VALIDATION REPORT

Eletro-Primavera Ltda

Ecosecurities Group PLC

Primavera Small Hydroelectric Project

SGS Climate Change Programme
SGS United Kingdom Ltd
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Summary

SGS has performed a validation of the project Primavera Small Hydroelectric Project. The Validation was performed on the basis of the UNFCCC criteria and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting. Using a risk based approach, the review of the project design documentation and the subsequent follow-up interviews have provided SGS with sufficient evidence to determine the fulfilment of the stated criteria.

The project activity consists of the installation of a small hydroelectric plant with installed capacity of 18.2 MW. The plant is located in Pimenta Bueno River, in the municipalities of Pimenta Bueno and Primavera de Rondônia, Rondônia State, Brazil.

Total amount of emission reductions estimated for the fixed period of ten years is 821,090tCO_2e.

SGS will request the registration of the Primavera Small Hydroelectric Project as a CDM project activity, once the written approval by the DNA of the participating Parties and the confirmation by the DNA of Brazil that the project assists in achieving sustainable development has been received.

Subject.:			
CDM validation			**Indexing terms**
Work carried out by			
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Technical review			
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Abbreviations

ACM	Approved Consolidated Methodology
ANEEL	Agencia Nacional de Energia Elétrica (Brazilian Agency of Power Electricity).
CAR	Corrective Action Request
CER	Certified Emission Reduction
DNA	Designated National Authority
EF	Emission Factor
EF	Emissions Reduction
MP	Monitoring Plan
NIR	New Information Request
PDD	Project design Document
SGS	Société Générale de Surveillance

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1. Introduction

1.1 Objective

Eletro Primavera Ltda and Ecosecurities Group PLC have commissioned SGS to perform the validation of the project 'Primavera Small Hydroelectric Project' with regard to the relevant requirements for CDM project activities. The purpose of a validation is to have an independent third party assess the project design. In particular, the project's baseline, the monitoring plan (MP) and the project's compliance with 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 seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of Certified Emission Reduction (CER). UNFCCC criteria refer to the Kyoto Protocol criteria and the CDM rules and modalities and related decisions by the COP/MOP and the CDM Executive Board.

1.2 Scope

The scope of the validation 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. SGS has employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of CERs.
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 GHG Project Description

This report summarizes the results of the validation of Primavera Small Hydroelectric Project, performed on the basis of UNFCCC criteria. The validation has been performed as a desk review of the project documents presented by Eletro-Primavera and Ecosecurities and a site visit carried out on 14th March 2007, where the details of the project activity were verified on-site. During the site visit, Primavera's manager and Ecosecurities consultant were interviewed.

The project activity consists of the installation of a small hydroelectric plant with an installed capacity of 18.2MW, located in Pimenta Bueno River, in the municipalities of Pimenta Bueno and Primavera de Rondônia, Rondônia State, Brazil. The project has the objective to provide renewable electricity to the municipalities of Pimenta Bueno, Espigão d'Oeste and Cacoal, in Rondônia State. A transmission line (24.4km) will be built by the project developer and will be connected to the Rondônia-Acre isolated system. This project will increase the supply of renewable source of energy to the grid, displacing the previous mix operating in the grid, predominantly fossil-fuel-fired thermal plants.

Total amount of emission reductions estimated for the crediting period is 821,090 tCO_2e

Baseline Scenario:
Electricity will continue to be generated by the existing generation mix operating in the grid, predominantly fossil-fuel-fired thermal plants.

With-project scenario:
The installation of a small hydroelectric plant to provide renewable electricity to the Rondônia-Acre isolated system.

Leakage: No leakage need to be considered in applying ACM0002.

Environmental and social impacts:
The project is in line with host-country specific CDM requirements. It is expected the project activity will help Brazil to fulfil its goals of promoting sustainable development. The contributions of the project activity for this were described in the PDD, and comprises, among others: decreasing the dependence on fossil fuels, thus improving air quality; increasing employment opportunities in the area where the project is located; promotion of better revenue distribution since it contributes to the regional/local economic development and encouraging other similar companies that want to replicate this experience.

The construction and operation of the plant have followed the legal requirements regarding environmental protection and control. During the site visit, documented evidences regarding the environmental assessments were verified, including the Plan of Environmental Control and the Plan for Restoration of Degraded Areas. The environmental and social impacts were identified before the installation of the project and measures have been taken to minimize these impacts.

1.4 *The names and roles of the validation team members*

Name	***Role***
Aurea Nardelli	*Lead Assessor*
Geisa Principe	*Local assessor*
Irma Lubrecht	*Technical reviewer*

2. Methodology

2.1 Review of CDM-PDD and additional documentation
The validation is performed primarily as a document review of the publicly available project documents. The assessment is performed by trained assessors using a validation protocol.

A site visit is usually required to verify assumptions in the baseline. Additional information can be required to complete the validation, which may be obtained from public sources or through telephone and face-to-face interviews with key stakeholders (including the project developers and Government and NGO representatives in the host country). These may be undertaken by the local SGS affiliate. The results of this local assessment are summarized in Annex 1 to this report.

2.2 Use of the validation protocol
The validation protocol used for the assessment is partly based on the templates of the IETA / World Bank Validation and Verification Manual and partly on the experience of SGS with the validation of CDM projects. It serves the following purposes:

- it organises, details and clarifies the requirements the project is expected to meet; and
- it documents both how a particular requirement has been validated and the result of the validation.

The validation protocol consists of several tables. The different columns in these tables are described below.

Checklist Question	***Means of verification (MoV)***	***Comment***	***Draft and/or Final Conclusion***
The various requirements are linked to checklist questions the project should meet.	*Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.*	*The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.*	*This is either acceptable based on evidence provided (**Y**), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question (See below). **New Information Request (NIR)** is used when the validation team has identified a need for further clarification.*

The completed validation protocol for this project is attached as Annex 2 to this report.

2.3 Findings

As an outcome of the validation process, the team can raise different types of findings.

In general, where insufficient or inaccurate information is available and clarification or new information is required the Assessor shall raise a **New Information Request (NIR)** specifying what additional information is required.

Where a non-conformance arises the Assessor shall raise a **Corrective Action Request (CAR).**

A CAR is issued, where:

I. mistakes have been made with a direct influence on project results;

II. validation protocol requirements have not been met; or

III. there is a risk that the project would not be accepted as a CDM project or that emission reductions will not be verified.

The validation process may be halted until this information has been made available to the assessors' satisfaction. Failure to address a NIR may result in a CAR. Information or clarifications provided as a result of an NIR may also lead to a CAR.

Observations may be raised which are for the benefit of future projects and future verification or validation actors. These have no impact upon the completion of the validation or verification activity.

Corrective Action Requests and New Information Requests are raised in the draft validation protocol and detailed in a separate form (Annex 3). In this form, the Project Developer is given the opportunity to "close" outstanding CARs and respond to NIRs and Observations.

2.4 Internal quality control

Following the completion of the assessment process and a recommendation by the Assessment team, all documentation will be forwarded to a Technical Reviewer. The task of the Technical Reviewer is to check that all procedures have been followed and all conclusions are justified. The Technical Reviewer

will either accept or reject the recommendation made by the assessment team.

3. Determination Findings

3.1 Participation requirements

United Kingdom of Great Britain and Northern Ireland is listed as Annex 1 party. UK ratified the Kyoto Protocol on 31st May 2002.

Brazil is listed as the host Party. Brazil ratified the Kyoto Protocol on 23rd August 2002. (http://unfccc.int/files/essential_background/kyoto_protocol/application/pdf/kpstats.pdf).

At time of the validation, no Letter of Approval from the host country had been provided. The Letter of Approval will be signed when the DNA of Brazil receive and analyse the validation report.

No letter of approval from Annex 1 has been provided at time of validation.

3.2 Baseline selection and additionality

The realistic and credible baseline alternatives to the project activity were identified and listed in the PDD. They comprised:

- Continuation of current practices, i.e. Electricity will continue to be generated by the existing generation mix operating in the grid, predominantly fossil-fuel-fired thermal plants;

- Build a thermoelectric plant, with internal combustion technology, diesel fueled and with a energy output similar to project activity and;

- The Project Activity not taken as a CDM project.

The 'Tool for demonstration and assessment of additionality' (version 03) was applied for baseline selection and discussion of the additionality of the project activity.

Following the Step 1 of the 'Tool", it was confirmed that all scenarios defined above were consistent with current laws and regulations. There is no regulation in Brazil to prevention of continuation of current practice or to prevent implementation of thermoelectric plants or to prevent implementation of hydroelectric plants.

The additionality was assessed and discussed in the PDD applying the Step 2: Investment analysis. The method determined for this was the "Bench mark analysis" (Sub-step 2b – Option III).

For the analysis, the Net Present Value (NPV) was identified as the most appropriate financial indicator for comparison. During the desk study, it was verified that the period considered for the financial analysis was not clearly informed in the PDD (Section B.5). In the EXCEL spreadsheet provided during the desk study, the stated period adopted for the NPV was 10 years, however in the section C of the PDD the project's lifetime was indicated as being with more than 20 years. A NIR (1) was raised asking clarification about why the NPV analysis without CERs considered the crediting period and not other approach (as the lifetime of the plant, for example).

To clarify this issue, the project developer provided documented evidence showing that the usual period used in the investment analysis for this kind of project is not the lifetime of the equipment. The average timeline for loans in Brazilian electricity sector is 12 years, as verified in the financial project presented by Eletro-Primavera to BASA (Banco da Amazônia). The PDD was revised to be in

accordance with 12 years period and the lifetime of 30 years was mentioned in the Section C of the PDD. The residual value of the plant is added in the end of the 12 years analysis, considering the depreciation during the proportional time of the analysis and the lifetime of 30 years. Revised spreadsheets with the calculation of NPV considering the new assumptions were provided to SGS. NIR 1 was closed out.

In order to perform a benchmark analysis using NPV, the discount rate applied was the SELIC rate (Sistema Especial de Liquidação e Custodia, that is, Special System of Clearance and Custody), set by the Banco Central do Brasil (Central Bank of Brazil) which represents the expected return of a low risk investment fund. During the validation process, the value used as benchmark was changed from 12% (PDD version 1) to 15% (PDD version 2) without justification from the project developer. It is also required clarification if 15% was still a conservative value, as this discount rate was higher than the rate paid for the project bank loan (14%). NIR 5 was raised.

It was explained by the project developer that this change had been a typing mistake and the benchmark of 12% was restated in the PDD and in the calculations of NPV. The revised documents were provided to SGS. NIR 5 was closed out.

It was demonstrated that the NPV calculated using the IRR of 12% was negative indicating that the project is not a financially attractive option. The IRR calculated for the project was 8%, lower than the selected benchmark.

A sensitivity analysis was included, changing the assumptions considered for NPV calculation (O&M costs, discount rate, amount of investments and electricity tariff) and the new values of NPV calculated were also negative. It was confirmed that the conclusion obtained in the analysis mentioned above was robust to conclude that the project activity is unlikely to be financially attractive.

The assumptions and data used for NPV calculation (without and with CERs) and for sensitivity analysis were provided in the PDD. The spreadsheets with the detailed analysis and data were verified during the validation process.

The step 4 (common practice analyses) consider similar projects if they are in the same country/region etc, it can be observed in the isolated system that all similar projects are in operation, however the thermal generation is predominant in this system.

The hydro units are responsible for only 14,53% and 4,06% of generation in Rondonia and all isolated systems respectively and 27,24% and 15,64% of installed capacity in Rondonia and all isolated systems respectively.

Moreover, the hydro participation in Rondonia and in other isolated systems is very low compared to the common practice in Brazil, of about 85% of Hydro.

The highest participation is about a quarter and in terms of installed capacity that doesn't reflect the real practice of the grid. If the electricity generation is analysed, hydro participation is about only 1/7 of the generation in Rondônia.

In spite of that, many plants in the region are claiming for CDM, such as Monte Belo, Cabixi II, Rio Branco, Saldanha, Cascata and Apertadinho. Plants that aren't claiming for CDM are very old (buit before 2000) or are too small, thus a CDM project is not feasible nor attractive (those projects would

have more costs in the CDM process than revenues from it).

The step 4 'Common practices analysis' was correctly applied. Quantitative information and its sources were provided about the grid of the region to support the analysis of common practices. It was concluded that generating electricity in hydroelectric plants is not a common activity in Rondônia State and in the Isolated Systems from the North Region of Brazil.

As the project satisfied the Steps 1, 2 and 4 it was considered additional.

3.3 Application of Baseline methodology and calculation of emission factors

The project applies correctly the methodology ACM0002 'Consolidated methodology for grid-connected electricity generation from renewable sources' (version 6, 19 May 2006).

ACM 0002 is applicable, among other conditions, to new hydro electric power projects with reservoirs having power densities greater than 4 W/m². It is the case of Primavera Small Hydroelectric Project, which consists of a new hydro power plant with a diversion dam; its power density is 5.35W/m² and thus is in accordance with this requirement.

For calculation of the power density it is considered the installed power generation capacity divided by the surface area at full reservoir level. During the desk study it was confirmed by document review that the installed capacity of the plant is 18.2MW (this information was presented the document ANEEL Nº 465, issued on 24th July, 2003).

Regarding the reservoir area, the information in the PDD was not clear. There are two data mentioned in the PDD regarding the area: 3.6 km^2 and 3.4 km². NIR 2 was raised. To close out NIR 2, the area of 3.4 km² was confirmed on-site by document review (verified the document ANEEL, Nº 413, 10th July 2003 and PRDA –Plan for restoration of degraded areas). Copies of these documents were provided to the validation team. The revised version of PDD presented the correct value. NIR 2 was closed out.

According to Annex 5, EB 23, hydroelectric power plants with power densities greater than 4 but less than 10 W/m^2 have to use a default emission factor of 90 gCO_2eq/kWh. This factor was used for calculation of the project emissions and for calculation of ERs estimative presented in the PDD. The spreadsheets with the data used for calculations were verified and data confirmed.

Other applicability criterion required by ACM0002 is the clear identification of the geographic and system boundaries for the relevant electricity grid and the availability of information on the characteristics of the grid. It was confirmed by document review that the plant is connected to the Rondônia-Acre Isolated System. The compliance with this criterion was confirmed during the validation. All data necessary to calculate the grid emission factor were collected with CERON, a state company responsible for electricity distribution and regulation in Rondônia State and ELETRONORTE, a company subsidiary of Centrais Elétricas Brasileiras S/A – ELETROBRÁS, responsible for construction and operation of power plants and transmissions lines, and electricity generation and commercialization in the North Region of Brazil. The complete data and spreadsheets for calculation of OM and BM emissions factors were presented during the site visit and copies were provided to SGS.

The calculation of the baseline Emission Factors was performed as required by the methodology. The parameters were calculated *ex-ante*. The Operating Margin (OM) emission factor calculation was based on the simple OM method, option (a) of the ACM0002. This method was selected because low-cost/must run resources constitute less than 50% of total grid generation in average of the five most recent years.

The Build Margin (BM) emission factor was also calculated *ex-ante* based on the most recent

information available at the time of PDD submission (data from 2003 to 2005).

Details about the data used for calculation of OM and BM emission factors were presented in the PDD and the sources of data were verified by the local assessor during the site visit.

The grid emission factor calculated from OM and BM emission factors above mentioned and applied for baseline emission reductions estimative was 0,9421 tCO_2/MWh.

The estimative of Baseline Emissions, Project Emissions and Emissions Reductions was calculated applying the correct emissions factors and the formulas required by the methodology. It was clearly described in the PDD.

3.4 Application of Monitoring methodology and Monitoring Plan

The project applied correctly ACM0002 'Consolidated monitoring methodology for zero-emissions grid-connected electricity generation from renewable sources' (version 6), fulfilling its applicability conditions.

The methodology defines the data and parameters which should be defined at validation and that will be not monitored and parameters that should be monitored during the crediting period.

The methodology requires the monitoring of the electricity generation from the proposed project activity. Once the data needed for calculate the electricity baseline Emission Factor and the reservoir area were defined at validation, they should not be monitored during the crediting period.

The monitoring plan described in the PDD is in compliance with ACM0002. Data collected will be the continuous reading from the plant meters and the monthly reading from the utility meter, which will be used for issuing the electricity sale invoices. The flow of information and quality controls/quality assurance measures were presented in the PDD. During the validation, it was verified that the monitoring plan will be part of the core business of Eletro-Primavera and included in its operational and management system. Observation 1: procedures for calibration and calibration certificate of the meter already installed on-site were not available at validation. Procedures should be prepared and implemented before the starting of crediting period and calibration certificates should be archived as important documents for the verification period.

3.5 Project design

The Primavera Small Hydroelectric Project consists of the installation of a small hydroelectric plant with an installed capacity of 18.2MW. It is applied locally available technology which is not expected to be replaced within the crediting period. The project did not make use nor result in the diversion of ODA.

The purpose of the project activity is increase the supply of renewable source of energy to the grid, displacing the previous mix operating in the grid, predominantly fossil-fuel-fired thermal plants.

The starting date of the project activity was 27/12/2002. The operational lifetime of the project is 30 years. A fixed crediting period of 10 years is selected, starting on 01/09/2007.

The current version of CDM PDD template was used.

The following issues were raised during the validation, regarding the completion of the Project Design Document and documented evidences provided to support PDD information:

NIR 3: It is not available evidence which supports the load factor of 70% used for estimative of the electricity generated which is, at end, applied in the financial analysis and in the estimative of CERs (on the verified spreadsheet "Primavera calculation v03"). To close out NIR 3 the estimated electricity generation used to calculate the amount of CERs was revised by the project developer to use the amount referenced in the PPA (Power Purchase Agreement) and not the amount calculated using the load factor of 70%. The value informed in the PPA is 96,360 MWh/year. The value and formulas were corrected to apply this approach. The PDD was changed to be in accordance with this. NIR 3 was closed out.

CAR 4: The data presented in the revised spreadsheet "Primavera Calculation V.03 2007.03.28.xls" did not agree fully with the data presented in the PDD version 2 (sent to SGS on 28/03/2007). For example: "Project description" – the table which presents the first crediting year is starting in July 2007 and in the PDD it was mentioned September 2007. On the spreadsheet "Input table": it is still indicating a load factor of 70% (see changes needed in NIR 3 closing out details).
Spreadsheet "Output tables": there are mistakes related to the starting month in year 2007; the total amount estimated and the yearly average are not the same values indicated in the PDD. The project emissions in 2007 and in 2017 are indicated as "zero", which is not correct.
In the spreadsheet "Calculation": mistake in the amount of credits for year 2007.
The estimative of ERs presented in the PDD for the first year (that includes only 4 months) is the same of the amount presented for the last year 2017 (that includes 8 months).
To close out CAR 4, the revised documents (PDD and Excel file) were provided. The issues listed above were verified. Data were corrected accordingly in both files. CAR 4 was closed out.

3.6 Environmental Impacts

Documented evidences regarding the environmental impacts evaluation were verified during the site visit. The environmental control plan (PCA), the plan for restoration of degraded areas (PRDA) and the environmental license were available at validation. Copies of the license and of PRDA were provided to SGS. It was verified that actions have been taken to mitigate the identified adverse impacts.

The license issued by the Rondônia state environmental agency (NUCOF/SEDAM, LO n° 0002869 issued on 12/12/2006) evidences that the project activity has complied with the environmental legislation and applicable environmental legal requirements.

The methodology ACM0002 does not defines indicators for environmental monitoring, so the monitoring plan has not included specific environmental monitoring.

3.7 Local stakeholder comments

The local stakeholder consultation is required by Brazilian DNA. It is necessary to invite the relevant stakeholders, before the validation process starts. During the site visit, it was provided documented evidences indicating that consultation was carried out in January 2007. Copies of the letters sent to the stakeholders and receipts of mailing were available. The following stakeholders were invited by letters to comment on the project:

- City Hall of Primavera de Rondonia
- City Hall of Pimenta Bueno
- District Attonery
- Chamber of Deputy of Primavera de Rondonia
- Chamber of deputy of Pimenta Bueno

- SEDAM Porto Velho
- Brazilian Forum of NGOs
- Environmental Agency of Primavera de Rondonia.
- Environmental Agency of Pimenta Bueno

It was not evidenced during the site visit that the local community associations were invited for the consultation process. The text mentioned in the PDD (section E.1, page 26) was not consistent with this information. CAR 6 was raised.

The project developer informed that during the stakeholder process no local community association was identified and in this case, no invitation could be done. The PDD was corrected to reflect this information. The project developer will justify the fact to Brazilian DNA. CAR 6 was closed out.

4. Comments by Parties, Stakeholders and NGOs

In accordance with sub-paragraphs 40 (b) and (c) of the CDM modalities and procedures, the project design document of a proposed CDM project activity shall be made publicly available and the DOE shall invite comments on the validation requirements from Parties, stakeholders and UNFCCC accredited non-governmental organizations and make them publicly available. This chapter describes this process for this project.

4.1 Description of how and when the PDD was made publicly available

The PDD and the monitoring plan for this project were made available on the SGS website and were open for comments from 15 February 2007 to 16 March 2007. Comments were invited through the UNFCCC CDM homepage (http://cdm.unfccc.int/Projects/Validation/DB/ESGQ1TRG7SQZEUR6J5QC7PCG24Z899/view.html)

4.2 Compilation of all comments received

No comment was received to the DOE during the 30 days commenting period.

4.3 Explanation of how comments have been taken into account

No comment was received.

5. Validation opinion

Steps have been taken to close out six findings. One observation was raised which does not preclude the validation opinion but has to be addressed before the starting of crediting period.

SGS has performed a validation of project 'Primavera Small Hydroelectric Project'. The validation was performed on the basis of the UNFCCC criteria and host country criteria, as well as criteria given to provide consistent project operations, monitoring and reporting. Using a risk based approach, the validation of the project design documentation and the subsequent follow-up interviews have provided SGS with sufficient evidence to determine the fulfilment of the stated criteria.

By the installation of a small hydroelectric plant to provide renewable electricity to the Rondônia-Acre isolated system, the project results in reducing greenhouse gas emissions that are real, measurable and give long-term benefits to the mitigation of climate change. A review of the investment analysis presented demonstrates that the proposed project activity was 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. If the project is implemented as designed, the project is likely to achieve the estimated amount of emission reductions.

The validation is based on the information made available to SGS and the engagement conditions detailed in the report. The validation has been performed using a risk based approach as described above. The only purpose of this report is its use during the registration process as part of the CDM project cycle. Hence SGS can not be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

6. List of persons interviewed

Date	***Name***	***Position***	***Short description of subject discussed***
14 March 2007	Leandro Noel	Project consultant/Ecosecurities	Validation process and findings. Technical issues, operational issues, investment analysis, monitoring plan, baseline emission factor.
14 March	Marici Salete Bassegio	Administrative manager/Eletro-Primavera Ltda	Technical issues, operational procedures, licenses applicable to the plant.

7. Document references

Category 1 Documents (documents provided by the Client that relate directly to the GHG components of the project, (i.e. the CDM Project Design Document, confirmation by the host Party on contribution to sustainable development and written approval of voluntary participation from the designated national authority):

/1/ Project Design Document, Primavera Small Hydroelectric Project, Brazil. Version 1, 21/12/2006; Version 2, 20/03/2007; Version 3, 30/03/2007.

/2/ ACM0002- Consolidated methodology for grid-connected electricity generation from renewable sources and 'Consolidated monitoring methodology for zero-emissions grid-connected electricity generation from renewable sources', version 6, 19 May 2006.

/3/ Tool for the demonstration and assessment of additionality, version 3.

Category 2 Documents (background documents used to check project assumptions and confirm the validity of information given in the Category 1 documents and in validation interviews):

/4/ License ANEEL, Number 433, 26/08/2003.

/5/ Document ANEEL, Number 465, 24/07/2003.

/6/ Document ANEEL, Number 413, 10/07/2003.

/7/ Document ANEEL, Number 860, 27/12/2006.

/8/ Brazilian Court of Audit

/9/ Resolution ANEEL, Number 747, 18/12/2002.

/10/ Operation License, Number 2869, 12/12/2006.

/11/ PRDA – Plan for restoration of degraded areas

/12/ Financial contract

/13/ Emission Factor Worksheet

/14/ Projeto economico financeiro – September 2005

/15/ Primavera calculation v03 2007.03.30.xls (investment analysis, sensitivity analysis and ERs estimative)

/16/ PPA – Power purchasing agreement (Contrato CERON)

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