VALIDATION REPORT

Hidrelétrica Rossi Ltda

MGM Carbon Portfolio S.a.r.l

Faxinal dos Guedes Small hydroelectric Power Plant

SGS Climate Change Programme
SGS United Kingdom Ltd
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Project title	Organisational unit:
Faxinal dos Guedes Small Hydroelectric Power Plant	SGS Climate Change Programme
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Summary
SGS has performed a validation of the project Faxinal dos Guedes Small Hydroelectric Power Plant. 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 4.0 MW. The plant is located on the Chapecozinho River, in the municipalities of Faxinal dos Guedes and Ouro Verde, Santa Catarina State, Brazil.

Total amount of emission reductions estimated for the fixed period of seven years is 39,219tCO_2e.

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

Subject.:		
CDM validation		**Indexing terms**
Work carried out by		
Aurea Nardelli – Lead Assessor Geisa Príncipe – Assessor Rogério Carvalho – Local Assessor		
Technical review		
Siddaharth Yadav		☒ No distribution without permission from the Client or responsible organisational unit
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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
ER	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

Hidrelétrica Rossi Ltda has commissioned SGS to perform the validation of the project Faxinal dos Guedes Small Hydroelectric power plant 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 Faxinal dos Guedes Small Hydroelectric Power Plant, performed on the basis of UNFCCC criteria. The validation has been performed as a desk review of the project documents presented by Hidrelétrica Rossi Ltda and MGM Carbon Portfolifo S.a.r.l and a site visit carried out on 8 and 9th May 2007, where the details of the project activity were verified on-site by the local assessors. During the site visit, Hidrelétrica Rossi's manager and MGM consultant were interviewed.

The project activity consists of the installation of a small hydroelectric plant with an installed capacity of 4.0 MW, located in Chapecozinho River, in the municipalities of Faxinal dos Guedes and Ouro Verde, Santa Catarina State, Brazil. The project has the objective to provide renewable electricity from Hidrelétrica Rossi Ltda and dispatch the energy to interconnected system. The project activity has a small 40 hectares reservoir, offering lower environmental impact if compared to large hydro powers. This project will increase the supply of renewable source of energy to the grid, avoiding the use of fossil fuel that would be burned in thermal power.

Total amount of emission reductions estimated for the first crediting period is 39,219 t CO_2e .

Baseline Scenario:
No investment in clean power generation; electricity generation by the existing generation mix operating in the grid. The baseline scenario is the continuation of the current situation of electricity supplied by large hydro and thermal power plants.

With-project scenario:
The installation of a small hydroelectric plant with installed capacity of 4 MW to provide renewable electricity to the grid. The project reduces emissions of greenhouse gas (GHG) by avoiding electricity generation by fossil fuel sources and its CO_2 emissions, which would be emitted in the absence of the

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project.

Leakage: No leakage is anticipated.

Environmental and social impacts:
The project is in line with host-country specific CDM requirements. It is expected that 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, increasing of energy supply, enabling the maintenance of the growing of Santa Catarina State and reducing the risk of electricity deficit and providing local distributed generation, contributing to the regional/local economic development.

The construction and operation of the plant have followed the legal requirements regarding environmental protection and control. During the site visit and the validation exercise, documented evidence regarding the environmental assessments was verified (see Ref.4 and 10).

1.4 The names and roles of the validation team members

Name	***Role***
Aurea Nardelli – SGS Brazil	*Lead Assessor*
Geisa Principe – SGS Brazil	*Assessor*
Rogério Carvalho – SGS Brazil	*Local Assessor*

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

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.

United Kingdom of Great Britain and Northern Ireland is listed as Annex 1 party. UK ratified the Kyoto Protocol on 31st May 2002.
(http://unfccc.int/files/essential_background/kyoto_protocol/application/pdf/kpstats.pdf)

No letter of approval from Annex I country was provided to the validator. CAR 10 was raised.

3.2 Baseline selection and additionality

From the discussion provided in the first version of the PDD, it was not possible to conclude if the project is additional under the CDM rules. It was applied the "Tool for the demonstration and assessment of additionality", but the steps of the tool (mainly the "Investment analysis") were not followed correctly. The discussion of additionality was not clear and was not supported by objective evidences and information, as additional evidences regarding economic analysis or references of the sources of information mentioned. CAR 2 was raised.

To close out CAR 2, the PDD was revised and included a discussion using the Attachment A to Appendix B of the simplified modalities and procedures for small-scale CDM projects activities.
The barrier due to Prevailing Practice - where prevailing practice or existing regulatory or policy requirements would have led to implementation of a technology with higher emissions - was used by project developer to discuss the additionality. It was discussed and demonstrated that there is a small participation of small hydro plants in Brazilian power market. As verified from the references mentioned in the PDD, small hydropower plants in operation correspond to less than 2% of the total electric power generated in the country and also less than 2% of the capacity installed in operation in the Santa Catarina State, where the plant is installed (source of data: http://www.aneel.gov.br/area.cfm?idArea=15&idPerfil=2).
It was confirmed that is common practice in Brazil the power generation from large hydroelectric plants and thermal fossil fuel plants. CAR 2 was closed out.

As the project provided an explanation to show that the project activity would not have occurred anyway due to at least one of the barriers required for the small scale project activities, Faxinal dos Guedes Small Hydroelectric Power Plant was considered additional.

3.3 Application of Baseline methodology and calculation of emission factors

The project applies correctly the methodology for Small Scale Project Activity Type 1: Renewable energy projects. Category, D: Grid connected renewable electricity generation, version 11.

Faxinal dos Guedes Small hydroelectric power plant uses the renewable hydro potential of the

Chapecozinho River to generate electricity with 4.0 MW of total installed capacity (less than the eligibility limit of 15 MW for small scale projects). This activity confirms with category I.D Renewable electricity generation for a grid, that comprises renewable energy generation units that supply electricity to an electricity distribution system that is or would have been supplied by at least one fossil fuel or non-renewable biomass fired generation unit.

It was verified on site that the project is not a debundled component of a larger activity. The project is located in the Chapecozinho River and is an independent hydro power plant generating electricity and supplying to the grid, unrelated to any other CDM project activity in the region. In addition, the UNFCCC website was verified and does not show another registered project with the same characteristics in the same place.

Baseline calculations followed the Appendix B of the simplified modalities and procedures for small-scale CDM project activities. The baseline emissions were calculated as the amount of kWh produced by the renewable generating unit multiplied by an emission coefficient calculated in a transparent and conservative manner. For calculation of the emission factor, the ACM0002 version 6 was used, as indicated by the methodology.

During the desk study, the information and data used for calculation of the grid emission factor were not provided to the validation team. It was not possible to verify the baseline information mentioned in the Annex 3 of PDD. NIR 7 was raised.

To clarify NIR 7, the spreadsheet with data and formulas for EF calculation was provided to the validation team (see ref. 14). The data and formula for calculation of the EF were checked and it was possible to confirm the information provided in the PDD. The calculation of the baseline Emission Factors was performed as required by the methodology ACM0002 as a combined margin (CM) emission factor, consisting of the combination of operating margin (OM) and build margin (BM) emission factors. The parameters were 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 its annexes. NIR 7 was closed out.

The grid emission factor calculated from OM and BM emission factors above mentioned and applied for baseline emission reductions estimative was 0.2611 tCO_2/MWh. It is considered fixed along the first crediting period. It was verified that the estimative of Baseline Emissions, Project Emissions and Emissions Reductions was calculated applying the correct emission factor and the formulas required by the methodology, as described in the PDD version 2.

3.4 Application of Monitoring methodology and Monitoring Plan

During the desk study, it was verified that the description of the Monitoring Plan (section B.7.2, page 32 of PDD version 1) was not complete. The organizational chart indicates the management/operational structure, but no information about responsibilities and activities was provided. NIR 4 was raised to verify additional information on-site.

The plant was in operation during site visit. To close out NIR 4, it was verified the energy generation system and the flow of data and records. The system works automatically. The data about generated energy are transmitted to substation by CELESC (concessionary). In the end of each month, CELESC issues an invoice (official document) that can be used like a report for cross-cheeking the data generated from Hidrelétrica Rossi. A monthly report is generated by plant and is checked against CELESC invoices. This information will be transferred to MGM on a monthly basis in order to monitor

emission reductions.

During the site visit, it was verified that there is no written procedure or work instruction for monitoring and data archiving that ensures the implementation of the monitoring plan proposed in the PDD. Although the plant is running end generating energy since February 2007, the spreadsheet presented in the Annex 4 -was not ready by that time. In addition, the calibration certificate of the meter installed (the "core" of the monitoring system) was not available on-site. CAR 09 was raised.

To close out CAR 09, more information related to the monitoring plan was included in the PDD (version 2). The calibration certifications of the meters installed and the spreadsheets were provided (copies sent to SGS: Meters SAGA 1000/1682, serial numbers 194482 and 194483, calibrated by Lantec on 11/04/2006, see Ref.11). It was informed by the plant manager that the meters will be calibrated each 3 years. CAR 09 was closed out and the Observation (1) was raised: The written procedures shall be described and implemented until the start of crediting period.

Considering that the Observation (1) will be addressed adequately before the starting of the crediting period, the monitoring plan described in the final PDD is in line with the monitoring methodology mentioned in category I.D. Monitoring shall consist basically of metering the electricity generated by the renewable energy. The data monitored in combination with an emission factor will be used for calculation the achieved emission reductions.

3.5 Project design

During the desk study, it was verified that the crediting period was not clearly informed in the PDD (version 1). The estimated emission reductions through the first 7-year crediting period presented in the Table 2, page 8 and Table 7, page 31 of PDD considered the period from 2007 to 2013 (complete years). It did not consider that the crediting period will start on 1st July 2007 (as informed in section C.2.1.1., page 34) and in this case, should finish on 31 June 2014. CAR 1 was raised.

To close out CAR 1, the PDD, version 2 was revised in conformity to the Guidelines for CDM-SSC-PDD, version 4. The tables presenting the estimated emission reductions through the first 7-year crediting period considered the correct period. In addition, the starting date of the crediting period was revised. The PDD version 2 informed that the renewable crediting period will start on 01st March, 2008. CAR 1 was closed out.

The operational lifetime assumed is 25 years. This exceeds the crediting period.

The generation system described in the PDD is according to the equipments verified on site by the local assessors. It was presented the document ANEEL (Document Nº 737, 18th December 2002), which informed the installed capacity of 4.0 MW. This information was confirmed on site by the assessors. However, no evidences that support the value of 62% applied to the capacity factor (see Table 6, page 30 of PDD) were provided during the desk study. It was also verified that the area of reservoir is 0.4km². The information presented about the area in the PDD version 1 was not correct. NIR 3 was raised.

To close out NIR 3 the following information was provided:

- The load factor value of 61.25% was obtained from long-term historical data of the river flow, and indicates that the secure power (annual average) is 2.45 MW. An explanation about load factor was presented during site visit. It was confirmed that in accordance with ANEEL license, number 527, the ensured energy is 2.45MW.
- To confirm the area of the reservoir, the Installation license, Nº 190/2005 was verified.

Data were revised in version 2 of PDD to reflect the verified figures. NIR 3 was closed out.

The other information presented in the final PDD (location, specification and installed capacity of the SHP, total amount of electricity generated and sources of external data and references regarding baseline scenario and additionality) was accurate and reliable, as confirmed by the validation team.

The project design engineering reflects current good practices and is not likely to be substituted by other or more efficient technologies within the project period. Small hydro is considered to be one of the most cost effective power plants in Brazil.

3.6 Environmental Impacts

The project with a power capacity of 4.0 MW, is a low impact plant whose dam, designed to function as run of river, will flood 40 hectares in the normal operation conditions, from which (56%) corresponds to the natural water body of the Chapecozinho River. Run-of-river schemes do not include significant water storage, and must therefore make complete use of the water flow. Considering this characteristics, it was not expected to have significant adverse environmental impacts from this kind of project.

During the desk study, it was verified that the information provided in the PDD (section D.1, page 36) about the environmental impacts and local requirements was not updated. It was informed that the LAP – Preliminary environmental license was issued in October 2003 and would expire in 2 years (considering this, probably it was expired in 2005). No information about the current license was included in the PDD. In addition, no references or source of information was provided for the following statement included in the PDD: *"The environmental impacts associated with the project activity are modest because the regional topography allows the dam to be naturally contained in a valley. Furthermore, this valley has a low demographic and land use rate".* NIR 5 was raised.

To close out NIR 5, the environmental licenses were provided, as indicated below:

- Preliminary license, n° 426, , issued by Fundação do Meio Ambiente de Santa Catarina (FATMA) on 20th October 2003. (Ref. 4 a).

- Installation license, n° 190, issued by Fundação do Meio Ambiente de Santa Catarina (FATMA) on 17th August 2005. (Ref. 4 b).

- Operation license, n° 512, issued by Fundação do Meio Ambiente de Santa Catarina (FATMA) on 31 October 2006 (valid for two years, until October 2008). See Ref.4 c.

It was also verified the document "Executive Environmental Project" (Ref.10). It is an environmental study prepared to obtain the environmental licenses and presented to FATMA (State Environmental Agency). Regarding to the information about "environmental impacts…" the sponsor had not evidence about this affirmation so it was excluded of the revised PDD (version 2).
It was confirmed that the project has been implemented in compliance with the legal requirements related to environmental impacts. NIR 5 was closed out.

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. It was not possible to check during the desk study if the stakeholder consultation process was carried out in accordance with the DNA requirements. The PDD did not provide a list of the stakeholders consulted, detailing the names of the organizations and agencies contacted. NIR 6 was raised. During the site visit, it was verified the complete list of names of the local stakeholders consulted. The letters sent to local stakeholders were verified, however, it was not provided evidences that the community associations of Faxinal dos Guedes and Ouro Verde and that Municipal Environmental Agency of the Ouro Verde were consulted. NIR 6 was not completely

clarified and CAR 8 was raised.

To close out CAR 8, it was confirmed by documented evidences that the letters were sent to the Environmental Agency of Ouro Verde (on 28th May 2007) and community associations of Faxinal dos Guedes (Lions Clube de Faxinal dos Guedes and Sindicato dos Trabalhadores Rurais) on 21st June 2007.

The following stakeholders were invited by letters to comment on the project, as confirmed by document review (the letters were sent in November, 2006; January, May and June 2007):

- Municipal Government of the Faxinal dos Guedes and Ouro verde – SC.
- City Councils of the Faxinal dos Guedes and Ouro Verde – SC.
- Municipal Environmental Agency of Ouro Verde and Faxinal dos Guedes.
- State Environmental Agency – Fundação do Meio Ambiente – SC.
- Brazilian Forum of NGOs and Social Movements for Environmental and Development
- Community associations – Community Association of Ouro Verde (Leo Clube de Ouro Verde) and Community Associations of Faxinal dos Guedes (Lions Clube de Faxinal dos Guedes and Sindicato dos Trabalhadores Rurais)
- State Attorney of the Xanxaré – SC
- Aneel (electrical regulatory agency)

Three comments were received and are all supportive to the project. It was not required changes in the project activity or specific responses. This explanation about comments received from local stakeholders was included in the PDD, section E.2 and E.3.

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 http://cdm.unfccc.int/Projects/Validation/DB/MCMIWCHCFEZR5AI20OU96JD8WZWONU/view.html and were open for comments from 11 April 2007 to 10 May 2007. Comments were invited through the UNFCCC CDM homepage.

4.2 Compilation of all comments received

No comment was received by 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 nine findings. There is a CAR outstanding, related to the letter of approval from Annex 1 party (United Kingdom).

SGS has performed a validation of project: Faxinal dos Guedes Small Hydroelectric Power plant. 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 displacement of fossil fuels by renewable energy sources in the generation of electricity, 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 prevailing practice barriers presented by the project developer 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***
8 and 9th May, 2007	João Franco	Consultant - MGM	Technical issues, findings, monitoring plan, baseline, licenses.
8 and 9th May, 2007	Victor Pulz	Consultant – MGM	Technical issues, findings, licenses.
8 and 9th May, 2007	Edson Flessak Laura Flessak	Manager – Hidrelétrica Rossi	Licenses, stakeholder consultation process, findings, operational issues, monitoring plan.

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, Faxinal dos Guedes Small Hydroelectric Plant, Version 1 (09/03/2007), and Version 2 (24/07/2007), version 3 (30/10/2007).

/2/ AMS-I.D: - Grid connected renewable electricity generation (Simplified baseline and monitoring methodologies for selected small scale CDM project activity - Type I – Renewable Energy Projects/ I.D. Grid connected renewable electricity generation), Version 11 (18/05/2007).

/3/ ANEEL document Nº 737

/4/ (a) Preliminary environmental license; (b) License for installation; (c) License for operation

/5/ Starting date of the project (evidence)

/6/ ANEEL license N° 527

/7/ Power purchasing agreements (a) to (f)

/8/ Social contract of the company responsible for the project

/9/ Electra (comercializadora de energia)

/10/ Environmental Executive project

/11/ Calibration certificate N° 194482 and N° 194483

/12/ FAXSHP_MVP_10Apr07 (Excel spreadsheet to be used during the monitoring period)

/13/ CERs calculation spreadsheet (Excel)

/14/ Emission Factor – data used for calculation

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VAL 0950BR01 - Faxinal dos Guedes Small Hydroelectric Power Plant - Annex 1 - Local assessment checklist

This checklist is designed to provide confirmation of in-country data and information provided in the Project Design Document. It serves as a "reality check" on the project. It is to be completed by a local assessor from SGS Brazil

Issue	Findings	Source /Means of Verification	Further action / clarification / information required?
Confirm the installed capacity informed in the PDD (check the equipment installed on-site and the ANEEL document). Ask copy of the Resolution nº 737 of December 18th, 2002.	It was confirmed on site 4 MW of the installed capacity. Copy was proved; see ref.3, ANEEL document, Nº 737, 18th December 2002.	Site visit/DR	No
Confirm the locality (Chapecozinho river, coordinates etc). Check if the project is not a debundled project. Inform details of evidences verified on-site.	Confirmed in the Operation License, Nº 512/2006 (ref.4), the localities of the river. Coordinates are 26°26' South, 52º14' West. Verified on site visit that Faxinal dos Guedes project does not debundled of a larger CDM project activity.	Site visit/DR/I	No
Confirm the reservoir area of 31.9 hectares mentioned in the PDD (check the environmental license and studies, check maps or topographic maps of the dam).	It was verified the reservoir is of 0,4km². The information presented in the PDD was incorrect. The Installation license, Nº 190/2005 was verified. See ref.4.	Site Visit/DR	NIR 3
Give evidences of who is the responsible part of the project. For example, confirm if the company's name is shown in ANEEL licenses or environmental licenses.	Confirmed that Hidrelétrica Rossi Ltda is the responsible part of the project. See ref.4.	Site Visit/DR/I	No

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Issue	Findings	Source /Means of Verification	Further action / clarification / information required?
Confirm the value applied for the capacity factor = 62% (see table 6, page 30). How this value was obtained?	Conform the ANEEL license, Nº527, issued on 8th October, 2003 (ref. 6), the ensured energy is 2.45MW. Follow the calculation to obtain the capacity factor: Capacity factor = ensured energy / installed capacity Capacity factor = 2.45 MW / 4.0MW = **0.6125**	Site Visit/DR/I	See NIR 3.
Check which evidences confirm the project starting date.	Checked the evidence that confirm the project starting date: 22/03/2007 (Ref.5).	Site Visit/DR/I	No
All the financial investment was done with own capital? Any financing? Please confirm.	Yes. The financial investment was done with own capital.	Site Visit/I	No

Issue	Findings	Source /Means of Verification	Further action / clarification / information required?
Check if they have signed a PPA. If so, provide details.	The project has 5 signed Power Purchase Agreement (PPA) Ref.7: ▪ PPA 1: Electra Comercializadora de Energia Ltda – R$ 106,00 per MWh. Signed agreement on 16th May, 2006. ▪ PPA 2: BRASIMET Comércio e Indústria S/A – R$ 128,00 per MWh. Signed agreement on 22th January, 2007. ▪ PPA 3: D'Itália Móveis Industrial Ltda – R$ 140,00 per MWh. Signed agreement on 22th December, 2006. ▪ PPA 4: Metalúrgica Golden ART's Ltda – R$ 140,00 per MWh. Signed agreement on 19th April, 2007. ▪ PPA 5: Duas Rodas Industrial Ltda – R$ 135,00 per MWh, 29th September, 2006.	Site Visit/DR/I	No

Issue	Findings	Source /Means of Verification	Further action / clarification / information required?
Confirm by document review, interviews and on-site observations if the monitoring plan is implemented (responsibilities, procedures and work instructions, archiving time, calibration and maintenance of the meters: Please provide detailed evidences (if possible, copies of calibration certificates, copies of procedures or work instructions etc).	There is no monitoring plan implemented yet. The monitoring plan will be implemented before crediting period.	Site visit/DR/I	See NIR 4 and CAR 09.
Is there an operation authorization issued by ANEEL? Please check.	Yes. The authorization by ANEEL was checked on site visit. Please see: Commercial Authorization by CELESC, 17-01-2007 (Ref.5).	Site Visit/DR	No

Issue	Findings	Source /Means of Verification	Further action / clarification / information required?
Verify the environmental licensing process. Check the environmental studies (if there is a PCA, a RAP and a PRAD or other study and plan required by FATMA). Check the current operation license and the conditions defined by the environmental agency. The following information was provided in the PDD: "(LAP): prior environmental licensing, and installation licensing (number 426/2003), issued on october 20, 2003. Since to it expires in 02 years, this licensing was renovated". Ask copies of the current license and record the details of all relevant documents verified on-site.	It was presented the environmental executive project that describes environmental study requested by Environmental Agency - FATMA (ref. 10). The licenses were verified on site. All conditions requested by Environmental Agency have been addressed. Copy was provided. Preliminary license, number 426, 20th October 2003, issued by Fundação do Meio Ambiente de Santa Catarina (FATMA). Ref4. Installation license, number 190, 17th August 2005, issued by Fundação do Meio Ambiente de Santa Catarina (FATMA). Ref. 4 Operation license, number 512, 31 October 2006 (valid for two years), issued by Fundação do Meio Ambiente de Santa Catarina (FATMA). Ref.4.	Site Visit/ DR	Please, see NIR 5

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Issue	Findings	Source /Means of Verification	Further action / clarification / information required?
Verify if this conclusion presented in the PDD (page 36, section D.2) is from an environmental study: "The environmental impacts associated with the project activity are modest because the regional topography allows the dam to be naturally contained in a valley. Furthermore, this valley has a low demographic and land use rate". If no, who mentioned this conclusion about the impacts evaluation? It could be confirmed on-site?	It was not provided documented evidence about this information.	Site Visit/I	Please, see NIR 5. Information was excluded of the PDD.
Barriers analysis: confirm the values provided in the Table 4, page 20 of PDD (value applied for WACC). Ask copies of evidences (ex: spreadsheets, references etc)	The data used for discussion of financial barriers were not available on site.	Validation Assessment/DR	Please, see CAR 2. Information was excluded of the PDD and the discussion of additionality was revised..
Confirm the complete reference of information provided in the page 23 (ref 15 to 18 are only mentioned as ANEEL; please ask details: the name of the reference, date etc; or the complete <http://> where the data were get from.	The information was not available on-site.	Validation Assessment /DR	Information was excluded of the PDD.

Issue	Findings	Source /Means of Verification	Further action / clarification / information required?
Check the calculation of OM, BM and the emission factor of the grid (formulas and data used for the calculation). Ask for the complete spreadsheets with data used for the calculation and for reaching the value of EF=0.2611. Ask copy of this spreadsheet.	The calculation was checked during validation assessment, it is ok. Copy of the spreadsheet was provided. See ref. 14	Validation Assessment/DR	No
Verify and record the names of each stakeholder invited to comment on the project. It is possible to confirm the invitation by ARs? Are they covering the DNA requirements? Ask copies of ARs.	Confirmed the letters sent in November, 2006, January, May and June 2007. ▪ Municipal Government of the Faxinal dos Guedes and Ouro verde – SC. ▪ City Councils of the Faxinal dos Guedes and Ouro Verde – SC. ▪ Municipal Environmental Agency and Ouro Verde Ouro Verde. ▪ State Enviromental Agency – Fundação do Meio Ambiente – SC. ▪ Brazilian Forum of NGOs and Social Movements for Environmental and Development ▪ State Attorney of the Xanxaré – SC	site visit/DR	See CAR 8. ▪ Community associations – Community Association of Ouro Verde (Leo Club de Ouro Verde) and Community Associations of Faxinal dos Guedes (Lions Clube de Faxinal dos Guedes and Sindicato dos Trabalhadores Rurais) were contacted.

Issue	Findings	Source /Means of Verification	Further action / clarification / information required?
Confirm the letter and material sent to the stakeholders (language, media etc).	Confirmed. The letters were sent to stakeholders in local language, copies were verified on-site.	Site visit/DR	No
Check the responses and comments received from the stakeholders.	Yes. Only one comment received, but the comment received did not require change in the project/PDD.	Site Visit/DR	No
Annex 4 "Monitoring plan": check the spreadsheet mentioned in page 46 for data input and results. Ask copy of the spreadsheet.	The spreadsheet was verified; however, it is not implemented yet. The monitoring plan will be implemented before the crediting period. See ref. 12.	Site visit/I/DR	See observation

Annex 2 - Validation Protocol

This validation protocol is designed to ensure that the project meets the requirements for CDM projects that are detailed in paragraph 37 of the CDM modalities and procedures. Each requirement is covered in a separate table. The following requirements are discussed in this protocol:

Requirement	Description	
Participation requirements	The participation requirements as set out in Decision 17/CP7 need to be satisfied	Covered in table 1
Baseline and monitoring methodology	The baseline and monitoring methodology complies with the requirements pertaining to a methodology previously approved by the Executive Board	Baseline methodology is covered in table 9 Monitoring methodology is covered in table 9
Additionality	The project activity is expected to result in a reduction in anthropogenic emissions by sources of greenhouse gases that are additional to any that would occur in the absence of the proposed project activity	Covered in table 9

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Monitoring plan	Provisions for monitoring, verification and reporting are in accordance with relevant decisions of the COP/MOP	Covered in table 9
Environmental impacts	Project participants have submitted to the designated operational entity documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts and, if those impacts are considered significant by the project participants or the host Party, have undertaken an environmental impact assessment in accordance with procedures as required by the host Party;	Covered in table 9
Comments by local stakeholders	Comments by local stakeholders have been invited, a summary of the comments received has been provided, and a report to the designated operational entity on how due account was taken of any comments has been received;	Covered in Table 7
Other requirements	The project activity conforms to all other requirements for CDM project activities in relevant decisions by the COP/MOP and the Executive Board.	Covered in Table 8

Small sale projects and AR projects have specific requirements which are covered in Table 9-11. Small scale SSC projects have special requirements which might deviate from the requirements of other CDM projects. These requirements are tested in table 9. Please note that some questions in table 9 overlap with questions in the other tables. Where the questions in table 9 contradict or overlap questions elsewhere in the checklist, the questions in table 9 shall prevail. For the validation of small scale projects, assessor is required to address the questions in table 9 first before starting with the questions in the other tables.

Further remarks on the use of this document:

- text in *italic blue* is meant as guidance for the assessor
- MoV = Means of Verification, DR= Document Review, I= Interview

This protocol should be adapted as required. For example, if the project is not a small scale project or an AR project, some tables can be deleted.

Table 1 Participation Requirements for Clean Development Mechanism (CDM) Project Activities (Ref PDD, Letters of Approval and UNFCCC website)

REQUIREMENT	MoV	Ref	Comment	Draft finding	Concl
1.1 The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3 and be entered into voluntarily.	DR	PDD	No letter of approval from Annex I country, Kingdom was provided to the validator.	CAR 10	

REQUIREMENT	MoV	Ref	Comment	Draft finding	Concl
			The validator is awaiting the letter approval from DNA of UK.		
1.2 The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof, and be entered into voluntarily	DR	PDD	No Letter of approval by host country (Brazil) has been submitted to the validator. The LoA will be sent after the Brazilian DNA analyse and approve the project.	Send the validation report to DNA.	
1.3 All Parties (listed in Section A3 of the PDD) have ratified the Kyoto protocol and are allowed to participate in CDM projects	PDD	UNFCCC Web site	Yes. Brazil ratified the protocol on 23 August 2002.	Ok	Ok
1.4 The project results in reductions of GHG emissions or increases in sequestration when compared to the baseline; and the project can be reasonably shown to be different from the baseline scenario	PDD	DR	The project activity reduces emissions of greenhouse gas (GHG) as the result of the displacement of generation from fossil-fuel thermal plants that would have otherwise been delivered to the interconnected grid.	Ok	Ok
1.5 Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days (45 days for AR projects), and the project design document and comments have been made publicly available	DR	PDD UNFCCC web site	Yes, PDD was publicly available from 11 April to 10 May 2007. http://cdm.unfccc.int/Projects/Validation/DB/MCMIWCHCFEZR5AI20OU96JD8WZWONU/view.html No comments were received.	Ok	Ok
1.6 The project has correctly completed a Project Design Document, using the current version and exactly following the guidance	DR	PDD	Yes; it was used the current version (version 03) of the PDD.	Ok	Ok
1.7 The project shall not make use of Official Development Assistance (ODA), nor result in the diversion of such ODA	DR	PDD	The project does not made use of ODA.	Ok	Ok
1.8 For AR projects, the host country			N/A		

REQUIREMENT	MoV	Ref	Comment	Draft finding	Concl
shall have issued a communication providing a single definition of minimum tree cover, minimum land area value and minimum tree height. Has such a letter been issued and are the definitions consistently applied throughout the PDD?					
1.9 Does the project meet the additional requirements detailed in: Table 9 for SSC projects Table 10 for AR projects Table 11 for AR SSC projects			N/A		
1.10 Is the current version of the PDD complete and does it clearly reflect all the information presented during the validation assessment.	DR	PDD	Yes, the current version was used.	Ok	Ok

1.11 Does the PDD use accurate and reliable information that can be verified in an objective manner?	DR	PDD Site visit	No evidences that support the value of 62% applied to the capacity factor (see Table 6, page 30 of PDD) were provided during the desk study. It was verified the reservoir is of 0.4 km². The information presented in the PDD was incorrect. NIR 3 was raised. To close out NIR 3 the following information was provided: The load factor value of 61.25% was obtained from long-term historical data of the river flow, and indicates that the secure power (annual average) is 2.45 MW. By dividing the secure power value by the installed power (4MW) , it is obtained the load factor of 61.25%. An explanation about load factor was presented during site visit. In accordance with ANEEL license, number 527, the ensured energy is 2,45MW. Considering the calculation mentioned above, the ensured energy is the 0.6125.	NIR 3 NIR 7	OK, NIR 3 was closed out OK, NIR 7 was closed out.

			The Installation license, Nº 190/2005 was verified to confirm the area of the reservoir and the data was revised in the PDD. NIR 3 was closed out. It was not possible to verify the baseline information provided in the Annex 3 of PDD. The complete spreadsheets with data and formulas used for calculation of the EF grid were not available for the validation team during the desk study. To clarify NIR 7, the spreadsheet with data and formulas for EF calculation was provided to the validation team. All date and formula for calculation of the EF were checked. The data provided in the PDD were confirmed. NIR 7 was closed out.		

Table 2 **Baseline methodology(ies) (Ref: PDD Section B and E and Annex 3 and AM) - NA**

Table 3 **Additionality (Ref: PDD Section B3 and AM) - NA**

Table 4 **Monitoring methodology (PDD Section D and AM) - NA**

Table 5 **Monitoring plan (PDD Annex 4)- NA**

Table 6 **Environmental Impacts (Ref PDD Section F and relevant local legislation) - NA**

Table 7 **Comments by local stakeholders (Ref PDD Section G) - NA**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
7.1 Have relevant stakeholders been consulted?	PDD/ Letters	DR Site visit	During site visit was not confirmed that the community associations of the Ouro Verde and Faxinal dos Guedes municipalities and Municipal Environment Agency of the Ouro verde were consulted. According to Resolution 1 of DNA (Comissão Interministerial) article 3º "all agents that are affected by the project must be consulted. The ARs (evidences of mail) were not provided. CAR 8 was raised. It was confirmed the letters sent to: Agency Environmental from Ouro verde on 28th May 2007; Communities association from Faxinal dos Guedes (Lions Clube de Faxinal dos Guedes and Sindicato dos Trabalhadores Rurais) on 21 June 2007. The ARs regarding the comunitary associatios were sent to SGS on 22/06/2007. CAR 8 was closed out.	CAR 8	Ok, CAR 8 was closed out.
7.2 Have appropriate media been used to invite comments by local stakeholders?	PDD/ Letters	DR	Yes.	Ok	Ok
7.3 If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	PDD/ Letters	DR	NIR 6: It was not possible to check during the desk study if the stakeholder consultation process was carried out in accordance with the DNA requirements. The PDD did not provide a list of the stakeholders consulted, detailing the names of the	NIR 6 CAR 8	Ok NIR 6 and CAR 8 were closed out.

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			organizations and agencies contacted. It was confirmed on-site that the stakeholder consultation did not cover all the stakeholders required by DNA (it was not present the letter sent to community association from Faxinal dos Guedes and Ouro Verde). CAR 8 was raised (see also item 7.1).		
7.4 Is a summary of the stakeholder comments received provided?	PDD	DR	Yes. The summary was included in the PDD.	Ok	Ok
7.5 Has due account been taken of any stakeholder comments received?	PDD	DR	Yes, one comment received, but it is not necessary change in the PDD.	Ok	Ok

Table 8 Other requirements

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
8.1 Project Design Document					
8.1.1 Editorial issues: does the project correctly apply the PDD template and has the document been completed without modifying/adding headings or logo, format or font.	PDD	DR	Yes, it was correctly applied.	Ok	Ok
8.1.2 Substantive issues: does the PDD address all the specific requirements under each header. If requirements are not applicable / not relevant, this must be stated and justified	PDD	DR	Yes, it was correctly applied.	Ok	Ok
8.2 Technology to be employed					
8.2.1 Does the project design engineering reflect current good practices?	PDD	DR/I Site Visit	Yes.	Ok	Ok
8.2.2 Does the project use state of the art technology or would the technology result in a significantly better performance	PDD	DR/I Site Visit	It is the technology applied for small hydroelectric plants.	Ok	Ok

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
than any commonly used technologies in the host country?					
8.2.3 Is the project technology likely to be substituted by other or more efficient technologies within the project period?	PDD	DR/I	It was not expected.	Ok	Ok
8.2.4 Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	PDD	DR/I	It was verified during site visit that operators were trained on the operation system, monitoring and maintenance procedures.	Ok	Ok
8.3 Duration of the Project/ Crediting Period					
8.3.1 Are the project's starting date and operational lifetime clearly defined and reasonable?	PDD	DR	Yes. Starting date of the project activity is 22/03/2004 and was confirmed by the document review. The operational lifetime is 25 years.	Ok	Ok
8.3.2 Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max. two x 7 years or fixed crediting period of max. 10 years)?	PDD	DR	The crediting period was not clearly informed in the PDD. The estimated emission reductions through the first 7-year crediting period presented in the Table 2, page 8 and Table 7, page 31 of PDD considered the period from 2007 to 2013 (complete years). It did not consider that the crediting period will start on 1st July 2007 (as informed in section C.2.1.1., page 34) and in this case, should finish on 31 June 2014.CAR 1 was raised. To close out CAR 1, the PDD, version 2 was revised in conformity to the Guidelines for CDM-SSC-PDD, version 4. The tables presenting the estimated emission reductions through the first 7-year crediting period	CAR 1	Ok CAR 1 was closed out.

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			considered the correct period.		
8.3.3 Does the project's operational lifetime exceed the crediting period	PDD	DR	Yes.	Ok	Ok

Table 9 Additional requirements for SSC projects

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
SSC projects use the SSC PDD and simplied baseline and monitoring methodologies as detailed in Appendix B (to the Modalities and Procedures for Small scale CDM projects, Annex II to Decision 21/CP.8) Indicative simplied baseline and monitoring methodologies for selected small scale CDM project activity categories					
9.1 Does the project qualify as a small scale CDM project activity as defined in paragraph 6 (c) of decision 17/CP.7 on the modalities and procedures for the CDM?	PDD	DR	Yes, renewable energy generation for a grid with installed capacity of 4,0 MW (15MW - the limit for small scale projects).	Ok	Ok
9.2 The project conforms to one of the categories listed in Appendix B to Annex II to Decision 21/CP8	PDD	DR	Yes, ID – Grid connected renewable electricity generation.	Ok	Ok
9.3 The small scale project activity is not a debundled component of a larger project activity?	PDD	DR/I	Verified during site visit by interview and UNFCCC website that the project activity is not debundled of a larger activity, there is no other project registered in the same place.	Ok	Ok
9.4 PDD has been prepared in accordance with appendix A of Annex II to Decision 21/CP8	PDD	DR	Yes, the current version is correctly applied.	Ok	Ok
9.5 The project uses a simplified baseline and monitoring methodology specified in Appendix B. If not, they may propose changes to the meths or a new SSC project category	PDD	DR	The project applied AMS type I, renewable energy projects. Category I.D – grid connected renewable electricity generation, version 11, 18 May 2007.	Ok	Ok
9.6 Is there any bundling of SSC activities into one PDD? If so, does the monitoring plan consider sampling of activities? Refer to para 19 of Annex II. Also, note bundling provisions in SSC Briefing Note and	PDD	DR	No.	Ok	Ok

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
SSC meths I C / I D and III D and Para 22e of Appendix B					
9.7 Is EIA required by host party? If not, none is required irrespective of SHC. If yes, has one been performed consistent with local requirements?	PDD	DR	The information provided in the PDD (section D.1, page 36) about the environmental impacts and local requirements was not updated. It was informed that the LAP was issued in October 2003 and expire in 2 years (considering this, probably it was expired in 2005). No information about the current license was included in the PDD. In addition, no references or source of information was provided for the following statement: *"The environmental impacts associated with the project activity are modest because the regional topography allows the dam to be naturally contained in a valley. Furthermore, this valley has a low demographic and land use rate".* Where this information is from? NIR 5 was raised. To clarify NIR 5: To close out NIR 5, the environmental licenses were provided, as indicated below: - Preliminary license, n° 426,, issued by Fundação do Meio Ambiente de Santa Catarina (FATMA) on 20th October 2003. (Ref. 4 a).	NIR 5	Ok, NIR 5 was closed out.

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			- Installation license, n° 190, issued by Fundação do Meio Ambiente de Santa Catarina (FATMA) on 17th August 2005. (Ref. 4 b). - Operation license, n° 512, issued by Fundação do Meio Ambiente de Santa Catarina (FATMA) on 31 October 2006 (valid for two years, until October 2008). See Ref.4 c. It was also verified the document "Executive Environmental Project" (Ref.10). It is an environmental study prepared to obtain the environmental licenses and presented to FATMA (State Environmental Agency). Regarding to the information about "environmental impacts…" the sponsor had not evidence about this affirmation so it was excluded of the revised PDD. It was confirmed that the project has been implemented in compliance with the legal requirements related to environmental impacts. NIR 5 was closed out.		

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
9.8 The project results in emission reductions that area additional in accordance with the following requirements: (para 26) The project is additional if emissions are reduced below those in the absence of the project (Para 27) Simplified baseline can be used; if not, baseline proposed shall cover all gases, sectors and sources listed in Annex A to the KP Para 28) One or more barriers as detailed in attachment A to Appendix B to Annex II will be used to demonstrate that the project would not proceed without the CDM	PDD	DR	From the discussion provided in the PDD, it was not possible to conclude if the project is additional under the CDM rules. The discussion of additionality was not clear and was not supported by objective evidences and information. The project did not apply the Attachment A to Appendix B of the simplified modalities and procedures for small-scale CDM projects activities and decided to use the "Tool for the demonstration and assessment of additionality". The step 3 "Barrier analysis" was not clear; there was a lot of descriptive information and the discussion was not linked objectively to the Faxinal hydroelectric project. It was not clearly demonstrated that the identified barriers are prohibitive to the project but not for the alternatives. The values presented in the Table 4 (page 20, "Cost of Equity of FAXSHP") were not clearly explained or supported by additional data. The assumptions and data applied for calculation of the project IRR (mentioned in page 21) were not provided in the PDD, as required by the "Tool".	CAR 2	Ok, CAR 2 was closed out.

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			The discussion of "Prevailing Business Practice" under the Step 3 is confused. The complete sources of information used to support the Step 4 were not provided in the PDD (it is only mentioned "Agência Nacional de Energia Elétrica (ANEEL)", but it was not provided the <http://> or the source of the names and dates of the documents consulted). The conclusion in the page 25 is similar to the old "Step 5" of the version 2 of the "Tool" and included confused information, not supported by the barriers analysis provided in the PDD (as the conclusion: *"An increase of approximately 100 to 200 basis points (???), derived from CERs, would be an important factor in determination to start such project"…*). CAR 2 was raised. To close out CAR 2, the discussion of additionallity was completely revised by the client. The "Tool" (applied for large scales projects) was replaced for Attachment A to Appendix B. The references asked were included in the PDD and confirmed. The barriers analysis (financial		

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			barriers) is not consistent, however the project's participants excluded the discussion of the PDD. Barrier due to Prevailing Practice was used by project developer to discuss the additionality. The most point says respect to small participation of small hydro plants in Brazilian power market. It was confirmed that is common practice in Brazil the building of large hydroelectric plants and thermal fossil fuel plants. To evidences this discussion references from ANEEL was presented. CAR 2 was closed out.		
9.9 Leakage is calculated according to the provisions of the SSC methodologies in Appendix B (http://cdm.unfccc.int/Projects/pac/ssclistmeth.pdf)	PDD	DR	Leakage is not applicable.	Ok	Ok
9.10 The project boundary shall be constructed in accordance with the requirements of the SSC meths in Appendix B	PDD	DR	The boundary of project activities encompasses the Faxinal dos Guedes plant and the South-Southeast-Midwest national system.	Ok	Ok
9.11 The Monitoring plan shall be consistent with the requirements of the SSC methodology in Appendix B and shall provide for the collection and archiving of data needed to determine project emissions, baseline emissions and leakage.	PDD	DR	The description of the Monitoring Plan (section B.7.2, page 32 of PDD) was not complete. The organizational chart indicates the management/operational structure, but no information about responsibilities and activities was provided. NIR 4 was raised.	NIR 4	Ok See also CAR 09 and Obs. 1

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			To clarify NIR 4, information about the monitoring plan was included in the PDD. No procedures or calibration certificates were available on site. CAR 09 was raised.		

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
9.12 The monitoring plan shall present good monitoring practice appropriate to the circumstances of the project activity (para 33)	PDD	DR	See also NIR 4 CAR 09 was raised: It was verified on-site that there is no written procedure or work instruction for monitoring and data archiving that ensures the implementation of the monitoring plan proposed in the PDD. Although the plant is running end generating energy since February 2007, the spreadsheet presented in the Annex 4 is not prepared yet. In addition, the calibration certificate of the meter installed (the "core" of the monitoring system) was not available on-site. There is no evidence that the monitoring system will be implemented adequately up 1st October 2007 (when the crediting period will start). To close out CAR 09, the monitoring plan was included in the PDD (version 2). The calibration certifications of the meters installed and the spreadsheets were provided (copies sent to SGS: Meter SAGA 1000/1682, serial numbers 194482 and 194483, calibrated by Lantec on 11/04/2006. See Ref.11. The meters will be calibrated each 3	CAR 09	Ok, CAR 09 was closed out.

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			years). The written procedures will be available before crediting period. CAR 09 was closed out; see observation 1. Observation 1: the monitoring plan shall be completely implemented before the crediting period.		
9.13 If project activities are bundled, separate monitoring plan shall be prepared for each of the activities or an overall plan reflecting good monitoring practice will be prepared, consistent with the above requirements	PDD	DR	The project is not bundled.	Ok	Ok

Annex 3 - FINDINGS OVERVIEW

Findings from validation of Faxinal dos Guedes Small Hydroelectric Power Plant – VAL0950

Each Table below represents a finding from the validation assessment. The findings are numbered consecutively, approximately in the order that they have been identified.

Description of table:

Type	Findings are either New Information Requests (NIR) or Corrective Action Requests (CAR). CARs are items that must be addressed before a project can receive a recommendation for registration. NIRs may lead to the raising of CARs. Observations are included at the end and may or may not be addressed. They are primarily to act as signposts for the verifying DOE.
Issue	Details the content of the finding
Ref	refers to the item number in the Validation Protocol
Response	Please insert response to finding, starting with the date of entry.

Rows for comments and further response will be appended to the table until the Findings has been addressed to the satisfaction of the Lead Assessor.

Please note that this is an open list and more findings may be added as validation progresses.

Date: 25/04/2007 Raised by: Aurea Nardelli

No.	Type	Issue	Ref
1	CAR	The crediting period was not clearly informed in the PDD. The estimated emission reductions through the first 7-year crediting period presented in	8.3.2

		the Table 2, page 8 and Table 7, page 31 of PDD considered the period from 2007 to 2013 (complete years). It did not consider that the crediting period will start on 1st July 2007 (as informed in section C.2.1.1., page 34) and in this case, should finish on 31 June 2014.	
Date: 15/04/20007 [Comments]: the crediting period was updated in the version 2 of the PDD.			
Date: 27/07/2007 – Aurea Nardelli [Acceptance and close out]: The PDD, version 2 was revised in conformity to the Guidelines for CDM-SSC-PDD, version 4. The tables presenting the estimated emission reductions through the first 7-year crediting period considered the correct period. CAR 1 was closed out.			

Date: 25/04/2007 Raised by: Aurea Nardelli

No.	Type	Issue	Ref
2	CAR	From the discussion provided in the PDD, it was not possible to conclude if the project is additional under the CDM rules. The discussion of additionality was not clear and was not supported by objective evidences and information. The project did not apply the Attachment A to Appendix B of the simplified modalities and procedures for small-scale CDM projects activities and decided to use the "Tool for the demonstration and assessment of additionality". The step 3 "Barrier analysis" was not clear; there was a lot of descriptive information and the discussion was not linked objectively to the Faxinal hydroelectric project. It was not clearly demonstrated that the identified barriers are prohibitive to the project but not for the alternatives. The values presented in the Table 4 (page 20, "Cost of Equity of FAXSHP") were not clearly explained or supported by additional data. The assumptions and data applied for calculation of the project IRR (mentioned in page 21) were not provided in the PDD, as required by the "Tool". The discussion of "Prevailing Business Practice" under the Step 3 is confused. The complete sources of information used to support the Step 4 were not provided in the PDD (it is only mentioned "Agência Nacional de Energia Elétrica (ANEEL)", but it was not provided the <http://> or the source of the names and dates of the documents consulted). The conclusion in the page 25 is similar to the old "Step 5" of the version 2 of the "Tool" and included confused information, not supported by the barriers analysis provided in the PDD (as the conclusion: *"An increase of approximately 100 to 200 basis points (???), derived from CERs, would be an important factor in determination to start such project"…*).	9.8
Date: 15/05/2007 [Comments]: The project is now applying the Attachment A to Appendix B of the simplified modalities and procedures for small-scale CDM projects activities. The Prevailing Business Practice, clearly demonstrates that FAXSHP is not a business-as-usual scenario in a country where large hydro and thermal fossil fuel projects are preferable. (we can			

see in the Aneel site, bellow, that small hydro power plants corresponds to less than 2% of the total electric power generated). Source: http://www.aneel.gov.br/area.cfm?idArea=15 (Capacidade Geração Brasil and Resumo Estadual) With the financial benefit derived from the CERs, it is anticipated that the project developer would benefit from this new source of revenues and would then decide to develop such project.
Date: 27/07/2007 – Aurea Nardelli [Acceptance and close out]: The "Tool" was replaced by the Attachment A to Appendix B. The g references were included in the PDD. The barriers analysis was not consistent; however the project's participants excluded the discussion of the revised PDD. Section B.5 of the PDD presented a discussion about energy market in Brazil. It was raised a comment asking the relation of this information with the project. Any information inserted in the PDD, especially addionality it has to have relation with the project. What is the impact of the barriers showed in the PDD? The discussion about the barriers says the respect some problem to obtain financing, demand to obtain the PPA, PROINFA. What is the real impact of these problems on the project activity. The PDD was revised. Barrier due to Prevailing Practice was used by project developer to discuss the additionality. The most point says respect to small participation of small hydro plants in Brazilian power market. It was confirmed that is common practice in Brazil the building of large hydroelectric plants and thermal fossil fuel plants. To support this discussion references from ANEEL were presented. CAR 2 was closed out.

.Date: 25/04/2007 Raised by: Aurea Nardelli

No.	Type	Issue	Ref
3	NIR	No evidences that support the value of 62% applied to the capacity factor (see Table 6, page 30 of PDD) were provided during the desk study. It was verified on site that the reservoir area is 0.4 km². The information presented in the PDD (31.9 ha) was incorrect.	1.11
Date: 15/05/2007 [Comments]: The load factor value of 61,25% was obtained from long-term historical data of the river flow, and indicates that the secure power (annual average) is 2.45 MW. By dividing the secure power value by the installed power (4MW) , it is obtained the load factor of 61,25%			
Date: 27/07/2007 – Aurea Nardelli [Acceptance and close out]: An explanation about load factor was presented during site visit. In accordance with ANEEL license, number 527, the ensured energy is 2.45MW. Considering the calculation mentioned above, the ensured energy is the 0.6125. The Installation license, Nº 190/2005 was verified to confirm the area of the reservoir and the data was revised in the PDD. NIR 3 was closed out.			

Date: 25/04/2007 Raised by: Aurea Nardelli

No.	Type	Issue	Ref
4	NIR	The description of the Monitoring Plan (section B.7.2, page 32 of PDD) was not complete. The organizational chart indicates the management/operational structure, but no information about responsibilities and activities was provided.	9.11/9.12
Date: 15/05/2007 [Comments]: The PDD was updated, and it included the person in charge of monitoring management. It also included more detailed information regarding the monitoring equipment system.			
Date: 15/05/2007 – Aurea Nardelli [Acceptance and close out]: Information about the monitoring plan was included in the PDD (version 2) regarding good practices. Detailed information (procedures, calibration certificates) were not available during the site visit. See CAR 09.			

Date: 25/04/2007 Raised by: Aurea Nardelli

No.	Type	Issue	Ref
5	NIR	The information provided in the PDD (section D.1, page 36) about the environmental impacts and local requirements was not updated. It was informed that the LAP was issued in October 2003 and expire in 2 years (considering this, probably it was expired in 2005). No information about the current license was included in the PDD. In addition, no references or source of information was provided for the following statement: *"The environmental impacts associated with the project activity are modest because the regional topography allows the dam to be naturally contained in a valley. Furthermore, this valley has a low demographic and land use rate".* Where this information is from?	9.7
Date: 15/05/2007 [Comments]: The environmental impact information stated above was informed by the sponsor, and it was verified during on-site visiting. This statement was changed in the PDD. The PDD was updated for including the actual licenses, as below: LAI number 190/2005, issued on august 17, 2005) LAO: Operation environmental license , number 512/2006, issued on October 31, 2006			
Date: 27/07/2007 – Aurea Nardelli [Acceptance and close out]: The licenses were verified and complied with environmental requirements. Regarding to the information about "environmental impacts…" the sponsor had not evidence about this affirmation so it was excluded of the revised PDD. NIR 5 was closed out. .			

Date: 25/04/2007 Raised by:Aurea Nardelli

No.	Type	Issue	Ref
6	NIR	It was not possible to check during the desk study if the stakeholder consultation process was carried out in accordance with the DNA requirements. The PDD did not provide a list of the stakeholders consulted, detailing the names of the organizations and agencies contacted.	7.3
Date: 15/05/2007 [Comments]: copies of the invitation letters were sent to SGS, on 04 April 2007. The entities invited were included in the PDD.			
Date: 15/05/2007 – Aurea Nardelli [Acceptance and close out]: Verified the inclusion of the names of the local stakeholders in the PDD. Checked the letters sent to local stakeholders, however, it was not present the letter sent to community association from Faxinal dos Guedes and Ouro Verde. CAR 8 was raised.			

Date: 25/04/2007 Raised by:Aurea Nardelli

No.	Type	Issue	Ref
7	NIR	It was not possible to verify the baseline information provided in the Annex 3 of PDD. The complete spreadsheets with data and formulas used for calculation of the EF grid were not available for the validation team during the desk study.	1.11
Date:03/05/2007 [Comments]: The requested spreadsheets were sent to SGS, on 03 May 2007			
Date: 27/07/2007 – Aurea Nardelli [Acceptance and close out]: The spreadsheet was received. All date and formula for calculation of the EF were checked. The data provided in the PDD were confirmed. NIR 7 was closed out.			

Date: 15/05/2007 Raised by: Geisa Príncipe

No.	Type	Issue	Ref
8	CAR	During site visit was not confirmed that the community associations of the Ouro Verde and Faxinal dos Guedes municipalities and Municipal Environment Agency of the Ouro verde were consulted. According to Resolution 1 of DNA (Comissão Interministerial) article 3º “all agents that are affected by the project must be consulted. Please, send the ARs which prove that these local stakeholders were consulted.	7.1 7.2

Date: 22/06/2007 [Comments]: The mentioned entities were invited and the ARs were sent to SGS.
Date: 22/06/2007 – Geisa Principe [Acceptance and close out]: It was confirmed the letters sent to: Agency Environmental from Ouro verde on 28th May 2007; Communities association from Faxinal dos Guedes (Lions Clube de Faxinal dos Guedes and Sindicato dos Trabalhadores Rurais) on 21 June 2007. The ARs regarding the community associations were sent to SGS on 22/06/2007. CAR 8 was closed out.

Date: 15/06/2007 Raised by: Aurea Nardelli

No.	Type	Issue	Ref
9	CAR	The monitoring plan should present good monitoring practice appropriate to the circumstances of the project activity. It was verified on-site that there is no written procedure or work instruction for monitoring and data archiving that ensures the implementation of the monitoring plan proposed in the PDD. Although the plant is running end generating energy since February 2007, the spreadsheet presented in the Annex 4 is not prepared yet. In addition, the calibration certificate of the meter installed (the "core" of the monitoring system) was not available on-site. There is no evidence that the monitoring system will be implemented adequately up 1st October 2007 (when the crediting period will start).	9.12
Date: 27/07/2007 [Comments: The spreadsheet presented in the Annex 4 was sent to SGS on 04/05/2007.It is being resent to SGS. The calibration certificate of the meter installed was requested to sponsor and will be sent to SGS as soon as possible.			
Date: 27/07/2007 – Aurea Nardelli [Acceptance and close out]: The monitoring plan was included in the PDD (version 2). The calibration certifications of the meters installed and the spreadsheets were provided (copies sent to SGS). The written procedures will be available before crediting period. CAR 09 was closed out; see observation 1.			

Date: 26/07/2007 Raised by: Geisa Principe/Aurea Nardelli

No.	Type	Issue	Ref
10	CAR	No letter of approval from Annex I country, United Kingdom was provided to the validator.	1.1
Date: 29/07/2007 [Comments]: The letter of approval is being provided, and it will be presented at the time of requesting registration.			
Date: [Acceptance and close out]:			

Observation 1: the monitoring plan shall be completely implemented before the crediting period.