 58	Not applicable.		NA
nn. Is the range of variations selected is reasonable in the project context?	EB 51	Ann 58	Yes.		OK
oo. Dos the variations in the sensitivity analysis at least cover a range of +10% and -10%, unless this is not deemed appropriate in the context of the specific project circumstances?	EB 51	Ann 58	Yes.		OK
pp. In cases where a scenario will result in the project activity passing the benchmark or	EB 51	Ann 58	Not applicable.		NA

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becoming the most financially attractive alternative, is an assessment done of the probability of the occurrence of this scenario in comparison to the likelihood of the assumptions in the presented investment analysis, taking into consideration correlations between the variables as well as the specific socio-economic and policy context of the project activity?					
qq. Was the plant load factor defined ex-ante in the CDM-PDD according to one of the following options:	EB 48	Ann 11	See below.		
i. The plant load factor provided to banks and/or equity financiers while applying the project activity for project financing, or to the government while applying the project activity for implementation approval?	EB 48	Ann 11	Refer to CAR BQA 1.	CAR BQA 1	OK
ii. The plant load factor determined by a third party contracted by the project participants (e.g. an engineering company)?	EB 48	Ann 11	Refer to CAR BQA 1.	CAR BQA 1	OK
rr. Was 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 conducted?	VVM	111	**CAR BQA 4** – Provide a detailed explanation about how was determined the suitability and appropriateness of each input value used in the investment analysis.	CAR BQA 4	OK
ss. Were the parameters cross-checked agains third-party or publicly available sources, such as invoices or price indices?	VVM	111	Refer to CARs BQA 1 e 4.	CAR BQA 1 e 4	OK
tt. Were feasibility reports, public announcements	VVM	111	**CL BQA 2** – Are there any feasibility reports,	CL	OK

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and annual financial reports related to the proposed CDM project activity and the project participants reviewed?			public announcements and annual financial reports related to the proposed CDM project activity and the project participants?	BQA 2	
uu. Was the correctnes of computations carried out and documented by the project participants assessed?	VVM	111	Yes.		OK
vv. Was the sensitivity analysis by the project participants to determine under what conditions variations in the result would occur, and the likelihood of these conditions assessed?	VVM	111	Refer to CAR BQA 2.	CAR BQA 2	OK
ww. Is the type of benchmark applied is suitable for the type of financial indicator presented?	VVM	112	Yes.		OK
xx. Do any risk premiums applied determining the benchmark reflect the risks associated with the project type or activity?	VVM	112	**CL BQA 3** – Explain why the risk premiums applied in determining the benchmark reflect the risks associated with the project type or activity.	CL BQA 3.	OK
yy. To determine this, was it assessed whether it is reasonable to assume that no investment would be made at a rate of return lower than the benchmark by:	VVM	112	**CL BQA 4** – Why it is reasonable to assume that no investments would be made at a rate of return lower than the benchmark? See VVM 1.1 item 110 c.	CL BQA 4	OK
i. assessing previous investment decisions by the project participants involved?	VVM	112	Refer to CL BQA 4.	CL BQA 4	OK
ii. determining whether the same benchmark has been applied?	VVM	112	Refer to CL BQA 4.	CL BQA 4	OK
iii. determining if there are verifiable circumstances that have led to a change in the benchmark?	VVM	112	Refer to CL BQA 4.	CL BQA 4	OK
zz. Did the project participants rely on values from Feasibility Study Reports (FSR) that are	VVM	113	**CL BQA 5** - Did the project participants rely on values from Feasibility Study Reports (FSR) that	CL BQA 5	OK

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approved by national authorities for proposed CDM project activities?			are approved by national authorities for proposed CDM project activities?		
xx. If yes:	VVM	113	See below.		
i. has the FSR 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?	VVM	113	Refer to CL BQA 5.	CL BQA 5	OK
ii. Are the values used in the PDD and associated annexes fully consistent with the FSR?	VVM	113	Refer to CL BQA 5.	CL BQA 5	OK
iii. If not, was the appropriateness of the values validated?	VVM	113	Refer to CL BQA 5.	CL BQA 5	OK
iv. On the basis of its specific local and sectoral expertise, is confirmation 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?	VVM	113	Refer to CL BQA 5.	CL BQA 5	OK
d. Barrier analysis					
a. Has barrier analysis been used to demonstrated the additionality of the proposed CDM project activity?	VVM	115	Not Applicable. PP chooses not to apply a barrier analysis.	OK	OK
b. If yes, does the PDD demonstrate that the proposed CDM project activity faces barriers that:	VVM	115	Not Applicable. PP chooses not to apply a barrier analysis.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
i. prevent the implementation of this type of proposed CMD project activity?	VVM	115	Not Applicable. PP chooses not to apply a barrier analysis.	OK	OK
ii. do not prevent the implementation of at least one of the alternatives?	VVM	115	Not Applicable. PP chooses not to apply a barrier analysis.	OK	OK
c. Are there any issues that have a clear direct impact on the financial returns of the project activity, other than: risk related barriers, for example risk of technical failure, that could have negative effects on the financial performance; or barriers related to the unavailability of sources of finance for the project activity? {If yes, these issues cannot be considered barriers and shall be assessed by investment analysis. [Refer to (6.c) above]}	VVM	116	Not Applicable. PP chooses not to apply a barrier analysis.	OK	OK
d. Were the barriers determined as real by:	VVM	117	Not Applicable. PP chooses not to apply a barrier analysis.	OK	OK
i. asssing the available evidence and/or undertaking 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?	VVM	117	Not Applicable. PP chooses not to apply a barrier analysis.	OK	OK
ii. ensuring 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?	VVM	117	Not Applicable. PP chooses not to apply a barrier analysis.	OK	OK
iii. Is existence of a barrier substantiated only by the opinions of the project participants?	VVM	117	Not Applicable. PP chooses not to apply a barrier analysis.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
(If yes, this barrier cannot be considered as adequately substantiated)					
e. Were the barriers determined as preventing the implementation of the project activity but not the implementation of at least one of the possible alternatives by applying 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 *at least one of* the possible alternatives, in particular the identified baseline scenario?	VVM	117	Not Applicable. PP chooses not to apply a barrier analysis.	OK	OK
e. Common practice analysis					
a. Is this a proposed large-scale, or first-of-its kind small-scale project activity?	VVM	119	Large scale.	OK	OK
b. If yes, was common practice analysis carried out as a credibility check of the other available evidence used by the project participants to demonstrate additionality?	VVM	119	Yes, common practice analysis was carried out. Please refer to item (6.z) and (6.aa) above.	OK	OK
c. Was it assessed whether the geograpphical scope (e.g. 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 technologis the relevatn region for assessment will be local and for others it may be transnational/global.	VVM	120	Please refer to item (6.z) and (6.aa) above.	OK	OK
d. Was a region other than the entire host country chosen?	VVM	120	Yes. Please refer to item (6.z) and (6.aa) above.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
e. If yes, was the explanation why this region is more appropriate assessed?	VVM	120	Yes. Please refer to item (6.z) and (6.aa) above.	OK	OK
f. Using official sources and local and industry expertise, was it determined 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?	VVM	120	Yes. Please refer to item (6.z) and (6.aa) above.	OK	OK
g. Are similar and operational projects, other than CDM project activities, already "widely observed and commonly carried out" in the defined region?	VVM	120	Yes. Please refer to item (6.z) and (6.aa) above.	OK	OK
h. If yes, was it assessed whether there are essential distinctions between the proposed CDM project activity and the other similar activities?	VVM	120	No. Please refer to item (6.aa) above.	OK	Ok
7. Monotoring plan					
a. Does the PDD include a monitoring plan?	VVM	122	Yes.	OK	OK
b. Is this monitoring plan based on the approved monitoring methodology applied to the proposed CDM project activity?	VVM	122	Please refer to item 3.u.i.	OK	OK
c. Were the list of parameters required by the the selected methodology identified?	VVM	123	Yes. Parameters required by the methodology are: $EG_{facility,y}$ $EF_{grid,CM,y}$ CAP_{PJ}	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			A_{PJ}		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
d. Does the monitoring plan contains all necessary parameters?	VVM	123	Yes, please refer to item 3.t and 3.u.i for a discussion on the parameters.	OK	OK
e. Are the parameters clearly described?	VVM	123	Yes, please refer to item 3.t and 3.u.i for a discussion on the parameters.	OK	OK
f. Does the means of monitoring described in the plan comply with the requirements of the methodology?	VVM	123	Yes, please refer to item 3.t and 3.u.i for a discussion on the parameters.	OK	OK
g. Are all data and parameters monitored as per monitoring methodology?	ACM	0002 v.12.1	Yes, see item 3.t.i	OK	OK
h. Are all data collected as part of monitoring archived electronically and kept at least for 2 years after the end of the last crediting period?	ACM	0002 v.12.1	CAR 44: In the PDD version 1, PP does not inform if monitoring data will be archived electronically and if 100% of the data will be monitored. This is not in accordance with ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1.	CAR 44	OK
i. Are 100% of the data monitored, if not indicated otherwise?	ACM	0002 v.12.1	Please refer to item (7.h) above.	OK	OK
j. Are measurements conducted with calibrated measurement equipment according to relevant industry standards?	ACM	0002 v.12.1	Please refer to item (3.t.ii.b.)	OK	OK
k. Are the monitoring provisions in the tools referred to in the methodology correctly applied?	ACM	0002 v.12.1	Not applicable.	OK	OK
l. Are the monitoring arrangements described in the	VVM	123	Yes, please refer to item (3.t) and (3.u.i.)	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
monitoring plan feasibl within the project design?					
m. Are the following means of implementation of the monitoring plan sufficient to ensure that the emission reductions achieved by/resulting from the proposed CDM project activity can be reported ex post and verified:	VVM	123	Yes, please refer to item (3.t) and (3.u.i.)	OK	OK
i. data management procedures?	VVM	123	Yes, please refer to item (3.t) and (3.u.i.)	OK	OK
ii. quality assurance procedures?	VVM	123	Yes, please refer to item (3.t) and (3.u.i.)	OK	OK
iii. quality control procedures?	VVM	123	Yes, please refer to item (3.t) and (3.u.i.)	OK	OK
8. Sustainable development					
a. Does the CDM project activity assists Parties not included in Annex I to the Convention in achieving sustainable development?	VVM	125	Please, refer to item (1.b.)	OK	OK
b. Does the letter of approval by the DNA of the host Party confirm the contribution of the proposed CDM project activity to the sustainable development of the host Party?	VVM	126	Please, refer to item (1.b.)	OK	OK
9. Local stakeholder consultation					
a. Were local stakeholders (public, including individuals, groups or communities affected, of likely to be affected, by the proposed CDM project activity or actions leading to the implementation of such an activity) invited by the PPs to comment on the proposed CDM project activity prior to the publication of the PDD on the UNFCCC website?	VVM	128	According to the PDD, local stakeholders consultation has been carried out. Please refer to item (3.gg) – (3.ii).	OK	OK
b. Have comments by local stakeholders that can reasonably be considered relevant for the	VVM	129	Yes. Please refer to item (3.gg) – (3.ii).	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
proposed CDM project activity been invited?					
c. Is the summary of the comments received as provided in the PDD complete?	VVM	129	No. Please refer to item (3.gg) – 3.ii.	OK	OK
d. Have the project participants taken due account of any comments received and described this process in the PDD?	VVM	129	Please refer to item (3.gg) – (3.ii).	OK	OK
10. Environmental impacts					
a. Have the project participants submitted documentation on the analysis of the environmental impacts of the project activity?	VVM	131	Yes, please refer to item 3.ff.	OK	OK
b. Have the project participants undertaken an analysis of environmental impacts?	VVM	132	Yes, however, please refer to item 3.ff.	OK	OK
c. Does the host Party require an environmental impact assessment?	VVM	132	Yes. This is mandatory by Brazilian regulation. As stated in the PDD: "The project participant, as per the environmental rules defined by the National Environmental Council (CONAMA, Conselho Nacional do Meio Ambiente), is required to obtain three licenses on order to obtain the environmental permit to develop the hydroelectric power plant.		
d. If yes, have the project participants undertaken an environmental impact assessment?	VVM	132	No, a CL was raised by the DOE asking for a copy of this document.	OK	OK

Table 2 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
CAR 01: In Annex 1 of the PDD version 1, the information regarding project participants is not consistent with Section A.3.	EB 41 ANN 12	The Annex 1 was revised and it is in accordance with section A.3. Please refer to the second version of the PDD.	In Annex 1 of the PDD version 2, the information regarding project participants is now consistent with Section A.3. Seeing the above, the CAR was closed.

CAR 02: In Section A.2 of the PDD version 1, no information is given regarding the scenario existing prior to the start of the implementation of the project activity. This is not in accordance with GUIDELINES FOR COMPLETING THE PROJECT DESIGN DOCUMENT (CDM-PDD) AND THE PROPOSED NEW BASELINE AND MONITORING METHODOLOGIES (CDM-NM), VERSION 07. .	EB 41 ANN 12	FIRST PP RESPONSE: The Section A.2 was revised accordingly the guidelines. Please refer to the second version of the PDD. SECOND PP RESPONSE: The name of the project was corrected in the section A.2. Please refer to the third version of the PDD.	FIRST DOE ANALYSIS: In Section A.2 of the PDD version 2, information is now provided regarding the scenario existing prior to the start of the implementation of the project activity. However, Please remove reference to other project (Pezzi) in the last paragraph of A.2. THIS CAR IS STILL OPEN SECOND DOE ANALYSIS The Name of other project (Pezzi) was removed from section A.2 of the PDD version 3. Seeing this, the CAR was closed.

CAR 03: In Section A.4.3 of the PDD (version 1), no information is provided regarding the scenario existing prior to the start of the implementation of the project activity and the baseline scenario. This is not in accordance with GUIDELINES FOR COMPLETING THE PROJECT DESIGN DOCUMENT (CDM-PDD) AND THE PROPOSED NEW BASELINE AND MONITORING METHODOLOGIES (CDM-NM), VERSION 07.	EB 41 ANN 12	The section was revised accordingly; please refer to the second version of the document.	PP states in Section A.4.3 of the PDD version 02 that the scenario existing prior to the start of the implementation of the project activity and the baseline scenario: *"(...)prior to the implementation of the project activity there was no small hydropower plant or other project activity operational in the same location of Serra dos Cavalinhos I Project. In the absence of the project activity all the energy would be supplied by the interconnected grid. Hence, the baseline scenario and the scenario without the project activity are the same."* This statement is in line with the applicable guidelines item A.4.3. Seeing the above, the CAR was closed.

CAR 04: In Section A.4.3 of the PDD version 1, no information regarding (1) the age and average lifetime of the equipments based on manufacturer's specifications and industry standards, (2) load factors, (3) efficiencies and (4) the monitoring equipments and their location in the systems. This is not in accordance with GUIDELINES FOR COMPLETING THE PROJECT DESIGN DOCUMENT (CDM-PDD) AND THE PROPOSED NEW BASELINE AND MONITORING METHODOLOGIES (CDM-NM), VERSION 07 and with EB 48 REPORT - ANNEX 11 - GUIDELINES FOR THE REPORTING AND VALIDATION OF PLANT LOAD FACTORS (VERSION 01).	EB 41 ANN 12	PP first response: The additional data was included at the PDD. Regarding the equipments lifetime, follows ANEEL's resolution nº367, 02/06/2009 which establishes lifetime of 30 years for generators and 40 years for hydraulic turbines (annexed follows the related references, please refer to p. 69 and p. 208 item 275 for generator´s and pages 143 and 209 item 595 for turbine). Also the meters specifications that will be used for monitoring procedures can be altered during the projects implementation, therefore theirs specifications are not included at the PDD, nevertheless the most probable characteristics are described below: Meter Model: ION-8600C Manufacture : MERLIN GERIN by Schneider Year of manufacture: 2011 PP stress that the equipments indicated at the PDD are not yet purchased, and may be altered during the project´s implementation. Also the respective efficiencies are not yet available. Furthermore, the lifetime of the equipments is described at the technical study developed by an important Brazilian research center on Small Hydro Power Plants, University of Itajubá. This study was requested by ANEEL, it follows attached. Please refer to pages 288 (first paragraph), and 608 (first paragraph).	DOE FIRST ANALYSIS: (1) The DOE was able to validate the lifetime of generators (30 years and of turbines (40 years) with the following evidences provided by PP: - Technical study developed by an important Brazilian research center on Small Hydro Power Plants, University of Itajubá. This study was requested by ANEEL, it follows attached. Please refer to pages 288 (first paragraph) FOR GENERATORS, and 608 (first paragraph) FOR TURBINES.

		PP second response: The information was included in the Section A.4.3 of the PDD. Please refer to the third version of the document. In addition, more details regarding monitoring equipment and their location are present in the section B.7.2 (Description of the monitoring plan) of the PDD.	(2) PLF of 0.61 inserted. Calculated through the "assured energy" of 15.20 MW. So 15.20 / 25 = 0.61 (0.608). Please refer to CL 03 how the DOE was able to validate the PLF and assured energy. (3) Expected efficiency of the generator group (turbine, couplings and electricity generator) = 90%. The DOE was able to validate this efficiency with the following evidence: Technical Chart (Ficha Técnica) of May 2010. Part of the Revised Basic Engineering Project (0811-C1-RT-200-00-001-RA), prepared by Intertechne Consultores S.A. (third party). (4) Please provide information regarding monitoring equipment and their location in the systems in the PDD. THIS CAR IS STILL OPEN SECOND DOE ANALYSIS

			Information regarding monitoring equipments and their location in the system was added to A.4.3 of the PDD. Seeing the above, the CAR was closed.

CAR 05: In Section A.4.3 of the PDD (version 1), no information is provided regarding the emission sources and GHGs involved in the project. This is not in accordance with GUIDELINES FOR COMPLETING THE PROJECT DESIGN DOCUMENT (CDM-PDD) AND THE PROPOSED NEW BASELINE AND MONITORING METHODOLOGIES (CDM-NM), VERSION 07.	EB 41 ANN 12	First PP response: The section was revised accordingly; please refer to the second version of the document. Second PP response: This information was included in the section A.4.3. Please refer to the third version of the PDD.	First DOE analysis: No information was added. Please note that there are baseline emission sources. THIS CAR IS STILL OPEN Second DOE analysis: In version 3 of the PDD, in section A.4.3, PP has added information regarding baseline emission factors. Seeing the above, the CAR was closed.

CAR 06: The values provided in table 4 in Section A.4.4, table 8 in Section B.6.3 and table 9 in Section B.6.4 cannot be correct if power plant is scheduled to start operations on the 1st of December 2012.	EB 41 ANN 12	Table 4 in Section A.4.4, table 8 in Section B.6.3 and table 9 in Section B.6.4 were corrected according to the beginning of the start operations on December, 1st 2012. Please refer to the second version of the PDD. Second PP response: The tables 4, 9 and 10 were corrected considering the emission factor of the Brazilian DNA for 2010 year (see CAR 15). In addition, the values presented in the Table 10 were corrected considering the starting date of the first crediting period (01/04/2014). Please refer to the third version of the PDD.	First DOE analysis: - According to the calculation spreadsheet the total amount of baseline emissions (and total amount of emission reductions) is 152,389 tCO_2e. Please correct tables 4 (A.4.4), 9 (B.6.3) and 10 (B.6.4) of the PDD version 2. - According to Section C.2.1.1 of the PDD version 2, the starting date of the first crediting period is 01/04/2014. However, the values in table 10 (B.6.4) indicate a start in December of 2014. THIS CAR IS STILL OPEN Second DOE analysis: In the 3rd version of the PDD, the tables 4, 9 and 10 are all in conformity with the calculations provided in the latest version of the calculation spreadsheet. Also, information regarding the starting of operations is consistent in the entire PDD: 01/04/2014. Seeing the above, the CAR was closed.

CAR 07: In Section B.3 of the PDD version 1, the definition of the project boundary is not in accordance with ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1.	EB 41 ANN 12	The section was revised accordingly; please refer to the second version of the document.	In Section B.3 of the PDD version 2, the definition of the project boundary is now in accordance with ACM0002v12.1 Seeing the above, the CAR was closed.
CAR 08: In Section B.3 of the PDD version 1, PP has modified the table regarding emission sources included in or excluded from the project boundary. Moreover, columns have been excluded. This is not in accordance with paragraph 14 of Part I of the GUIDELINES FOR COMPLETING THE PROJECT DESIGN DOCUMENT (CDM-PDD) AND THE PROPOSED NEW BASELINE AND MONITORING METHODOLOGIES (CDM-NM), VERSION 07.	EB 41 ANN 12	The table was revised accordingly; please refer to the second version of the document.	The table in Section B.3 of the PDD version 02 is in line with the table provided by the guidelines. Its content is in accordance with the relevant methodology ACM0002v12.1 Seeing the above, the CAR was closed.

CAR 09: In Section B.3 of the PDD version 1, PP states in table 4 - Sources and gases included in the project boundary – that CO_2 is to be included in the project boundary. However, this is not shown in the flow diagram in the same section. Also, according to B.7.1 the variable EG_y is not monitored. However, this variable has been included in the flow diagram. In addition, the variable TEG_y is included in the flow diagram. This is not in accordance with the ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1.	EB 41 ANN 12	The flow diagram was revised.	In Section B.3 of the PDD, the flow diagram now includes CO_2 and $EG_{facility,y}$. Also, TEG_y was excluded. Seeing that these modifications have been done in accordance with ACM0002v12.1, the CAR was closed.

CAR 10: In Section B.5 of the PDD version 1, the definition of the starting date as: "the date in which PDD publication for GSC occurred" is not in accordance with the GLOSSARY OF CDM TERMS (VERSION 05).	EB 41 ANN 12	The project´s starting date have not occur yet, and it is conditioned to the CDM project´s registration. Considering that the EPC contract is expected to be signed on at the time of the project´s registration, PP foresees that the starting date of the project will be on 01/04/2012. The section was revised accordingly. Please, refer to the second version of the PDD. Second PP response: (1) The phrase was corrected. Please refer to the third version of the PDD; (2) The phrase was corrected. Please refer to the third version of the PDD; (3) The table was excluded. Please refer to the third version of the PDD.	First DOE analysis: Starting date of project activity is a future date, due to the fact that the project participant has not committed to expenditures related to the implementation or related to the construction of the project activity (glossary of CDM terms version 5). Moreover, the EPC contract has not been sign yet and is expected to be sign on 01/04/2012 (also mentioned in Section C.1.1. of the PDD version 2). Please refer to CAR 34. Please note: (1) The phrase in B.5 of the PDD version 2: "the project registration is expected to occur on 01/04/2011, date in which PP foresees that the EPC will be signed." This cannot be correct. (See next page)

			(2) The phrase in B.5 of the PDD version 2: "(...) nevertheless no Prior consideration is required" is not in accordance with EB 49 ANN 22. Moreover, prior consideration of the CDM is always required. It is only the notification that is not required. PP does not need to send a Notification informing UNFCCC and Host Party's DNA of its prior consideration of the CDM, due to the fact that prior consideration is assumed to exist, seeing that the start of validation is before the project's starting date. (3) PP has provided in this new version of the PDD, a table containing actions which were taken to ensure the CDM status of the project. Seeing that the starting date of the Project is after August 2008, PP, this is not necessary in accordance with EB 49 ANN 22. However, if PP wants to keep this information, please provide the DOE with documented evidence, so the actions can be validated. Also, the first and last lines of the table are the same. THIS CAR IS STILL OPEN
			Second DOE analysis:

			DOE second analysis: (1) The phrase was corrected in version 3 of the PDD. (2) The phrase was corrected in version 3 of the PDD. (3) In version 3 of the PDD, the table was excluded. This has been accepted by the DOE, since the inclusion of this table is not necessary due to the fact that prior consideration of the CDM is evidenced by the fact that the starting date of the project is after the start of validation. Seeing the above, the CAR was closed.

CAR 11: In Section B.5 of the PDD version 1, PP mentions the older version of the Guidelines on the demonstration and assessment of prior consideration of the CDM. This is not in accordance with paragraph 104 of the CLEAN DEVELOPMENT MECHANISM VALIDATION AND VERIFICATION MANUAL (Version 01.2).	EB 41 ANN 12	The guideline version was updated.	The part of the text that referred to the older version of the guidelines was removed due to CAR 10. Seeing the above, the CAR was closed.
CAR 12: In Section B.5 of the PDD version 1, regarding prior consideration, the statement "As SCVI Project Activity start date is after August 2nd, 2008 and the PDD has not been published for global stakeholder consultation until the time of completing this PDD, Project Participants informed Brazilian DNA in writing about the intention to registered Serra dos Cavalinhos I Project under CDM on August 22nd, 2008" is not in accordance with the requirements of GUIDELINES ON THE DEMONSTRATION AND ASSESSMENT OF PRIOR CONSIDERATION OF THE CDM (version 03) EB 49 ANN 22.	EB 41 ANN 12	The section was revised accordingly. Please refer to the second version of the PDD.	The part of the text referred to in CAR 12 was removed from the PDD due to CAR 10. Seeing the above, the CAR was closed.

CAR 13: Equation 1 in the Section B.6.1 of the PDD version 1 and the description of its parameters $EG_{PJ,y}$ and $EF_{grid,CM,y}$ are not in accordance with equation 6 of the ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1.	EB 41 ANN 12	The equation and its parameters description were revised.	Equation 1 in the Section B.6.1 of the PDD version 2 and the description of its parameters $EG_{PJ,y}$ and $EF_{grid,CM,y}$ are now in accordance with equation 6 of the ACM0002 version 12.1. Seeing the above, the CAR was closed.
CAR 14: In Section B.6.1 of the PDD version 1, PP states that: "According to the methodological tool "Tool to calculate the emission factor for an electricity system" (version 2). The following seven steps to the baseline calculation:" However, the tool is used to calculate the emission factor of an electricity system. Therefore, the statement above is not in accordance with ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1.	EB 41 ANN 12	The statement was revised.	The phrase was corrected. It now states: "In order to calculate combined margin CO2 emission factor, in accordance with to the methodological tool "Tool to calculate the emission factor for an electricity system" (version 2), the subsequent seven steps were followed:" Seeing that the above statement is in line with ACM0002v12.1 and the referred Tool, this CAR was closed.

CAR 15: In Section B.6.1 of the PDD version 1 (page 23), PP mentions the 7 steps to be applied to calculate the emission factor of the electricity system. The names of steps 1, 3 and 5 are not in accordance with the TOOL TO CALCULATE THE EMISSION FACTOR FOR AN ELECTRICITY SYSTEM, VERSION 2, EB 50 REPORT, ANNEX 14.	EB 41 ANN 12	PP first response: The names of the referred steps were revised. PP second response: The version of the Tool to calculate the emission factor for an electricity system was updated considering the latest version available. However, according to the information available at UNFCCC website, the version 2 utilized in the PDD still valid <http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v2.2.1.pdf/history_view>. In addition, the emission factor of the Brazilian DNA was updated considering the data for 2010 year. Please refer to the third version of the PDD and CERs spreadsheet calculation.	DOE first analysis: In Section B.6.1 of the PDD version 2, all steps to be applied to calculate the emission factor for the electricity system are now cited in accordance with the Tool to calculate the emission factor for an electricity system (version 2). However, the version used for the Tool to calculate the emission factor for an electricity system (version 2) is now not the latest version available. Please clarify this. THIS CAR IS STILL OPEN. DOE second analysis: The latest version of the Tool to calculate the emission factor is used in version 3 of the PDD: version 2.2.1. Crosschecked at: http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v2.2.1.pdf/history_view Seeing the above, the CAR was closed.

CAR 16: In Section B.6.1 of the PDD version 1, in equation 2 (calculation of the OM emission factor) the description of the parameter $EF_{EL,DD,h}$ is not in accordance with the description given for this parameter in equation 10 of the TOOL TO CALCULATE THE EMISSION FACTOR FOR AN ELECTRICITY SYSTEM, VERSION 2, EB 50 REPORT, ANNEX 14.	EB 41 ANN 12	PP first response: The description of the parameter $EF_{EL,DD,h}$ was revised. PP second response The correct description was included in the section B.6.1 (Step 4). Please refer to the third version of the PDD.	DOE first analysis: The description of parameter $EF_{EL,DD,h}$ in the referred equation has not been revised. The description, according to the applicable Tool, should include the word “grid” before “power units”. THIS CAR IS STILL OPEN. DOE second analysis: The description of parameter $EF_{EL,DD,h}$ in the referred equation has now been revised in version 3 of the PDD. It is now in accordance with version 2.2.1 of the Tool to calculate the emission factor for an electricity system. Seeing the above, the CAR was closed.

CAR 17: In Section B.6.1 of the PDD version 1, in Step 5, PP does not document which option (option 1 or 2) has been chosen in terms of vintage data to calculate the build margin emission factor. This is not in accordance with the TOOL TO CALCULATE THE EMISSION FACTOR FOR AN ELECTRICITY SYSTEM, VERSION 2, EB 50 REPORT, ANNEX 14.	EB 41 ANN 12	PP first response: Option 2 was chosen and documented at step 5. PP second response The justification for the option chosen was included in the Step 5 of the section B.6.1. Please refer to the third version of the PDD.	DOE first analysis: PP's correction has not been accepted. PP has only inserted the phrase: "Option 2 was chosen." However, PP should explain and justify which option is chosen, according to the Guidelines for Completing the Project Design Document (CDM-PDD) and the Proposed New Baseline And Monitoring Methodologies (CDM-NM), Version 07. Moreover, PP should describe that the options to be chosen are regarding the vintage of data. After that, PP should describe option (1) and (2) and then state which option was chosen. THIS CAR IS STILL OPEN. DOE second analysis: The justification for the choice of vintage date in Step 5 of the B.6.1 was inserted in version 3 of the PDD. Seeing this, the CAR was closed.

CAR 18: In Section B.6.1 of the PDD version 1, in Step 6, PP does not provide the equation used for calculation the build margin emission factor. This is not in accordance with the GUIDELINES FOR COMPLETING THE PROJECT DESIGN DOCUMENT (CDM-PDD) AND THE PROPOSED NEW BASELINE AND MONITORING METHODOLOGIES (CDM-NM), VERSION 07. Also the following sentence is not in accordance with the equation 13 of the TOOL TO CALCULATE THE EMISSION FACTOR FOR AN ELECTRICITY SYSTEM, VERSION 2, EB 50 REPORT, ANNEX 14: "STEP 6 – Calculate the build margin mission factor (EF_{BM},y)".	EB 41 ANN 12	The equation used for the build margin emission factor calculation was included and the sentence revised.	The equation used for calculation the build margin emission factor was provided in Section B.6.1 of the PDD version 2 (equation 4) Also, the referred sentence has been corrected and is now in accordance with the Tool to calculate the emission factor for an electricity system (version 2) Seeing the above, the CAR was closed.

CAR 19: In Section B.6.1 of the PDD version 1, in Step 7, the equation 3 is not in accordance with the equation 14 of the TOOL TO CALCULATE THE EMISSION FACTOR FOR AN ELECTRICITY SYSTEM, VERSION 2, EB 50 REPORT, ANNEX 14. Also, the following phrase needs to be corrected to be in accordance with equation 14 of the above mentioned tool: "STEP 7 – Calculate the combined margin (CM) emissions factor EFy."	EB 41 ANN 12	The equation and the phrase were revised.	In Section B.6.1 of the PDD version 2, the equation to calculate the combined margin emission factor is now in accordance with equation 14 of the Tool to calculate the emission factor for an electricity system (version 2). Also, the referred phrase was corrected and is also in accordance with the Tool. Seeing the above, the CAR was closed.
CAR 20: In Section B.6.1 of the PDD version 1, the equation used to calculate project emissions from a reservoir (equation 5) is not in accordance with equation 3 of the ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1.	EB 41 ANN 12	The equation was corrected.	In Section B.6.1 of the PDD version 2, the equation used to calculate project emissions from a reservoir (equation 5) is now in accordance with equation 3 of the ACM0002v12. Seeing the above, the CAR was closed.

CAR 21: In Section B.6.1 of the PDD version 1, the following sentence is not in accordance with the ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1: "b) If power density (PD) of the project is greater than 10W/m2, PEy = 0."	EB 41 ANN 12	The sentence was revised.	The phrase was revised. It now states: (b) If the power density of the project activity (*PD*) is greater than 10 W/m^2: $PE_{HP,y} = 0$ Seeing that this description is in line with ACM0002v12.1, this CAR was closed.

CAR 22: In section B.6.1 of the PDD version 1, the explanation given by PP regarding the consideration of leakage emissions is not in accordance with the ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1. Moreover, PP does not need to identify leakage emission as the methodology states that leakage emission (whether identified or not) can be neglected.	EB 41 ANN 12	The section was revised.	In Section B.6.1 of the PDD version 2, the description of leakage is in accordance with ACM0002 version 2, seeing the above, the CAR was closed.
CAR 23: In Section B.6.1 of the PDD version 1, the equation used to calculate the emission reductions of the project activity (equation 7) and the description of its parameter BE_y are not in accordance with equation 11 of the ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1.	EB 41 ANN 12	The section was revised.	In Section B.6.1 of the PDD version 2, the equation used to calculate the emission reductions of the project activity (equation 9) and the description of its parameter BE_y are now in accordance with equation 11 of the ACM0002v12.1. Seeing the above, the CAR was closed.

CAR 24: In Section B.6.3 of the PDD version 1, PP calculates the project's power density. The data units used (MW and km^2) are not in accordance with the data units prescribed by ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1	EB 41 ANN 12	The section was revised.	Data units (W and m^2) are now in accordance with ACM0002v12.1. Seeing the above, the CAR was closed.
CAR 25: In Section B.6.3 of the PDD version 1, PP describes the emission factors as tCO_2e/MWh. This is not in accordance with the TOOL TO CALCULATE THE EMISSION FACTOR FOR AN ELECTRICITY SYSTEM, VERSION 2, EB 50 REPORT, ANNEX 14.	EB 41 ANN 12	The section was revised.	Emission factors are now, in Section B.6.3 of the PDD version 2, described as tCO_2/MWh. Seeing that this is in line with the referred Tool, this CAR was closed.
CAR 26: In Section B.6.3 of the PDD version 1, PP does not provide emission reduction calculation. This is not in accordance with the GUIDELINES FOR COMPLETING THE PROJECT DESIGN DOCUMENT (CDM-PDD) AND THE PROPOSED NEW BASELINE AND MONITORING METHODOLOGIES (CDM-NM), VERSION 07.	EB 41 ANN 12	The emission reduction calculation was included at the PDD´s latest version.	In Section B.6.3 of the PDD version 2, PP now provides emission reduction calculation. Seeing that this has been done in accordance with the referred guidelines, this CAR was closed.

CAR 27: In Annex 3 of the PP version 1, the link to the Brazilian DNA website where emission factor values are published is not correct. Moreover, it is a link to the 2008 values and the project used the latest (2009) values.	EB 41 ANN 12	PP first response: The link was corrected. At 17/05/2011 the specific link was http://www.mct.gov.br/index.php/content/view/307492.html Furthermore, regarding the BM emission factor, the Brazilian DNA didn't publish it; therefore the most recent available data was considered (2009). PP second response: As mentioned in CAR15, the emission factor of the Brazilian DNA was updated considering the data for 2010 year. Thus, the link was corrected and is in accordance with the CERs spreadsheet. In addition, the emission factor provided in Annex 3 of the PDD was updated. Please refer to the third version of the PDD.	DOE first analysis: The link in Annex 3 of the PDD version 2 is now only: <http://www.mct.gov.br/>. The emission factors provided in Annex 3 of the PDD version 2 contain values that are not the same as the values on the DNA website and on the calculation spreadsheet. Moreover, values in Annex 3 a rounded off. THIS CAR IS STILL OPEN. DOE second analysis: The link was updated. It now refers to the web-site of the Brazilian DNA where the latest values of the OM and BM emission factor are calculated: for the year 2010. The emission factors provided by PP in version 3 of the PDD (annex 3) and the values provided in the calculation spreadsheet are in accordance with the 2010 OM and BM values from the Brazilian DNA. Seeing this, the CAR was closed.

CAR 28: In Section B.7.1 of the PDD version 1, PP correctly states that the parameter $EG_{facility,y}$ will be monitored during the project activity. However, this parameter is not mentioned in the remaining of the PDD. More specifically, this parameter is not discussed in Section B.3, B.6.1 and B.6.3. This is not in accordance with ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1.	EB 41 ANN 12	The PDDs sections were revised accordingly.	The PDD version 2 in sections B.3, B.6.1 and B.6.3 now mention the parameter that will be monitored according to ACM00202v12.1 and the PDD Section B.7.1: parameter $EG_{facility,y}$ Seeing the above, the CAR was closed.
CAR 29: Regarding the monitoring of the data/parameter CAP_{pj} and A_{Pj}, in Section B.7.1 of the PDD version 1, the data units of both parameters are not in accordance with ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1	EB 41 ANN 12	The section was revised.	Data units of both parameters (W and m^2) are now in accordance with ACM0002v12.1. Seeing the above, the CAR was closed.

CAR 30: In section B.7.1 of the PDD version 1, regarding data/parameter $EF_{grid.CM.y}$, $EF_{grid.OM.y}$ and $EF_{grid.BM.y}$, the descriptions of measuring methods are not in accordance with the remaining of the PDD, wherein is stated that 2009 data will be used.	EB 41 ANN 12	The section was revised accordingly. Please refer to the second version of the PDD.	In section B.7.1 of the PDD version 2, PP has chosen only to describe data/parameter $EF_{grid.CM.y}$. Seeing that this is in line with ACM0002v12.1, the DOE has accepted this. Also, PP now stated that 2009 data will be used. Seeing that this is the latest data published by the Brazilian DNA, the DOE was able to accept this. Seeing the above, the CAR was closed.

CAR 31: In Section B.7.1 of the PDD version 1, for the parameter: $EG_{facility,y}$, the following descriptions of measurement methods is missing: (1) a specification which accepted industry standards or national or international standards will be applied, (2) which measurement equipment is used, (3), which calibration procedures are applied (if applicable), (4) what is the accuracy of the measurement method and (5) who is the responsible person/entity that should undertake the measurements. This is not in accordance with the GUIDELINES FOR COMPLETING THE PROJECT DESIGN DOCUMENT (CDM-PDD) AND THE PROPOSED NEW BASELINE AND MONITORING METHODOLOGIES (CDM-NM), VERSION 07.	EB 41 ANN 12	The equipment´s model, and type will only be available after the project´s implementation and will be checked during the verification. Nevertheless, all measuring equipment´s and related procedures are in compliance with CCEE´s standards and ONS´s grid procedures, "Module 12: Measurement for Invoicing"[1], which establishes on its submodule 12.2 (attached) that the minimum required accuracy for measuring the dispatched electricity to the grid must possess an accuracy below 0.2% (as established by the standards: NBR 14519, or IEC-60687). Also the calibration of the billing meters will occur every two years. The standards and procedures are also described at section B.7.2.. The name of the company that will carry out the meters calibration is not determined yet, that information will also be available and detailed during the verification, nevertheless ONS standards requires that these meters are calibrated by an entity with Rede Brasileira de Calibração (RBC) credential The section B.7.2 and the Annex 4 were revised.	: (1) standards: CCEE and ONS (Sub-Module 12.2) Crosschecked by DOE: http://www.ons.org.br/download/procedimentos/modulos/Modulo_12/Submodulo%2012.2_Rev_1.0.pdf (2) NBR 14519, or IEC-60687: required accuracy for measuring the dispatched electricity to the grid must possess an accuracy below 0.2%. (3) Calibration every two years, calibrated by an entity with Rede Brasileira de Calibração (RBC) credential. (4) accuracy: please refer to item (2) above. (5) responsible: Brookfield Energia Renovável (BER). Seeing the info provided above, the CAR was closed.

CAR 32: In Section B.7.2 of the PDD version 1 and in Annex 4 the following methodology title: "As of the procedures set by the "Approved consolidated monitoring methodology ACM0002" – "Consolidated monitoring methodology for zero-emissions grid-connected electricity generation from renewable sources" is not in accordance with the ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1.	EB 41 ANN 12	The section B.7.2 and the Annex 4 were revised. Please, refer to the second version of the PDD.	Section B.7.2 and Annex 4 of the PDD version 2 were revised. The name of the methodology is now correct in Annex 4. In Section B.7.2, the paragraph in which the incorrect name of the methodology was inserted has been rewritten. Seeing the above, the CAR was closed.
CAR 33: In Section C.2.1 of the PDD version 1, PP does not indicate that each crediting period shall be at most 7 years and may be renewed at most two times, provided that, for each renewal, a designated operational entity determines and informs the Executive Board that the original project baseline is still valid or has been updated taking account of new data where applicable. This is not in accordance with the GUIDELINES FOR COMPLETING THE PROJECT DESIGN DOCUMENT (CDM-PDD) AND THE PROPOSED NEW BASELINE AND MONITORING METHODOLOGIES (CDM-NM), VERSION 07	EB 41 ANN 12	The section was revised accordingly. Please refer to the second version of the PDD.	In Section C.2.1 of the PDD version 2, PP now indicates that each crediting period shall be at most 7 years and may be renewed at most two times, provided that, for each renewal, a designated operational entity determines and informs the Executive Board that the original project baseline is still valid or has been updated taking account of new data where applicable. Seeing the above, this CAR was closed.

[1] Available at www.ons.org.br

CAR 34: Regarding Section C.2.1.1 of the PDD version 1, the expected operation start of the power plant (12.12.2012) in this Section differs from information provided in the remaining of the PDD.	EB 41 ANN 12	First PP response: The expected operation start date of the project was corrected. Please refer to the second version of the PDD. Second PP response: According to the optimized Project´s Basic Design, the hydroelectric project is planned to run over a period of 26 months from the start of civil works until the commercial generation of the last unit. Please refer to the chapter 9 “Time Schedule” attached to this response.	First DOE analysis: In Section C.2.1.1 of the PDD version 2, the expected operation start of the power plant is now: “Date of registration of the CDM project activity, or the date of the plant´s operational beginning (expected to occur two years after the project´s starting date, 01/04/2014), whichever is later” Please provide evidence so the DOE can validate the expected starting date as defined in C.1.1 (01/04/2012) and the expected operational start (01/04/2014). This evidence can be (for instance) an updated implementation schedule of the SHP. THIS CAR IS STILL OPEN. Second DOE analysis: An updated chronogram of the implementation of the SHP was provided to the DOE:

			SCI_Cronogramastatus_2012.02.10.pdf With that evidence, the DOE was able to validate the expected starting date as defined in C.1.1 (01/04/2012) and the expected operational start (01/04/2014). Seeing the above, the CAR was closed.

CAR 35: In Section E.1 of the PDD version 1, PP states that letters were send to municipality Jaquirana and not to Monte Alegre dos Campos and São Francisco de Paula. This is not in accordance with Section A.4.1.3 of the PDD.	EB 41 ANN 12	The section E.1 was revised and is accordance with section A.4.1.3. Please, refer to the second version of the PDD.	Section E.1 and A.4.1.3 of the PDD version 2 now describe that letters were sent to Bom Jesus, Monte Alegre dos Campos and São Francisco de Paula Municipalities. The DOE was able to validate that those are the municipalities involved with a copy of the Preliminary Environmental License (LP): Preliminary License nr. 701/2008-DL, issued by the Rio Grande do Sul Environmental Agency (FEPAM - Fundação Estadual de Proteção Ambiental Henrique Luiz Roessler) on 10th June, 2008. Seeing the above, the CAR was closed.

CAR 36: According to Section E.2 of the PDD version 1, no comments were received from local stakeholders. However, during site visit, the DOE was able to observe that comments were received.	EB 41 ANN 12	PP's first response; At the time of the PDD development no comments were observed, and to the present date three comments were received and properly responded. Annex follows the response letters, the Section E.2 was revised. And comments follows attached. PP second response: The number of comments was corrected. Please refer to the third version of the PDD. In addition, please refer to the letters with the comments attached to this response.	DOE first analysis: - In Section E.2., PP state that three comments were received. However, PP then discusses four comments. - The letters containing comments 3 and 4 were not presented to the DOE as evidence. THIS CAR IS STILL OPEN. Second DOE analysis: According to version 3 of the PDD, in section E.2, four comments were received. Evidence of these 4 comments was provided to the DOE. Seeing the above, the CAR was closed.

CAR 37: In the Section B.2 of the PDD version 1, PP does not confirm that its project activity does not comprises one of the following conditions: (1) Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity and (2) Biomass fired power plants. This is not in accordance with the ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1.	ACM 0002 V12.1	The section was revised. Please refer to the second version of the PDD.	The section B.2 was revised: PP confirms that the project is not comprises one of the following conditions: (1) Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity and (2) Biomass fired power plants. Seeing that this was done in accordance with ACM0002 v12.1. And seeing that the DOE was able to validate that the project is a Greenfield hydro power plant, this CAR was closed.

CAR 38: In Section B.5 of the PDD version 1, in sub-step 1.a of the additionality analysis, PP has not included as alternative to the project activity: Other realistic and credible alternative scenario(s) to the proposed CDM project activity scenario that deliver outputs services or services with comparable quality, properties and application areas. This is not in accordance with the "TOOL FOR THE DEMONSTRATION AND ASSESSMENT OF ADDITIONALITY" (VERSION 05.2). EB 39 ANN 10.	EB 39 ANN 10	Besides the scenario 2, which consists of the proposed project activity undertaken without being registered as a CDM project activity. PP presented as other realistic and credible alternative scenario: the continuation of the current (previous) situation, which is the supply of electricity by the National Interconnected System (SIN, from the Portuguese "Sistema Interligado Nacional"). Baseline scenario established by ACM0002: *"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 as described in the "Tool to calculate the emission factor for an electricity system".* Moreover, in the case of the present activity there is no further realistic and credible alternative beyond the scenarios already included in the sub-step 1a.	Paragraph 105 of VVM 1.2 states that: "105. 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." Seeing the above, and seeing that PP has complied with paragraph 106(a) of the VVM 1.2: "106. 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" the DOE has closed this CAR.

		This ACM0002´s specific condition is clearly indicated at the Draft version of the VVM (EB 39) paragraph *129. The PDD shall identify a range of credible alternatives to the project activity in order to determine what the most realistic baseline scenario is, except for approved methodologies where the baseline is not required to be identified (**e.g., ACM0002**).Available at http://cdm.unfccc.int/EB/039/eb39annagan1.pdf* Nevertheless, ACM0002´s example was retrieved from the VVM´s latest version, it is clear that the ACM0002 fully complies with the exception described: *"...unless the approved methodology that is selected by the proposed CDM project activity prescribes the baseline scenario and no further analysis is required."*	

CAR 39: In item B.5 of the PDD version 1, in sub-item 4.a of the additionality analysis, the following inconsistency was found: The scale of similar projects is according to PP: projects with an installed capacity of 50% lower and 50% higher than 25 MW (this means 12.5 MW – 37.5 MW). However, PP mentions a range of 10.5 MW – 37.5 MW	EB 39 ANN 10	First PP response: The analyses present similar activities in the same region, with similar technology and scale, subjected to the same regulatory framework and investment conditions. The activities are presented, but not included in the analysis. The section was revised. Please refer to the second version of the PDD. Second PP response: The paragraph was corrected, considering only plants with installed capacity up to 30 MW. In addition, it's important to mention that the sub-step 4.a was revised considering the new version of the methodological tool "*Demonstration and assessment of additionality*", version 06.0.0. Please refer to the new version of the PDD and spreadsheet with the common practice analysis attached to this response.	First DOE analysis: PPD version 2 is still not clear regarding the scale of projects that are contemplated in the 4.a analysis, due the following inconsistent statements: "(...) no large scale hydropower plants (e.g. installed capacity over 30MW) were considered." And "(...)only plants with installed capacity 50% lower and 50% higher than SCVI project were analyzed (i.e. between 120.5 and 37.5 MW)" PDD should be clear regarding the range that has been applied. THIS CAR IS STILL OPEN. Second DOE analysis:

			The scale of projects contemplated in the common practice analysis is no clear: 12.5 MW – 30 MW. So, no large scale plants were included (large scale: above 30 MW). Also, no plants with a installed capacity lower than 25 MW were included. The DOE was able to validade this range with: 12,50 MW: 50% below the installed capacity of Serra dos Cavalinhos I (25 MW). The DOE was able to validate this threshold of "minus 50%" with: http://cdm.unfccc.int/Projects/DB/TUEV-SUED1218108477.61/ReviewInitialComments/8KZ3T8MYPBK2Z2HYZN5CQ4Z5BJ2F9S . In this request for review, the CDM EB defines that considering a range of +/- 50% is appropriate for hydro power plants.

			30 MW: This is the limit for small hydro power plants in Brazil (Cross-check: http://www.aneel.gov.br/cedoc/res2003652.pdf) Above 30 MW, the hydro power plants are considered to be “large hydro” and have a distinctive approval process before the government agencies (ANEEL and environmental agencies) and higher cost of energy generation (cross-check: http://www.portalpch.com.br/index.php?option=com_content&task=view&id=702). Seeing the above, the CAR was closed.

CAR 40: In Section B.5 of the PDD version 1, in item 4.a of the additionality analysis, PP has included CDM projects in its analysis. This is not in accordance with the "TOOL FOR THE DEMONSTRATION AND ASSESSMENT OF ADDITIONALITY" (VERSION 05.2). EB 39 ANN 10.	EB 39 ANN 10	The section was revised. Please refer to the second version of the PDD.	CDM projects were excluded from the sub-step 4.a analysis in Section B.5 of the PDD version 2. Seeing the above, the CAR was closed.

CAR 41: In item B.5 of the PDD version 1, in sub-item 4.a of the additionality analysis, PP's analysis of similar projects on table 07 (page 20) and page 21 is inconsistent. Moreover, information provided by PP on table 7 is not in accordance with the reference provided by PP and not in accordance with information provided on page 21 of the PDD.	EB 39 ANN 10	PPs first response; The section was revised. Please refer to the second version of the PDD. PP second response: The Common Practice Analysis was revised considering the new version of the methodological tool "*Demonstration and assessment of additionality*", version 06.0.0. Please refer to the new version of the PDD and spreadsheet with the common practice analysis attached to this response.	First DOE analysis: (1) The following phrase is not consistent with the remaining of the 4.a analysis in Section B.5 of the PDD version 2: "(...) small hydros that received some kind of incentive (PROINFA and/or CDM) were listed at the chart below." Moreover, CDM projects are not listed in the referred chart. They have been correctly excluded from the chart. (2) In the PDD, PP states that: "Spreadsheet with complete research for the common practice analysis is available with the Project Participants and was presented to DOE during validation." This spreadsheet, containing the complete research of the common practice spreadsheet has not been presented to the DOE. THIS CAR IS STILL OPEN.

			SECOND DOE ANALYSIS: Point (1) has been corrected in the common practice analysis. The common practice spreadsheet was provided to the DOE (point (2)). Seeing the above, the CAR was closed.

CAR 42: In Section B.5 of the PDD version 1, in sub-step 4.a. of the additionality analysis, PP describes the essential distinctions between identified similar activities. This is not in accordance with the "TOOL FOR THE DEMONSTRATION AND ASSESSMENT OF ADDITIONALITY" (VERSION 05.2). EB 39 ANN 10. Moreover, this should be done in sub-step 4.b. PP should in sub-step 4.a only provide a clear identification of similar activities (according to the criteria adopted by PP).	EB 39 ANN 10	First PP response: The section was revised. Please refer to the second version of the PDD. SHP Carlos Gonzatto was excluded from the table 8, and "Eng. Herique Kotzian" have been included. Since "Palanquinho" have been published at UNFCCC website for Global Stakeholder comments[1], therefore it was not considered in the common practice analysis. Please refer to the latest version of the PDD. Second PP response: As mentioned above, the sub-step 4a. was revised considering the new version of the methodological tool "*Demonstration and assessment of additionality*", version 06.0.0. Please refer to the new version of the PDD and spreadsheet with the common practice analysis attached to this response.	First DOE analysis: In Section B.5 of the PDD version 2, in sub-step 4.a. of the additionality analysis, PP still describes the essential distinctions between identified similar activities. Moreover, PP states that: "(...) eight activities were identified, from those, only one was not receiving incentives from PROINFA. In this way, only two similar projects were identified (..) PROINFA benefits are not described by PP in the 4.a analysis as being one of the criteria for exclusion of similar activities. Therefore, PP cannot state that "only two similar projects were identified", since the table on page 27 (table 8) includes more projects. So, PP should apply its own criteria of exclusion presented at the beginning of the 4.a analysis, and include... (see next page)

[1] http://cdm.unfccc.int/Projects/Validation/DB/IQI8LWMFOQAD2UQSG6PV1XBJMOK7X3/view.html

			...PROINFA projects as similar activities. If PP wishes to describe that PROINFA projects are essentially distinctive than its own project, this should be done in the 4.b analysis, according to the Additionality Tool. THIS CAR IS STILL OPEN. Second DOE analysis: PP's common practice analysis was modified in the last version of the PDD (version 3) due to the new version of the Additionality Tool (version 6). In accordance with paragraph 47 of this Tool, PP has provide a modified common practice analysis, as described in Section B.5 of the PDD and as described below: Geographical scope: Rio Grande do Sul State (please refer to CL 16, 18 and 19 for a description how the DOE has validated this geographical area.

			Output range: 50+- in accordance with paragraph 47 of the Additionality Tool version 6 (12.5 MW – 37.5 MW). Step 2 of paragraph 47: - Same Output / Capacity: According to the definition provided in paragraph 7 of the Additionality Tool: **Output**: "goods or services with comparable quality, properties, and application areas", the output defined by PP in the PDD version 3 is: "the renewable electricity generated by grid-connected hydropower power plants." From the 57 hydro power plants connected to the project's electricity grid (SIN), only 6 are within the 50+- range of installed capacity and are not CDM projects. Therefore: $N_{all} = 6$

			Information provided in the PDD and in the common practice spreadsheet to define the project's N_{all} was crosschecked by the DOE with: (1) ANNEL's 2012 Report on the start date of operation of Hydro Power Plants in Brazil: (available online at: http://www.aneel.gov.br/area.cfm?idArea=37&idPerfil=2 (2) UNEP-RISOE CDM Pipeline – available online at: http://cdmpipeline.org (3) ANEELs online database of all power plants operating in Brazil: online available at: http://www.aneel.gov.br/15.htm (4) UNFCCC/CDM website: http://cdm.unfccc.int Step 3: - Large Scale Hydro plants (up to 30 MW of installed capacity and with reservoirs smaller than 3 km) were considered different.

			Above 30 MW, the hydro power plants are considered to be “large hydro” in Brazil and have a distinctive approval process before the government agencies (ANEEL and environmental agencies) and higher cost of energy generation **Cross-check:** http://www.portalpch.com.br/index.php?option=com_content&task=view&id=702). And http://www.aneel.gov.br/cedoc/res2003652.pdf) - PROINFA Projects were also excluded. This means that projects that received financial incentive from the federal government through PROINFA program were considered different. PROINFA: National Program that provide incentives (financial, contractual and regulatory) for the implementation of power plants that use alternative sources of fuel (renewable biomass, wind, small hydro). Serra dos Cavalinhos I Project does not receive PROINFA benefits. Crosschecked by the DOE at:

			http://www.eletrobras.com/ELB/main.asp?Team={B38770E4-2FE3-41A2-9F75-DFF25AF92DED}#Relação de Empreendimentos Contratados e Extratos dos Contratos e Termos Aditivos Celebrados Only one project (José Barasuol (Ex. Linha 3 Leste) was not considered similar, taking into consideration the above mentioned criteria. However, this plant started operation in December 2003, i.e. before the new electricity sector framework. This new structure of the electricity sector was approved by the House of Representatives and published in March of 2004 (Please refer to CL 17 for a description how the DOE was able to validate that in fact a new electricity framework was established in 2004). Step 4: Seeing the above, N_{diff} = 6 and project is, therefore, not common practice. PP has provided a spreadsheet with the complete common practice analysis as described above. Seeing the above the CAR was closed.

CAR 43: In Section B.5 of the PDD version 1, in sub-step 4.b. of the additionality analysis, PP does not discuss similar activities that were identified in sub-step 4.a. Moreover, in sub-step 4.b, PP does not compare the proposed project activity to the other similar activities, pointing out and explaining essential distinctions between them. Also, PP provides in sub-step 4.b general information regarding the Brazilian energy sector.This is not in accordance with the "TOOL FOR THE DEMONSTRATION AND ASSESSMENT OF ADDITIONALITY" (VERSION 05.2). EB 39 ANN.	EB 39 ANN 10	PPs first response; The section was revised. Please refer to the second version of the PDD. PP second response: The last paragraph of 4.b analysis was excluded as requested by the DOE. In addition, a conclusion for the section was included. Please refer to the third version of the PDD.	First DOE analysis: PP still provides at the end of the 4.b analysis general information regarding the Brazilian energy sector. This information is irrelevant, seeing that the Additionality Tool asks that similar options (are identified in the 4.a analysis) should be discussed. The information is, therefore, irrelevant to what the Additionality Tool prescribes. THIS CAR IS STILL OPEN. Second DOE analysis: General information regarding the Brazilian Energy sector was excluded from the 4.b analysis in section B.5 of the PDD version 3. Seeing the above, the CAR was closed.

CAR 44: In the PDD version 1, PP does not inform if monitoring data will be archived electronically and if 100% of the data will be monitored. This is not in accordance with ACM0002: "CONSOLIDATED BASELINE METHODOLOGY FOR GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES" VERSION 12.1.	ACM 0002 V12.1	PP's first response: The section was revised. Please refer to the second version of the PDD. PP's second response: The information was included. Please refer to the third version of the PDD.	DOE first analysis: In the PDD version 2, PP still does not inform if 100% of the data will be monitored. THE CAR IS STILL OPEN. DOE second analysis: The information regarding the fact that 100% of the data is to be monitored was included in Section B.7.1 of the PDD version 3. Seeing this, the CAR was closed.
CAR 45: In Section A.2 and in Section B.7.2 of the PDD version 1, the following organization is mentioned: Energética Campos de Cima da Serra Ltda. According to the PDD, this organization is not a project participant and has no other involvement in the proposed CDM project activity.	EB 41 ANN 12	The section A.2 and B.7.2 were revised accordingly. Please, refer to the second version of the PDD.	The mentioned organization was removes from the PDD version 2. Seeing the above, the CAR was closed.

CAR BQA 1 - Provide a spreadsheet containing all the assumptions and input values used in the investment analysis with its respective description and provide the evidences to justify the respective evidence, the description of the evidence and evidence's date. Make sure that all information and evidences are based on the relevant information available at the time of the investment decision and not information available at an earlier or later point. (Total investment, energy price, plant load factor, O&M costs and among others)	EB 51 ANN 58	The details of the inputted data in the investment analysis are clearly described at the spreadsheet that was inserted in the revised PDD. Also please refer to CAR BQA 4´s answer for more details. Due project´s high investment requirement and low rate of return the project have being struggling to became feasible, in order to do so Brookfield Energia Renovável have optimized the project design, this technical modifications delayed the project implementation. Moreover, the analysis undertaken at the time of the investment decision also considered a projection based on the company´s experience. All assumptions are coherent with the "Guidelines on the assessment of investment analysis" (Version 03.1):	Answer 1 (18/07/2011) The spreadsheet was provided and the validation team was able to verify and cross-check the input values. CAR BQA 1 is closed.

		The use of investment analysis to demonstrate additionality is intended to assess whether or not a reasonable investor would or not decide to proceed with a particular project activity without the benefits of the CDM. This decision will therefore be based on the relevant information available at the time of the investment decision and <u>not information available at an earlier or later point</u>. Once all evidences considered were available at the refereed time. In order to clearly describe the process evolution, PP included a timeline in the PDD showing that continuous actions were taken to ensure the CDM status of the project.	
<u>CAR BQA 2</u> – The spreadsheet of the sensitivity analysis was not presented.	EB 51 ANN 58	The spreadsheet of sensitivity analysis is integrated with the investment analysis. PP kindly asks the validation team to reassess the referred spreadsheet (CELL T2).	Answer 1 (18/07/2011) The referred spreadsheet was reassessed and it was possible to verify that the sensitivity analysis was correct. CAR BQA 2 is closed.

CAR BQA 3 – The PP should explain how it has determined that the parameters used in the sensitivity analysis are the most critical and that the ranges of variations are appropriate.	EB 51 ANN 58	In accordance with the "Guidelines on the Assessment of investment analysis" criteria: *"Only variables, including the inital investment cost, that constitute more than 20% of either total project costs or total project revenue"* Even some of the chosen parameters don't constitute more than 20% of the total project revenue they were included as a conservative measure. Regarding the ranges of variations, it was considered the same guideline that establishes: *"As a general point of departure variation in the sensitivity analysis should at least cover a renge of +10% and -10%"*	Answer 1 (18/07/2011) All the parameters used in the sensitivity analysis are the most critical and that the ranges of variations are appropriate. CAR BQA 3 is closed.

CAR BQA 4 – Provide a detailed explanation about how was determined the suitability and appropriateness of each input value used in the investment analysis.	VVM 111	Additionally to the explanation provided by CAR BQA 1 and 3. **Total Investment Cost (BRL 160,362)** Value based on the total cost estimative provided by Robota Engenharia on August 31 2008, which can be crosschecked with Brookfield SHPP implementation cost projection for 2010 (presentation attached[1]), considering that the data applied at the projection is backed by audited balance sheet by a third party. **O&M costs (BRL 8,45/MWh)** Based on PP´s experience, this value can be crosschecked with a historical database (O&M2007.xls, cell E203 of sheet "2007 por usina" wich presents BRL 13.52/MWh), and by Eletrobrás Study for SHPP development (p. 31) that establishes that an alternative for SHPP´s O&M estimative can be based on 5% of total investment over the project´s lifetime (usually 50 years). (129,645,000BRL*5%*1/50years*1/8760=. BRL14,79/MWh).	Answer 1 (18/07/2011) All evidences were crosschecked and were applicable at the time of investment decision. CAR BQA 4 is closed.

[1] File´s name: historico custo construções abrill 2010 jmmj.ppt

		Transmission and Tributary Costs TUSD: BRL 1,50/kW/month: In accordance with ANEEL resolution # 452 / 2007 ANEEL Fee: 1,52/kW/year: In accordance with ANEEL resolution # 3731 / 2007 **Energy price (BRL 144.74/MWh)** Based on the first alternative auction´s price held on 18.06.2007 (BRL 134,99/MWh) and Inflation-Adjusted by IPCA (7,22 %, see spreadsheet IPCA.xls attached). **Amount of Electricity dispatched to the grid per year (98,900 MWh/year)** The prior value applied in the PDD was revised (10.65 MW) to 11,29 MWmed in accordance with the Ministry of Mines and Energy resolution number 143, issued on June 19th, 2006 and on the optimized Project´s Basic Design developed by Intertechne attached, that describes the projects optimization, considering the plant´s new characteristics (including the reduction of the total installed capacity) and considering that the assured energy estimative, previously established is still valid.	

		Taxes PIS: 0.65%: PIS: Law nr. 10,637, December 31st, 2002 COFINS: 3%: COFINS: Law nr. 10,833, December 29th, 2003. Social Taxes:1.08% (9% of 12%): Law nr. 8,981, January 20th, 1995 **Fair Value (BRL 2,617)** Calculated at the financial analyses spreadsheet. Included at the end of the assessment period as a cash inflow in the final year. Fair value inclusion on the cash flow is a conservative measure since the full value of the capital expenditure had not been consumed. Please note that, all provided references were available at the time of investment decision, please refer to the references´ dates. Also, in the Brookfield presentation (crosschecking reference) the values considered are projections.	

		Moreover the project´s total investment cost is highly depend on the time of the SHPP implementation (the investment cost have been continuously raising), and the project´s specifics characteristics (terrain, local assessment, local hydrology, etc.). Having this variability in mind, PP provided the validation team with several distinct sources of evidences that supported Brookfield decision, evidences that were available at the time of investment decision and references related to the project´s actual implementation, such as insurance assessment provided by an third party, in it the total investment is R$ 131 million, and the constructions contracts resulting in a average of R$ 6.9 million/MW. Even though, the evidences already presented clearly shows that the assumptions made at the investment analysis are conservative regarding the additionality, PP asks the validation team to assess the ANEEL´s accompaniment report (CAR BQA 1).	

CL 01: In Section A.2 of the PDD version 1, PP lists some general aspects regarding how the project will provide a contribution to sustainable development. However, PP does not explain how these general contributions will actually be achieved. Please give in the PDD additional information regarding how the project will contribute to sustainable development. Moreover, please clarify how the project will "drive the regional economy, increasing quality of life in local communities" and "develop the regional economy, resulting, consequently, in better quality of life."	EB 41 ANN 12	BER is implementing a social environmental program that integrates regional recreational fishing activity with local tourism, contributing to the local sustainable development. Please refer to the project´s description follows attached. The section was revised. Please refer to the second version of the PDD. PP's second response: The description presented in the section A.2 of the PDD is in accordance with the Guideline for Completing the Project Design Document (CDM-PDD) (CDM-NM) (version 7): "*The view of the project participants on the contribution of the project activity to sustainable development*". However, a brief description was included in the Section A.2 of the PDD. In addition, please refer to the documents with the actions taken by the PP contributing to the local sustainable development.	DOE first analysis: PP provided the following additional phrase: *"BER´s local employment policy will also enhance local development trough job creation during the project´s implementation phase and its operation, the project will also generate tax revenue, employees' salaries and package of benefits such as social security and life insurance."* This information comprises only general information. Please provide information in the PDD regarding specific actions that the project will carry out to contribute to the sustainable development. Also, the reference provided by PP: "Rota da Truta RS/SC - Projeto de Desenvolvimento Integrado Regional da Pesca Amadora" does not mention any of the project participants. THIS CL IS STILL OPEN.

			DOE second analysis: PP has provided specific information in Section A.2 of the PDD version 3: - “Some contributions were done by the project sponsor to local events in the region where the project is located, such as: “Filó a Cultura Esquecida” and “VI Festa da Gila 2011”. One of the goals of these events is to rescue the regional culture through the music, dance and gastronomy. Reports with a description of actions implemented was provided to the DOE as evidence: - Filo a cultura Esquecida.pdf - Festa da Gila.pdf Seeing the above, the CL was closed.

CL 02: In Section A.4.3 of the PDD (version 1), please further clarify if any technology is transferred to the Host Party. Please also provide evidence that this specific run-of-river power plant comprises technology that has minimum impact on the environment.	EB 41 ANN 12	No technology was transferred to the Host Party, the section was revised accordingly.	Section A.4.3 of the PDD was revised. No technology is transferred to the host party. PP has also provided evidence for the statement in the second paragraph of A.4.3 of the PDD version 2: Serra dos Cavalinhos I SHPP (...) results in a minimum environmental impact: - Of. Nr. 163/2010 Local government (Prefeitura) statement. Seeing the above, the CL was closed.

CL 03: Please provide documented evidence so the DOE can validate the "Assured Energy" as described in Section A.4.3 of the PDD version 1. Please also provide a copy of the Basic Engineering Project from 31.05.2010.	EB 41 ANN 12	PP's first response: Assured energy value can be checked at Intertechne revised design plan attached (is not provided in its full version, due confidentiality issues). PP's second response: The Revised Basic Engineering Project was submitted to ANEEL's approval in 15/06/2010, please refer to the letter registered in ANEEL. Currently, the project owner is still awaiting the approval of the revised project and no date is estimated considering that depends on the Brazilian Power Regulatory Agency approval. The same is applicable for the assured energy.	DOE FIRST ANALYSIS: The DOE was able to validate the plants expected energy generation of 15,2 and a PLF of 0.61 (0.608) with: Third Party Documentation: PCH Serra dos Cavalinhos I Projeto Básico Revisado – Revised Basic Engineering Project of 31/05/2010 (prepared by Intertechne Consultores S.A.) Nr. 0811-C1-RT-200-00-001-RA Please clarify when ANEEL's approval of the Revised Basic Engineering Project is expected. Please also clarify when the ANEEL's approval of assured energy is expected. THIS CL IS STILL OPEN DOE SECOND ANALYSIS: PP has provided a copy of the letter send to ANEEL with the request of approval of the Revised Basic Engineering Project (BER 483/2010). According to ANEEL's acknowledgment of receipt, it was received by ANEEL on 15/06/2010. Seeing that PP has clarified this issue, the CL was closed.

CL 04: Please explain the divergence between data (installed capacity and reservoir area) in the Technical Chart and the Environmental license LP nr 701/2008-DL.	EB 41 ANN 12	The SHPP basic design was revised, and those modifications were properly presented to ANEEL assessment. For more details, please, Environmental Basic Plan attached.	Seeing that the LP (701/2008-DL) is of 2008 and the Revised Basic Engineering Project is of 2010, the DOE concludes that the details in the Basic Engineering Project are more up to date and reflect better the technical characteristics of the to be constructed SHPP. Please refer also to CL 06. Seeing the above, the CL was closed.
CL 05: Please clarify why PP has used methodology version 12, seeing that version 12.1 is the latest version of ACM0002.	EB 41 ANN 12	The methodology version was update to the most recent version: 12.1.0.	The PDD version 2 now refer to the new version of the Methodology ACM0002v12.1. Seeing the above, the CL was closed.

CL 06: Regarding Section B.5 of the PDD version 1, please explain why the letters send to the Brazilian DNA notifying its intention to seek CDM status describes the Project as a 19 MW SHPP with a 0.55 km^2 reservoir are.	EB 41 ANN 12	As previously explained, the project had undergone through several modifications along its development, among than, the total installed capacity alteration. The basic design revision, was properly presented and approved by the responsible agencies. Please refer to the clarification letter presented on CL014.	See also CL 04. The following documentation was provided: BER 483/2010 Letter sent to ANEEL presenting Revised Basic Engineering Project for ANEEL' approval. Seeing the above, the DOE concludes that concludes that the details in the Basic Engineering Project are more up to date and reflect better the technical characteristics of the to be constructed SHPP. Seeing the above, the CL was closed.
CL 07: In table 5 of Section B.5 of the PDD version 1, PP informs of a BRASCAN ENÉRGÉTICA S.A. Board meeting in which the necessity of CDM registry was discussed and took place on 11.09.2008. Please explain the relation, if any, between project participants and Brascan S.A.	EB 41 ANN 12	Brookfield Energia Renovável S/A was formerly known as Brascan Energética S.A. The section was revised and corrected. Please, refer to the second version of the PDD.	The part of the text referred to in CL 07 was removed from the PDD due to CAR 10. Seeing the above, the CL was closed.

CL 08: In Section B.6.1 of the PDD version 1, PP states in the description of Step 2 (to calculate the emission factor of the electricity system) that it has chosen not to include off-grid power plants in the project electricity system. However, according to PP, it is the Brazilian DNA has identified and defined the relevant electricity system. Please clarify what the choice of the Brazilian DNA was regarding the choice to be made in Step 2 and why this option was chosen.	EB 41 ANN 12	According to the Resolution nr. 8 issued on 26th May, 2008 by the Brazilian DNA, the Brazilian Interconnected Grid was defined as a single system that covers all the five macro-geographical regions of the country. Hence, no off-grid power plants are included in the emission factor of the electricity system, thus step 2 was not chosen.	PP has inserted a footnote in Option 2 of Section B.6.1 of the PDD version 2, describing why no off-grid power plants are included in the emission factor of the electricity system. Moreover, the DNA has defined that the Brazilian Interconnected grid (SIN) should be project's electricity system. Therefore, no off-grid power plants can be included. Also the dispatch data analysis OM method was chosen to calculate the OM, and therefore, no off-grid power plants can be included. Seeing the clarification that PP has provided, the DOE was able to close this CL.

CL 09: Regarding the monitoring of the data/parameter $EG_{facility,y}$, please clarify the following sentence in Section B.7.1 of the PDD version 1: "Double checked by Project Sponsors internal control and sales receipt or evidences from Câmara Comercializadora de Energia Elétrica – CCEE(…)" More specifically, please explain the following: (1) Who are project sponsors? (2) What will be the first source of evidence and what will be the crosscheck of this evidence? Please clarify these issues so the DOE can understand if monitoring procedure will be done in accordance with the relevant monitoring methodology, which prescribes: cross checks of measurement results with records of sold energy.	EB 41 ANN 12	PP's first response: (1) The project sponsor is the project owner, i.e. Serra dos Cavalinhos I Energética S/A, controlled by Brookfield Energia Renovável S/A. (2) The first source of evidence will be the official report issued by CCEE detailing the amount of electricity sold and dispatched to the grid. This data will be crosschecked with SHPP´s internal control. Section B7.1 was revised, please refer to the latest version of the PDD. PP's second response: The phrase was corrected. Please refer to the third version of the PDD.	DOE firs analysis: (1) PP has clarified who is project "sponsors". (2) PP's explanation has not been accepted. According to ACM0002v12.1, the first source of evidence is the electricity that is fed in to the grid measured with the electricity meters. Therefore, the first source of evidence are PP's recordings of data from energy meters. The crosscheck (second source of evidence), according to ACM0002v12.1 is the "records of sold energy". Since CCEE's official reports detail the amount of energy sold (according to PP's answer), the CCEE reports should be considered the "records of sold energy". Therefore, the CCEE reports should be considered the second source of evidence (crosscheck). Please also correct the following phrase in B.7.1, which is not clear:

			"The official reports issued by CCEE can be crosschecked the company´s internal generation reports" THIS CL IS STILL OPEN. Second DOE analysis: In Section B.7.1 of the PDD version 3, PP now describes that: "The company´s internal generation reports can be crosschecked with official reports issued by CCEE. Seeing that this crosscheck procedure is in accordance with ACM0002v12.2, the CL was closed.

CL 10: Regarding the monitoring of the data/parameter $EG_{facility,y}$, PP states in Section B.7.1 of the PDD version 1 that measurement will be made hourly. However, the methodology (ACM0002v12.1) states that measurements should be made continuously. Please clarify if measurements can be done continuously.	EB 41 ANN 12	Energy is continuously measured by the meters accumulated in five minutes interval, CCEE will have remote access to energy information. Once energy losses are accounted and the data consistency is verified, CCEE issues an official report that indicate, per week, the amount of electricity dispatched during a certain month. Section B7.1 was revised, please refer to the latest version of the PDD.	PP has revised Section B.7.1. The information in this section now is that the measurements will be made continuously. Seeing that this is in accordance with ACM0002v12.1, this CL was closed.

CL 11: Please clarify how the operational lifetime, described in Section C.1.2 of the PDD (version 1) of the project activity was defined. Please provide third party evidence so the DOE can validate the project's operational lifetime.	EB 41 ANN 12	First PP response: The project lifetime can be evidenced trough ANEEL´s resolution #617 issued on November 25th 2003 determining Pezzi´s concession period of third years. Second PP response: The Brazilian Power Regulatory Agency (from the Portuguese *Agência Nacional de Energia Elétrica – ANEEL*) determines through the resolution #002, issued on 24/12/1997, and resolution #367, issued on 02/06/2009, the annual depreciation rate for different equipment. According to these documents, the lifetime of the turbines is of 40 year and of 30 years for generators. The resolutions are available at the ANEEL website <http://www.aneel.gov.br> and attached to this response. Therefore, PP adopted 30 years as a conservative measure.	First DOE analysis: ANEEL´s resolution 617 issued on November 25th 2003 determining Pezzi´s concession period of third years. This is another project. THIS CL IS STILL OPEN. Second DOE analysis (The DOE was able to validate the lifetime of generators (30 years) and of turbines (40 years) with the following evidences provided by PP: ANEEL's resolution 367 – ANNEX (MCPSE - MANUAL DE CONTROLE PATRIMONIAL DO SETOR ELÉTRICO) pages 213 and 215. Also available at: http://www.aneel.gov.br/cedoc/aren2009367_2.pdf Seeing the above, the CL was closed.

CL 12: Please clarify how the expected operation start of the power plant was defined.	EB 41 ANN 12	Based on company´s internal schedule.	Please refer to CAR 34, where this exact issue is being addressed in the DOE's first analysis. This CL was closed.

CL 13: Regarding Section D.1 of the PDD version 1, please provide a copy of the Environmental Impact Analysis of the Project, as well as evidence regarding the following statement: "A request for Construction License obtaining was made on August 12th, 2008 to FEPAM".	EB 41 ANN 12	PP first response: The evidence follows attached. PP second response: Please refer to the EIA attached to this response.	First DOE analysis: The evidence regarding the following statement: "A request for Construction License obtaining was made on August 12th, 2008 to FEPAM" was provided to the DOE: BESA CWB 1335/2008 (12/08/2008). However: The EIA was not provided to the DOE. THIS CL IS STILL OPEN. Second DOE analysis The EIA was provided as evidence: RELATÓRIO AMBIENTAL SIMPLIFICADO – RAS, PCH SERRA DOS CAVALINHOS I of july 2004 – prepared by third party: SOMA – Environmental Solutions. Seeing the above, the CL was closed.

CL 14: Regarding Section E.1 of the PDD version 1, Please provide copy of the letters send to the Environmental Agency of Monte Alegre dos Campos and São Francisco de Paula.	EB 41 ANN 12	PP first response: The letters follows attached. PP second response: Please refer to copies of the letters and confirmation of receipt communication, attached to this response.	First DOE analysis: Copies of letters were not provided. THIS CL IS STILL OPEN. Second DOE analysis Copies of the letters were provided. Seeing this, the CL was closed.

CL 15: In section E.1 of the PDD version 1, PP states that letters were send to local stakeholders, inviting them to comment on the Project. According to evidence provided by PP, letters were sent on the 10th of September 2010 and received by local stakeholders between 15 and 27 of September 2010. However, the first version of the PDD that was presented to the DOE for validation was finalized on the 05th of August 2010. Please clarify if PP has allowed for a reasonable time for comments to be submitted.	EB 41 ANN 12	The PDD uploaded on the site for local stakeholders valuation was a draft version, and it will be finalized with the validation conclusion. The document is available for comments until the present time (over 6 months); all comments shall be included at the PDD´s final version.	PP has clarified that reasonable time were given to local stakeholders to respond to invitations to comment on the project: letters were send to local stakeholders on the 10.09.2010 and the validation started only on 25th November 2010 (http://cdm.unfccc.int/Projects/Validation/index.html) So, PP complies with the Brazilian DNA's Resolution 7: http://www.mct.gov.br/upd_blob/0023/23744.pdf (which states that letters to local stakeholders should be send at least 15 days before the start of validation). Also, PP has included in the PDD version 2, comments that were received after the start of validation. **Seeing the above, the CL was closed.**

CL 16: In Section B.5 of the PDD version 1, in item 4.a of the additionality analysis, please provide a reference for the information regarding the fact that Brazil has 6 different climate regions.	EB 39 ANN 10	Source of information related to the climate zones is also presented in the PDD, which is based on the Brazilian Institute of Geography and Statistics (from the Portuguese Instituto Brasileiro de Geografia e Estatística – IBGE). In order to clearly present the six different climate regions in Brazil, PPs included references in the latest version of the PDD.	Reference was provided. Also, PP has inserted information in the PDD version 2. The DOE was able to crosscheck the info with: http://biblioteca.ibge.gov.br/visualizacao/monografias/GEBIS%20-%20RJ/Elementos%20de%20Geografia%20e%20Cartografia%20para%20o%20Agente%20de%20Estatistica.pdf Seeing the above, the CL was closed.

CL 17: In Section B.5 of the PDD version 1, in item 4.a of the additionality analysis, please provide third party documented reference so the DOE can validate the statement that that since March 2004 a new structure for the electricity marked institutional framework was adopted in Brazil.	EB 39 ANN 10	CCEE divides the sector history in three different stages: Former Model (until 1995); Free Market Model (1995 to 2003) and the New Model (2004). The characteristics of each model and the period of its validity is clearly defined, and the current model, established in 2004 by Laws nos. 10.847 and 10.848, dated of March 15, 2004, and by Decree no. 5.163, dated of July 30, 2004 Please refer to the CCEE website: http://www.ccee.org.br/cceeinterdsm/v/index.jsp?vgnextoid=3df6a5c1de88a010VgnVCM100000aa01a8c0RCRD	PP has provided the requested clarification: the current model was established in 2004 by Laws nos. 10.847 and 10.848, dated of March 15, 2004, and by Decree no. 5.163, dated of July 30, 2004. Clarification was crosschecked with: http://www.ccee.org.br/cceeinterdsm/v/index.jsp?vgnextoid=3df6a5c1de88a010VgnVCM100000aa01a8c0RCRD This website from CCEE provides the following info: During the years of 2003 and 2004, the Federal Government set the bases for a new model for the Brazilian Electric Sector, supported by Laws nos. 10.847 and 10.848, dated of March 15, 2004, and by Decree no. 5.163, dated of July 30, 2004. Seeing this statement and analysing the Laws that PP cites, the DOE was able to validate PP's statement.

			Seeing the above, the CL was closed.

CL 18: In Section B.5 of the PDD version 1, in item 4.a of the additionality analysis, please clarify if the region selected for the common practice analysis (Rio Grande do Sul State) has a different environment with respect to regulatory framework than the remaining of the country.	EB 39 ANN 10	Each state has a specific environmental agency who determines the technical standards required to obtain all environmental licenses, and the necessary rules and procedures to obtain the government approval. Another evidence of the regional distinctiveness is the Spot Price value division into sub-markets (south, southeast/Midwest, northeast, and north). Also called Settlement Price for the Differences (translation for Preço de Liquidação das Diferenças - PLD) which is used to regulate the trade of electricity in the short term market. At the common practice analysis, PP presents several aspects that determines the analysis range, some of them are broader then other, as can be observed in the climate criterion and the regulatory framework criterion (which impacts on the investment climate). The first establishes the distinction between regions, the latter presents distinction between states, nevertheless both criteria must be evaluate in the analysis, even though one of them is sufficient to determine the survey´s boundary.	DOE first analysis: PP has clarified that the region selected for the common practice analysis (Rio Grande do Sul State) has a different environment with respect to regulatory framework than the remaining of the country. The following statements were crosschecked by the DOE: (1) "Each state has a specific environmental agency who determines the technical standards required to obtain all environmental licenses, and the necessary rules and procedures to obtain the government approval." Crosschecked with CONAMA (National Environmental Board) Resolution 01/86: available at: http://www.mma.gov.br/port/conama/res/res86/res0186.html (2) The Spot Price value division into sub-markets (south, southeast/Midwest, northeast, and north).

		Furthermore, the state regulatory framework distinctiveness can be observed in the environmental requirements for obtaining the environmental license in each state. For example, Minas Gerais´ regulations obliges the construction of transposition system for aquatic animals in hydroelectric power plants project (state law number 12.488 issued on 09/04/1997), obligation not seen at Bahia state. In fact, the main regulatory framework of the energy sector is delineated by national entities. However, the states have an important participation in the construction of electric power projects in Brazil. According the CONAMA Resolution nr. 237 dated on December 19th, 1997[1], environmental agency is the responsible for the definition of criteria for licensing, as well as the type of study to be adopted. In addition, only in cases where the project is located between two or more states, the environmental licensing is incumbent upon the National Institution of Environment and Renewable Natural Resources (*Instituto Brasileiro do Meio Ambiente e Recursos Naturais Renováveis – IBAMA*).	Crosschecked with: CCEE's information on the "Settlement Price for the Differences" (translation for Preço de Liquidação das Diferenças - PLD). Online available at: http://www.ccee.org.br/cceeinterdsm/v/index.jsp?vgnextoid=7ccaa5c1de88a010VgnVCM100000aa01a8c0RCRD (3) According the CONAMA Resolution nr. 237 dated on December 19th, 1997, [State] environmental agencies are the responsible for the definition of criteria for licensing, as well as the type of study to be adopted: Crosschecked at: http://homologa.ambiente.sp.gov.br/cprn/res_conama_237_191297.pdf

[1] CONAMA Resolution nr. 237 dated on December 19th, 1997. Available at: <http://homologa.ambiente.sp.gov.br/cprn/res_conama_237_191297.pdf>.

		It's not the case of Serra dos Cavalinhos I project activity, that is located in Rio Grande do Sul state. The climate conditions are not the only distinguishing feature among the several Brazilian regions. The tariff applied for electricity distribution system uses the Distribution System Use Tariff (in a free translation from the Portuguese *Tarifa de Uso do Sistema de Distribuição - TUSD*) which varies depending on the state where the power plant is connected to. TUSD is established by specific regulation provided by ANEEL and has strong impact in the financial analysis of a project. In addition, when evaluating the different climate conditions of each region, the specific environmental regulatory framework of each state, the energy price subdivision per markets and different values of TUSD applied at each Brazilian state, it's clear that the National territory does not consist of the same "comparable environments" as required by the "Tool for the demonstration and assessment of additionality". This explanation was included in the sub-step 4a., please refer to the third version of the PDD. Considering information above, PPs understand that only SHPPs located in the same region of Serra dos Cavalinhos I project should be analyzed.	(4) "The tariff applied for electricity distribution system uses the Distribution System Use Tariff (in a free translation from the Portuguese *Tarifa de Uso do Sistema de Distribuição - TUSD*) which varies depending on the state where the power plant is connected to." This was crosschecked with: http://www.aneel.gov.br/visualizar_texto.cfm?idtxt=1573. Seeing the above, the CL was closed.

CL 19: In Section B.5, in item 4.a of the additionality analysis, please clarify if the if the region selected for the common practice analysis (Rio Grande do Sul State) has a different environment with respect to investment climate (investment possibilities), access to technology and access to financing.	EB 39 ANN 10	PP's first response: One clear example that of regional regulatory framework distinctiveness consists of the tariff applied for electric-power distribution system uses (TUSD), which varies depending on the state in which the power plant is connected. The tariff´s value is established by specific regulations provided by ANEEL, and it has a major influence in the project´s IRR, e.g. if SHPP Serra dos Cavalinhos I would have been implanted at Piauí the TUSD value would be R$ 6.26/kW[1] and the project´s IRR would be 6.49%, this IRR´s variation is equivalent to an increase of 35% of the Serra dos Cavalinhos I´s O&M costs. PP's second response: The name of the small hydropower plant was wrongly described. However, the answer presented above still valid. Please refer to the correct name of the SHPP above.	DOE first analysis: PP's answer describes another project (Pezzi). This CL is still open Second DOE analysis: The name was corrected in PP's answer. Seeing this, the CL was closed.

CL BQA 1 – Why the benchmark showed in the PDD differs from the benchmark calculated in the document "WACC_ElectricGen_2008.07"?	EB 51 ANN 58	The benchmark showed in the PDD is the same that was provided to the validation team at the project´s validation begin. The document follows attached. The WACC values 10.82, and 9.55 does not correspond to the WACC considered by PP, which was developed by Fundação Getúlio Vargas[2]. The study and spread sheet follows attached to avoid further misunderstanding (see documents provided for CAR BQA 4). PP calls the attention to the fact that the provided benchmark is results from a styde developed by Fundação Getulio Vargas (FGV), which is one of the most prominent research and educational institutions. The institution credibility is so widespread that the economical index developed by FGV´s researchers are considered and applied as references in private and public assessments.	Answer 1 (18/04/2011) The benchmark was based on the WACC developed by Fundação Getúlio Vargas[3]. CL BQA 1 is closed.

[1] http://www.aneel.gov.br/cedoc/reh2009871.pdf
[2] Fundação Getulio Vargas is an educational center of quality and excellence and one of the most important institutions in Brazil and international scene with deep acting in economic issues.
[3] Fundação Getulio Vargas is an educational center of quality and excellence and one of the most important institutions in Brazil and international scene with deep acting in economic issues.

CL BQA 2 – Are there any feasibility reports, public announcements and annual financial reports related to the proposed CDM project activity and the project participants?	VVM 111	The Project is beginning its implementation, therefore no financial reports are available yet, PP calls the attention to the fact that the present project activity consists of a initiative from the private sector that considered the internal feasibility report already provided to the validation team.	Answer 1 (18/04/2011) According to the PP no financial reports are available yet. CL BQA 2 is closed.

CL BQA 3 – Explain why the risk premiums applied in determining the benchmark reflect the risks associated with the project type or activity.	VVM 112	The Capital Assets Pricing Model (CAPM) was applied at the Benchmark calculation; this model considers a market **risk premium (Rm-Rf)** and a specific risk (beta) of the project (generation) that must be evaluated, in comparison with the market portfolio. According to CAPM, the required return on Equity (Ke) equals the rate on a risk-free asset (Rf) plus a premium based on the risk associated with the asset [b *(Rm-Rf)]. Therefore it is the beta who presents the risks associated with activities similar to SCVI SHPP , and is associated with the sector parameter. Please, refer to the study developed by a third party assessing the Benchmark calculation. The risk premium reflects the risk associated because in the CAPM formula (rf + B***riskpremium**), the risk premium is directly related with the Beta.	Answer 1 (18/04/2011) The benchmark was based on the WACC developed by Fundação Getúlio Vargas[1]. The risk premium was based on the same report. CL BQA 3 is closed.

[1] Fundação Getulio Vargas is an educational center of quality and excellence and one of the most important institutions in Brazil and international scene with deep acting in economic issues.

CL BQA 4 – Why it is reasonable to assume that no investments would be made at a rate of return lower than the benchmark? See VVM 1.1 item 110 c.	VVM 112	In accordance with the "Guidelines on the Assessment of investment analysis" (EB 51, Annex 58): *"The purpose of an investment analysis in the context of the CDM is to determine whether the project is less financially attractive than at least one alternative in which the project participants could have invested."* Considering that the Brookfield Group, which operates in Brazil for over 100 years, has a controller over Brookfield Asset Management which has USD 100 billion under its administration with a portfolio that includes renewable power generation, property and other long-life infrastructure assets, it is reasonable to assume that Brookfield Energia Renovavel wouldn't invest in projects with a IRR´s lower that the benchmark, and that the capital could be applied in other investment platforms[1].	Answer 1 (18/04/2011) The investment analysis showed that the project is not financially attractive. CL BQA 4 is closed.

[1] As presented on the company´s profile (CL_BQA04_Corporate Profile - Jan 2011)

		Furthermore, in accordance with the "Tool for the demonstration and assessment of additionality" this valuation can be done through an investment analysis in which the Executive Board recommends three possible kinds of analysis: simple cost analysis, investment comparison, and benchmark analysis, the chosen option was the benchmark analyses (option 3). The most adequate analysis regarding SCVI´s project activity is option 3, and in accordance with the "Guidelines on the Assessment of investment analysis" the WACC is an appropriate benchmark: *"Local commercial lending rates or weighted average costs of capital (WACC) are appropriate benchmarks for a project IRR[1]"* Moreover, the guideline stress that the WACC must be applicable to the project activity, in order to do so a sector Benchmark based on public data was developed. In order to do so, one of the most respectable institution in Brazil regarding economical analyses (Fundação Getulio Vargas) was hired to developed a specific power generation WACC (the study follows attached).	

[1] Section "Selection and Validation of Appropriate Benchmarks"

		It is also important to highlight that PP are not controlled by any Government, thus don't have any obligation on invest in project will negative return. Also as per "Guidelines on the Assessment of investment analysis" *"14. Guidance: Internal company benchmarks/expected returns (including those used as the expected return on equity in the calculation of a weighted average cost of capital - WACC), <u>should only be applied in cases where there is only one possible project developer</u>…"* And in accordance with the "Tool for the demonstration and assessment of additionality" *Sub-step 2b: Option III. Apply benchmark analysis* *"…When applying Option II or Option III, the financial/economic analysis shall be based on parameter that are standard in the market, considering the specific characteristics of the project type, but not linked to the subjective profitability expectation or risk profile of a particular project developer."*	

		Therefore, in PP understanding the financial analysis was conducted in full compliance with EB´s recommendation[1], and that is reasonable to assume that no investments would be made at a rate of return lower than the benchmark. Moreover, considering that the project activity could be implemented by several other companies, it is in PP understanding that the most appropriate benchmark to be used is a sector one.	
CL BQA 5 - Did the project participants rely on values from Feasibility Study Reports (FSR) that are approved by national authorities for proposed CDM project activities?	VVM 113	No. PP calls the attention to the fact that Brazil is not a centrally planned economy.	Answer 1 (18/07/2011) In Brazil no feasibility report are approved by national authorities. CL BQA 5 is closed.

[1] The referred VVM is no longer valid, since July 2010, please refer paragraph 112 c of VVM (version 1.2).