
VALIDATION REPORT

Salto Jauru Energética S.A.

Ecoinv Global Ltda.

**Salto Small Hydro Power Plant Project – A
Brascan Energética S/A Project Activity**

SGS Climate Change Programme

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| Summary: | | | | |
| <p>Brascan has commissioned SGS to perform the validation of the project: Salto Small Hydro Power Plant Project – A Brascan Energética S/A Project Activity.</p> <p>Methodology used: ACM0002 Version and Date: version 7, EB36</p> <p>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.</p> <p>The report is based on the findings of document reviews, the stakeholder consultation process and responses from the project participants to the findings raised in this report.</p> <p>The report and the annexed validation describes a total of 9 (nine) findings which include:</p> <ul style="list-style-type: none"> • 6 Corrective Action Requests; • 3 New Information Requests. <p>All findings were closed out satisfactorily. SGS's opinion to the CDM project activity recommends to the Executive Board for a request for registration. The baseline and monitoring methodology as mentioned in approved methodology adopted for the proposed project activity and meets the relevant UNFCCC requirements for the CDM and relevant host country criteria.</p> <p>The Letter of Approval from the Brazilian DNA was issued. A new version of the PDD and validation report was issued, and in consequence a new Letter of Approval will be necessary.</p> <p>The Letter of approval from the Brazilian DNA was issued on December 10th, 2008.</p> <p>The only amendment made to this validation report compared to the report referred in the Brazilian LoA is related to information provided regarding the Letter of Approval received.</p> | | | | |
| Subject: | | | | |
| CDM Validaion | | | | |
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Abbreviations

| | |
|-----|----------------------------------|
| AM | Approved Methodology |
| CAR | Corrective Action Request |
| CER | Certified Emission Reduction |
| DNA | Designated National Authority |
| MP | Monitoring Plan |
| NIR | New Information Request |
| PDD | Project Design Document |
| SGS | Société Générale de Surveillance |
| EF | Emission Factor |

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1. Validation Opinion

SGS United Kingdom Ltd has been contracted by Brascan to perform a validation of the project: Salto Small Hydro Power Plant Project – A Brascan Energética S/A Project Activity in Brazil.

The Validation was performed in accordance with the UNFCCC criteria for the Clean Development Mechanism (CDM) and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

SGS reviewed of the project design documentation, using a risk based approach and conducted follow-up interviews.

By the installation of a new small hydro power plant with capacity of 19 MW, it will result in GHG emissions reductions avoiding the dispatch of same amount of energy produced by fossil-fuelled thermal plants to the grid, the project activity will result in reductions of greenhouse gas emissions that are real, measurable and give long-term benefits to the mitigation of climate change.

In our opinion, the project meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria. The project correctly applies methodology ACM0002 version 7. It is demonstrated that the project is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity.

The total emission reductions from the project are estimated to be 217,896 tCO₂e over a 7 years crediting period, averaging **31,128 tCO₂e** annually. The emission reduction forecast has been checked and it is deemed likely that the stated amount is achieved given the underlying assumptions do not change.

The project will hence be recommended by SGS for registration with the UNFCCC.

Signed on Behalf of the Validation Body by Authorized Signatory



Signature:

Name: Siddharth Yadav

Date: 26th January 2009

2. Introduction

2.1 Objective

Brascan has commissioned SGS to perform the validation of the project: Salto Small Hydro Power Plant Project – A Brascan Energética S/A Project Activity 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.

2.2 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.

2.3 GHG Project Description

This report summarizes the results of the validation of Salto Small Hydro Power Plant Project, performed on the basis of UNFCCC criteria. The validation has been performed as a desk review of the project documents presented by Brascan Energética and Ecoinv and a site visit, located in Curitiba/PR, Brazil. During site visit, managers and Ecoinvest consultant were interviewed.

According to Brascan the SHPs have, by force of the regulation of the sector, an installed power maximum of 30 MW, and are destined to supply local demands of energy. An advantage of the SHPs, is to contribute for the mitigation of the emission of GHG, when substituting the polluting sources used currently, having therefore the right of carbon credits through the CDM.

The purpose of the project activity is to help meet Brazil's rising demand for energy due to economic growth and to improve the supply of electricity. The plant was built in a remote and non developed area.

The Salto hydroelectric consists of the installation of a small hydro power plant with a capacity of 19 MW, located in Jauru River.

The project activity is helping the country to fulfill its goals of promoting sustainable development.

The hydro power plant has two sets of equipments (horizontal Kaplan S type turbine).

Total amount of emission reductions estimated for the first crediting period is 217,896 tCO₂ e.

Baseline Scenario:

No investment in clean power generation; electricity will continue to be generated by the existing generation mix operating in the grid.

With-project scenario:

The project activity consists of the installation of a new small hydro power plant with capacity of 19 MW. It will result in GHG emissions reductions avoiding the dispatch of same amount of energy produced by fossil-fuelled thermal plants to the grid.

Leakage:

No leakage is anticipated.

Environmental and social impacts:

The environmental impact of the project activity is considered not significant, considering the host country definition of small-hydro plants, given the small dam and reservoir size.

With the use of small hydropower facilities to generate electricity for local use and for delivery to the grid, the project displaces part of the electricity derived from diesel, a finite fossil fuel, and gives less incentive for the construction of large hydro plants which can have major environmental and social impacts.

Regarding the compliance with environmental legislation of the host country, the Brazilian regulation requires an environmental licensing process, including: the previous license (LP); and the installation license (LI).

It was verified during the site visit that the plant obtained the previous and installation. The licenses were issued by the State Environmental Agency.

It is expected that the project activity will contribute to improve the supply of electricity, while contributing to the environmental, social and economic sustainability.

2.4 The Names and Roles of the Validation Team Members

| Name | Role | Affiliate |
|------------------|---------------|------------|
| Fabian Gonçalves | Lead Assessor | SGS Brazil |
| Geisa Principe | Assessor | SGS Brazil |

3. Methodology

3.1 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.

A site visit was performed and where the results are summarized in a separate checklist as Annex 1.

Local staff was also involved to confirm other statements in the PDD through review of documents.

3.2 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 | Ref ID | Means of verification (MoV) | Comment | Draft and/or Final Conclusion |
|---|---|--|--|---|
| The various requirements are linked to checklist questions the project should meet. | Lists any references and sources used in the validation process. Full details are provided in the table at the bottom of the checklist. | 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 A.1 to this report

3.3 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:

- mistakes have been made with a direct influence on project results;
- 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 A.2). In this form, the Project Developer is given the opportunity to "close" outstanding CARs and respond to NIRs and Observations.

3.4 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.

4. Validation Findings

4.1 Participation Requirements

Brazil is listed as the host Party. Brazil has 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. The project was submitted to the Brazilian DNA in June 2007 and, because of the discussion regarding the emission factor calculation, the project was delayed for one year. Then, as the version of the methodology and tools expired, project participants have to review the PDD and make it publicly available again. A new version of the PDD and validation report was issued, and in consequence a new Letter of Approval will be necessary.

The Letter of approval from the Brazilian DNA was issued on December 10th, 2008.

The only amendment made to this validation report compared to the report referred in the Brazilian LoA is related to information provided regarding the Letter of Approval received.

4.2 Project Design

It was assumed a renewable crediting period which will start on 01/07/2009 or the date of registration whichever is later. The operational lifetime exceeds the crediting period.

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.

According to the PDD Guidelines to present the information under section A.2 maximum one page. CAR 1 was raised. Verified the new version 2 of the PDD, the information under section A.2 is correct. CAR 1 was closed out.

Section A.4 of the PDD describes the project as a run-of-river, Verified during site visit that the project is a new hydro plant with small reservoir. CAR 2 was raised. The information that the SHP is a new hydro plant with reservoir was included in the PDD version 2. CAR 2 was closed out.

Section D: the information about the CDM letter of approval requirement is not applicable in the PDD section D. This is the information that will be sent to Brazilian DNA. CAR 9 was raised. The PDD was revised (version 2). CAR 9 was closed out.

Table 5 of the PDD presents the share of hydroelectricity in the country from 1999-2003. To include the data of the years 2004 and 2005. NIR 7 was raised. It was included all data available in the PDD version 2. NIR 7 was closed out.

4.3 Baseline Selection and Additionality

The methodology applied to this Project Activity is: ACM0002 – “Consolidated baseline methodology for grid-connected electricity generation from renewable sources/ Consolidated monitoring methodology for grid-connected electricity generation from renewable sources” (version 07).

ACM0002 is applicable to grid-connected renewable power generation project activities which include among other conditions “new hydro power projects with reservoirs having power density greater than 4 W/m2.”

The project consists of installation of a new small hydroelectric power plant: SHP Salto with 19 MW of total installed capacity. The project boundary encompasses the physical, geographical site of the hydropower generation and the interconnected grid. The baseline calculation boundary is covered by the South Southeast Midwest interconnected grid and the plant is connected to this grid and baseline calculations use the electricity generation data from this region.

In order to prove the CDM consideration it is important to understand the timeline proposed to the project activity.

The investment decision was on December 20th, 2005 and the contract for the construction starts in the same date. The commissioning starting date was on September 4th, 2007 and the Commercial operations on December 28th, 2007.

Brascan always seek for the carbon credits to develop your projects. This was evidenced through an internal presentation dated of December 20th, 2004. This document presents the description, partners involved, risk, and financial analysis for Salto Project. The financial analysis presented in this document presents the IRR of the project with and without CER revenues.

Considering that the investment decision was on December 20th, 2005, the date in which contract was signed with Consórcio Construtor Salto, composed by CR Almeida S.A. Engenharia de Obras, Hidráulica Industrial S.A. Indústria e Comércio and Intertechne Consultores Associados S/C Ltda. the project activity considered the CDM before its implementation. The knowledge of CDM consideration can be also demonstrated in Brascan Energética S.A. experience with other five registered CDM projects.

The project follows the “Tool” to demonstrate additionality (version 5.2).

The PDD version 1 uses the “Tool” version 2 to demonstrate additionality. The PDD version 7 uses the most recent version of the “Tool”.

Step 1b: the alternatives shall be in compliance with all mandatory applicable legal and regulatory requirements taking into account the enforcement in the region or country and EB decisions.

Step 4: It's required to analyse other activities similar to the proposed project activity. Project are considered similar if they are in the same country/region or rely on a broadly similar technology, are of a similar scale, and take place in a comparable environment with respect to regulatory framework, investment climate, access to technology, access to financing, etc.

The Tool v5.2, sub-step 1a requires the alternatives to be included:

- The proposed project activity undertaken without being registered as a CDM project activity;
- Other realistic and credible alternative scenario to the proposed CDM that deliver outputs and on services with comparable quality, properties and application areas, taking into account, where relevant, examples of scenarios identified in the underlying methodology;
- If applicable, continuation of the current situation.

It is not clearly described which alternatives will be considered in the barrier analysis. CAR 3 was raised.

The revised version 3 of the PDD follows the Tool version 3, the barrier analysis was correctly applied. CAR 3 was closed out. The most recent version of the PDD (version 7) correctly applies the Tool version 5.2.

In the discussion of additionality more information were requested:

Lack of infrastructure barrier: to present more detail. What was necessary specifically; evidences. NIR 4 was raised. More detail was added in the revised PDD. Copy of the internal monitoring report made by TD Engenharia was provided. The report issued by TD Engenharia describes the infrastructure barriers faced: roads without infrastructure to access the plant, because of that road were built, and maintenance control of the road was established. NIR 4 was closed out.

Institutional barrier: to present the source of the electricity values presented. NIR 5 was raised.

As described in the PDD version 2, the government electricity market has been changing in Brazil, but this condition does not prevent the project implementation. The institutional barrier was not considered in the PDD version 3. NIR 5 was closed out.

The PDD version 7 excluded the barrier analysis in order to use step 2 of the Tool. The investment barrier was included in the step 2 as financial analysis.

“Tool” Step 1: the project defines some alternatives as the continuation of current situation (common practice in Brazil) of electricity supplied by thermal plants and large hydro; and the proposed project activity undertaken without being registered as a CDM project activity

Verified that both alternatives are in compliance with regulation. There is no obligation to build the SHP and Brascan group has activities in other markets.

“Tool” Step 2: verified the financial analysis (investment spreadsheet). Brascan considered the return of 20% (ROA – Return of Assets) to invest in new projects. To evidence the expected return of 20% copy of the Brascan presentation in 2005 was provided. The ROA in the range of 20% adjusted to the risk profile of the investment. The ROA is used as a reference value. The Benchmark value used in the project is the WACC and was calculated based in parameters observed in global financial markets. These assumptions, the cost of capital in Brazil is close to a global cost of capital adjusted for local inflation and capital structure. Cost of Debt considers risk free rate, levered debt premium, pre-tax cost of debt and consumer price index. Cost of Equity considers risk free rate, equity risk premium, estimated country risk premium, adjusted industry beta and consumer price index. These parameters are based on available data that was confirmed by the validation team (BNDES quotations, cumulative inflation, emerging markets bond index, and others). The calculation of WACC was provided. The calculated WACC for this project is 21.6%, this is the benchmark adopted to compare with the internal rate of return (IRR).

The IRR of the SHP Salto is 18.3% without carbon credits.

The assumptions and the spreadsheet calculation were provided and were considered correct. Verified the contract to implement the SHP Salto (between Salto Jauru Energética and Consórcio Construtor Salto, 20/12/2005). It was possible to confirm the investment to build the SHP.

When the decision to build the SHP Salto, the energy tariff expected was R\$ 127.00 in 2005, at this time the tariff was corrected (with taxes and inflation) to obtain the expected tariff in 2007 (corrected value calculated until 2007 is R\$ 140.83).

A sensitivity analysis was conducted increasing the energy tariff and reducing the costs. The investment was not included in the analysis because the investment is defined in the contract and a variation in a sensitivity analysis is not applicable, because it is not real and not provable to happen. The energy tariff considered in the project are based according prices established in the PPA (Power Purchase Agreement), and then they will not change in the years, but an increase of 10% in the energy tariff were conducted for the sensitivity analysis and it was made a reduction of 10% in the costs. Through the sensitivity analysis the maximum internal rate of return obtained is 18.4%, still lower than the WACC and ROA.

The financial indicator calculated for the project, the IRR is considered correct, as can be seen in the cash flow worksheet. The IRR of 18.3 % per year is lower than the WACC of 21.6% and also lower than the ROA. Confirmed that the project activity is not financially attractive. The CER revenue will bring additional benefits to the project activity.

Other important information is that SHP Salto is asking financing for BNDES. To obtain the financing some guaranties are required, as signed PPA and the potential CER revenue (verified “Consulta Prévia” sent to BNDES). The CER is considered fundamental to obtain the financing for the project.

“Tool” Step 4: the common practice in Brazil is not the construction or operation of small hydro plants. The common is the construction of large hydro plants and recently thermal plants. Most of the 14 small hydro power plants (Brascan’s plants) had included the carbon credit revenue in the feasibility studies. 11 small hydro plants are CDM projects with 5 registered projects.

The common practice analysis was conducted using the ANEEL (Agencia Nacional de Energia Eletrica) and UNFCCC website as reference. 43 hydro plants started operations from 2005 to 2007, where 19 received CDM incentives and 14 from Proinfa, totalizing 33 projects with some kind of incentives, which represents 76.7 % of the total small hydro plants and can not be compared with project activity.

Considering the state of Mato Grosso where the project is located, among the 13 hydro plants that started operations, 11 received incentives and can not be compared with project activity. The other 2 hydro plants that are not receiving incentives have 2MW each and one start operation in 2005 and the other in 2006. The installed capacity is significantly lower than Salto project with 19MW and can not be compared with project activity.

From this result, it was demonstrated that the project activity is not a common practice.

The applicable steps of the Tool were assessed correctly and it was concluded that the project is additional due to the financial analysis presented and the common practice.

4.4 Application of Baseline Methodology and Calculation of Emission Factors

As defined in the ACM0002, the baseline emission factor is calculated as a combined margin, consisting of the combination of operating margin and the build margin factors. The calculation of the emission factor of Brazilian South Southeast Midwest grid is based on data from the National Electric System Operator (ONS – Operador Nacional do Sistema Elétrico) covering years 2003 -2005.

The emissions factor used to determine the emissions reductions was revised. It was used the most recent value available. The ex-ante emission factor calculated was 0.2611 tCO₂e/MWh.

4.5 Application of Monitoring Methodology and Monitoring Plan

Methodology ACM0002 (version 6) is applicable to grid-connected renewable power generation project activities which include among other conditions “new hydro plant with small reservoir”. (Installed power generation capacity divided by the surface area at full reservoir level greater than 4 W/m²). The project has currently power density = 24.05 W/m².

Verified:

Reservoir area = 0.79 Km²

Installed capacity = 19 MW

Power density = 24.05 W/m²

The power density is greater than 4W/m², project emissions is not applicable according ACM0002 methodology. Project emission is dependent on the reservoir area and capacity installed of the plant. The project has a small reservoir area. The power density is greater than 10 W/m². PE is not applicable.

The ex-ante emissions factor used to determine the emissions reductions was revised. ER = net electricity generated and delivered to the grid * 0.2611 (ex-ante EF according monitoring plan presented in the PDD).

The PDD version 1 does not show all parameters that are available at validation.

PDD section B.6.2: to present the parameters available at validation that is used to calculate the ex-ante emission reduction. The EF operating margin is a monitored parameter and is not applicable under section B.6.2. CAR 6 was raised.

The parameters available at validation were included in the PDD version 2. It was defined that the EF is ex-ante. CAR 6 was closed out.

Section B.7.1: the PDD is not according methodology. To include items, according methodology ACM0002. The recording frequency of the parameters EF, EF operating margin, EF build margin, and lambda is yearly. The recording frequency of the parameter EG is hourly measurement and monthly recording. CAR 8 was raised.

The revised version 3 of the PDD presents the monitored parameters according to methodology. CAR 8 was closed out.

4.6 Choice of the Crediting Period

It was assumed a renewable crediting period which will start on 01/07/2009 or the date of registration whichever is later. The operational lifetime exceeds the crediting period.

4.7 Environmental Impacts

The environmental impact of the project activity is considered not significant by host country definition of small hydro plants.

The project sponsors obtained all licenses required by Brazilian Environmental Regulation. The following documents were verified during site visit:

Preliminary environmental assessment (Diagnóstico Ambiental Prévio da PCH Salto issued by TD Engenharia on July 2000).

Environmental project (Projeto Básico Ambiental PCH Salto issued by SOMA on December 2005. The reservoir was visited and a document was provided to confirm the area.

Licenses issued, LI nº857/2006 issued by SEMA on 07/12/2006 valid until 07/12/2007.

Verified the map of the reservoir and technical report issued by SEMA (state environmental agency) that defines the reservoir area (79 ha).

4.8 Local Stakeholder Comments

List of stakeholders was presented in the PDD. Verified the letters sent in local language to local stakeholders. List of stakeholders was presented in the PDD and comply with Resolução nº1. Copy of the letters and delivery receipt was provided. The summary of comments received and how the comments have been taken were provided.

5. 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.

5.1 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/LFPCDGLWQ6VE8CUNRTV9675SLH2VSB/view.html> and were open for comments from 02 Mar 07 - 31 Mar 07 (PDD version 1). Comments were invited through the UNFCCC CDM homepage. Due to the change in the methodology version the PDD was open for comments again from 18 Sep 08 – 17 Oct 08 (PDD version 6) on the website <http://cdm.unfccc.int/Projects/Validation/DB/UG1FPLQC56SOEUYKYTNRCSFO6NOULD/view.html>.

5.2 Compilation of all Comments Received

| Comment Number | Date Received | Submitter | Comment |
|----------------|---------------|---|--|
| 1 | 24/09/2008 | Michael Brown Project Development Manager- Latin America Pacific Hydro | <p>After reading the PDD for the above mentioned project I have several comments and concerns:</p> <ol style="list-style-type: none"> 1. B.5 Sub step 2b: as per recent EB guidance utilisation of Project Owner's own internal hurdle rates is not acceptable, unless satisfies paragraph 5). Benchmark must be done utilising Gov rates, bankers or PE required return on comparable projects etc. 18.3% on an ungeared basis is not sufficiently justified as not clearing a hurdle rate- and hence project additionality is not proved. 2. Investment decision Dec 2005, commissioning Sept 2007- and presented for public comments in September 2008? This appears to breach new EB ruling regarding no later than 6 months after start date, which should be the NTP date of Dec 2005. Baseline was apparently completed in August 2006 (???) - the project appears to not qualify as a CDM activity. 3. All of B.6 and B7 is incorrect- it is not using vers7, nor the Tool for calculation of emission factors- vers 1, even though this is referenced as being used. |

5.3 Explanation of How Comments Have Been Taken into Account

One comment received in the second publication.

Follow the response for the comment and also the PDD presents the complete information.

Response comment 1:

The Project Participants will review the PDD (version 7) to include another benchmark in the step 2 - Investment Analysis (see section B.5). The weighted average cost of capital was included in the version 7 of the PDD and it was calculated based on the parameters that are standard in the market, considering specific characteristics of the project type. Therefore, investment analysis of the project follows the "Tool for the demonstration and assessment of additionality" (version 5.2).

Response comment 2:

According to the Guidance on the Demonstration and Assessment of Prior Consideration of the CDM: *"Project activities with a starting date on or after 02 August 2008, the project participant must inform a Host Party DNA and/or the UNFCCC secretariat in writing¹ of the commencement of the project activity and of their intention to seek CDM status. Such notification must be made within six months of the project activity start date...Such notification is not necessary if a PDD has been published for global stakeholder consultation or a new methodology proposed to the Executive Board before the project activity start date"*.

Considering the Guidance, the period mentioned in the comment of six months is related to project activities that have start date after 02 August 2008, which is not the case of Salto Project. For existing project activities, the Guidance states that: *"Proposed project activities with a start date before 2 August 2008, for which the start date is prior to the date of publication of the PDD for global stakeholder consultation, are required to demonstrate that the CDM was seriously considered in the decision to implement the project activity"*.

All evidences for Salto Project were presented regarding CDM consideration.

It is important to mention that the project started the CDM process in the end of 2006, less than one year after the project start date and was published to GSP to receive comments from 02 Mar 2007 to 31 Mar 2007. The project was submitted to the Brazilian DNA in June 2007 and, because of the discussion regarding the emission factor calculation, the project was delayed for one year. Then, as the version of the methodology and tools expired, project participants have to review the PDD and make it publicly available again.

Regarding the date of completion of the application of the baseline and monitoring methodology (section B.8), Project Participant stress that the date mentioned (August 2006) referred to the final draft of the baseline section and the monitoring methodology as explained in section B.8. However, Project Participants change the date for January 9th, 2007, when the first draft of the PDD version 1 was made.

Response comment 3:

According comment mentioned above, PDD was reviewed in order to use the "Tool to calculate the emission factor for an electricity system" (version 1.1).

6. List of Persons Interviewed

| Date | Name | Position | Short Description of Subject Discussed |
|-------------|------------------|---|--|
| 02/03/2007 | Julien Dias | Financial manager/Project responsible – Brascan | Technical issues, financial analysis, project descption, additionality, internal procedures. |
| 02/03/2007 | Maria Leopoldina | Project assessor - Brascan | Operational issues |
| 02/03/2007 | Karen Nagai | Consultant - Ecoinvest | Baseline, additionality, monitoring, validation process and findings |

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, Salto Small Hydro Power Plant Project – A Brascan Energética S/A
Project Activity:
Version 1, 09/01/2007;
Version 2, 22/03/2007;
Version 3, 18/05/2007;
Version 4, 28/05/2007;
Version 5, 10/09/2007;
Version 6, 13/08/2008;
Version 7, 07/10/2008.
- /2/ ACM0002- Consolidated methodology for grid-connected electricity generation from renewable sources, version 7, EB36.
- /3/ Tool for the demonstration and assessment of additionality, version 5.2

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/ Financial analysis spreadsheet.
- /5/ CER spreadsheet.
- /6/ Letter sent to BNDES (Consulta Prévia).
- /7/ ANEEL Despacho nº 1079, 21/12/2004 that approves the project SHP Salto with an installed potency of 19 MW.
- /8/ ANEEL Portaria nº 103, 03/03/2005 that defines the capacity factor of the SHP Salto (72%).
- /9/ Emission Factor worksheet.
- /10/ SHP Salto data sheet.
- /11/ Reservoir map.
- /12/ Installation license nº 857/2006, issued by SEMA, 07/12/2006.
- /13/ Operation training plan (Roteiro de treinamentos operacionais básicos).
- /14/ PPA VPPI nº 011/2006, 13/03/2006.

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A.1 Annex 1: Local Assessment

This checklist is designed to provide confirmation of in-country data and information provided in the Project Design Document for Salto Small Hydro Power Plant Project – A Brascan Energética S/A Project Activity.

It serves as a “**reality check**” on the project that is completed by a local assessor from SGS Brazil.

| Issue | Findings | Source/Mean of Verification | Further Action / Clarification / Information Required? |
|---|--|-----------------------------|--|
| Verify operation licence from ANEEL (national energy agency). | Verified the ANEEL Despacho nº 1079, 21/12/2004 that approves the project SHP Salto with an installed potency of 19 MW. Verified the ANEEL Portaria nº 103, 03/03/2005 that defines the capacity factor of the SHP Salto (72%). | Site visit/DR | No |
| Verify PPA (Power purchase agreement) | Verified the Power purchase agreement VPPI nº 011/2006 between Salto Jauru Energética S/A – SAJESA and Centrais Elétricas Matogrossenses S.A. – CEMAT, 13/03/2006. | Site visit/DR | No |

| Issue | Findings | Source/Mean of Verification | Further Action / Clarification / Information Required? |
|---|---|-----------------------------|--|
| Verify project like described in the PDD. | <p>During site visit it was possible to confirm the technical specification of the SHP Salto. Verified the localization, average water flow, reservoir details and map, equipments specification (2 generators).</p> <p>Verified the COGS – Operational control located in Curitiba/PR.</p> <p>The SHP will be operated by the supervisory system located in Curitiba; all data will be obtained automatically.</p> <p>There is a telecommunication company contracted. Data of the energy generation is obtained from this system. If the system fail, it is possible to obtain the mass memory of the energy meter installed in the SHP Salto.</p> <p>Brascan (SHP Salto owner) is responsible for the calibration and maintenance of the energy meter.</p> <p>The energy data is protected by password and the system has restricted access.</p> | Site visit/DR | No |
| Verify the reservoir area. | <p>Verified the map of the reservoir and technical report issued by SEMA (state environmental agency) that defines the reservoir area (79 ha).</p> | Site visit/DR | No |

A.2 Annex 2: Validation Protocol

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

| Requirement | Reference | Comments | Conclusion |
|--|--|--|--|
| 1. All Parties (listed in Section A3 of the PDD) have ratified the Kyoto protocol and are allowed to participate in CDM projects | Marrakech Accords, CDM Modalities §30 | Yes. Brazil: 23 August 2002 | Y |
| 2. 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. | Marrakech Accords, CDM Modalities §29 and §30 | No Annex I country in this project. | Y |
| 3. 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 | Marrakech Accords, CDM Modalities §29 and §30 Kyoto Protocol Art. 12.2, Marrakech Accords, CDM Modalities §40a | No Letter of Approval by host country (Brazil) has been submitted to the validator. The letter will be issued by the DNA after they analyse the draft validation report. | Send the validation report to DNA. The Letter of approval from the Brazilian DNA was issued on December 10 th , 2008. Y |

| Requirement | Reference | Comments | Conclusion |
|---|---|---|------------|
| 4. Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days, and the project design document and comments have been made publicly available | Marrakech Accords, CDM Modalities, §40 | PDD version 1 was publicly available: 02 Mar 07 - 31 Mar 07 http://cdm.unfccc.int/Projects/Validation/D/B/LFPCDGLWQ6VE8CUNRTV9675SLH2VSB/view.html No comments received. PDD version 6 was publicly available due to change in the methodology version: 18 Sep 08 – 17 Oct 08 and one comment received. | Y |
| 5. The project design document shall be in conformance with the UNFCCC CDM-PDD format | Marrakech Accords, CDM Modalities, Appendix B, EB Decisions | PDD version 3 of the template. | Y |
| 6. The project participants shall submit a letter on the modalities of communication (MoC) before submitting a request for registration | EB-09 F_CDM_REG form | The letter of MoC will be submitted before the request for registration. | Y |
| 7. For AR projects, the host country 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? | NA | NA | NA |

Table 2 PDD

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|--|---------|------|---|-------------|-------------|
| A. General Description of Project Activity | | | | | |
| A.1. Project Title | | | | | |
| A.1.1. Does the used project title clearly enable to identify the unique CDM activity? | 1 | DR | Yes, Salto Small Hydro Power Plant Project identified the Salto Hydro plant. | Y | Y |
| A.1.2. Are there an indication of a revision number and the date of the revision? | 1 | DR | Yes, the most recent is PDD version 7, 07/10/2008. | Y | Y |
| A.1.3. Is this in consistency with the time line of the project's history? | 1 | DR | Yes, consistent with the time line of the project. | Y | Y |
| A.2. Description of the Project Activity | | | | | |
| A.2.1. Is the description delivering a transparent overview of the project activities? | 1 | DR | Yes, the project consists in a small hydro power plant using the applicable technology in the sector. | Y | Y |

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|---|---------|------|---|-------------------------|-------------|
| A.2.2. Is all information provided in compliance with actual situation or planning? | 1 | DR | <p>According to PDD Guidelines to present the information under section A.2 maximum one page. CAR 1 was raised.</p> <p>Verified the new version 2 of the PDD, the information under section A.2 is correct. CAR 1 was closed out.</p> <p>Section A.4 of the PDD describes the project as a run-of-river, Verified during site visit that the project is a new hydro plant with small reservoir. CAR 2 was raised.</p> <p>The information that the SHP is a new hydro plant with reservoir was included in the PDD version 2. CAR 2 was closed out.</p> <p>Section D: the information about the CDM letter of approval requirement is not applicable in the PDD section D. This is the information that will be sent to Brazilian DNA. CAR 9 was raised.</p> <p>The PDD was revised (version 2). CAR 9 was closed out.</p> | CAR 1 CAR 2 CAR 9 | Y |
| A.2.3. Is all information provided consistent with details provided in further chapters of the PDD? | 1 | DR | <p>Table 5 of the PDD presents the share of hydroelectricity in the country from 1999-2003. To include the data of the years 2004 and 2005. NIR 7 was raised.</p> <p>It was included all data available in the PDD version 2. NIR 7 was closed out.</p> | NIR 7 | Y |
| A.3. Project Participants | | | | | |
| A.3.1. Is the table required for the indication of project participants correctly applied? | 1 | DR | Yes, the table is correctly applied: Salto Jauru Energética S.A. and Ecoinv Global Ltda. | Y | Y |

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|--|---------|------|--|-------------|-------------|
| A.3.2. Is all information provided in consistency with details provided by further chapters of the PDD (in particular annex 1)? | 1 | DR | Yes the same project participants are listed in Annex 1 of the PDD. | Y | Y |
| A.4. Technical Description of the Project Activity | | | | | |
| A.4.1. Does the information provided on the location of the project activity allow for a clear identification of the site(s)? Are the latitude and longitude of the site indicated (decimal points) | 1 | DR | Project is located in the Midwest of Brazil, state of Mato Grosso, Jauru and Indiavaí municipalities. 15°17'17" S and 58° 42'38" W | Y | Y |
| A.4.2. Do the project participants possess ownership or licenses which will allow the implementation of the project at that site / those sites? | 1 | DR | Yes, verified the contracts and licenses that confirm Salto Jauru Energética S.A. owner of the Salt small hydro power plant. Salto Jauru Energética S.A. is part of Brascan Group and Brascan is owned by Brookfield Asset Management. | Y | Y |
| A.4.3. Is the category(ies) of the project activity correctly identified? | 1 | DR | Yes, scope 1. | Y | Y |
| A.4.4. Does the project design engineering reflect current good practices? | 1 | DR | Yes. | Y | Y |
| A.4.5. Does the description of the technology to be applied provide sufficient and transparent input to evaluate its impact on the greenhouse gas balance and is the explanation how the project will reduce greenhouse gas emission transparent and suitable? | 1 | DR | Yes. The facility is a hydro power plant, a renewable electricity generation. | Y | Y |
| A.4.6. Is all information provided in compliance with actual situation or planning as available by the project participants? | 1 | DR | The documents, contracts and licenses provided are in compliance with project planning. | Y | Y |

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|---|---------|------|---|-------------|-------------|
| A.4.7. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country? | 1 | DR | Yes, the project uses the available technology for hydro power plant. | Y | Y |
| A.4.8. Is the project technology likely to be substituted by other or more efficient technologies within the project period? | 1 | DR | No, this is not expected. | Y | Y |
| A.4.9. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period? | 1 | DR | Verified during site visit by interviews that operators will be trained on the operational, monitoring and maintenance procedures before the hydropower plant starts the operation. At the time of the site visit the plant was not in operation. | Y | Y |
| A.4.10. Does the project make provisions for meeting training and maintenance needs? | 1 | DR | See A.4.9. | Y | Y |
| A.4.11. Is a schedule available on the implementation of the project and are there any risks for delays? | 1 | DR | The implementation scheduled was provided and delays are not expected. | Y | Y |
| A.4.12. Is the table required for the indication of projected emission reductions correctly applied? | 1 | DR | Yes, the emission reductions are correctly applied. | Y | Y |
| A.5. Public Funding | | | | | |
| A.5.1. Does the information on public funding provided conform with the actual situation or planning as presented by the project participants? | 1 | DR | This project activity do not made use of ODA. The project was financed by BNDES bank. | Y | Y |
| A.5.2. Is all information provided consist with details provided by further chapters of the PDD (in particular annex 2)? | 1 | DR | Yes, no public funding. | Y | Y |

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|--|---------|------|--|-------------|-------------|
| A.5.3. In case of public funding from Annex I Parties is it confirmed that such funding does not result in a diversion of official development assistance | 1 | DR | NA, there is no Annex I in this project at this time. | NA | NA |
| B. Baseline and Monitoring Methodology | | | | | |
| B.1. Choice and Applicability | | | | | |
| B.1.1. Is the baseline methodology previously approved by the CDM Methodology Panel? | 1,2 | DR | Yes, approved methodology ACM0002 version 7 (EB36). | Y | Y |
| B.1.2. Is the baseline methodology the one deemed most applicable for this project? | 1,2 | DR | ACM002 is the applicable methodology for this project. | Y | Y |
| B.1.3. Is the choice of the methodology correctly justified by the PDD and is the project in conformance with all applicability criteria of the applied methodology? | 1,2 | DR | ACM 0002 (version 7) is applicable to grid-connected renewable power generation project activities which include among other conditions "new hydro plant with small reservoir". (Installed power generation capacity divided by the surface area at full reservoir level greater than 4 W/m ²). The project has currently power density = 24.05 W/m ² | Y | Y |
| B.2. Project Boundary | | | | | |
| B.2.1. Are all emission sources and gasses related to the baseline scenario, project scenario and leakage clearly identified and described in a complete manner? | 1 | DR | Yes. It encompasses the physical, geographical site of the hydropower generation source, which is represented by the respective river basin of the project close to the power plant facility and the interconnected grid (South-Southeast-Midwest interconnected subsystem of the Brazilian grid). | Y | Y |

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|--|---------|------|--|-------------|-------------|
| B.2.2. In case of grid connected electricity projects: Is the relevant grid correctly identified in accordance with EB guidance and the underlying methodology? | 1 | DR | Yes, South-Southeast-Midwest grid. | Y | Y |
| B.2.3. Are the project's spatial boundaries (geographical) and the project's system boundaries (components and facilities used to mitigate GHGs) clearly defined? | 1 | DR | It encompasses the physical, geographical site of the hydropower generation source, which is represented by the respective river basin of the project close to the power plant facility and the interconnected grid. | Y | Y |
| B.3. Identification of the Baseline Scenario | | | | | |
| B.3.1. Does the PDD discuss the identification of the most likely baseline scenario? Does the PDD follow the steps to determine the baseline scenario required by the methodology and is the application of the methodology and the discussion and determination of the chosen baseline transparent? | 1,2 | DR | The methodology ACM0002 version 7 is correctly applied in order to identify the baseline scenario. In the absence of the project activity, the energy would be imported from the interconnected grid. | Y | Y |
| B.3.2. Does the application consider all potential realistic and credible baseline scenarios in the discussion taking into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?? | 1,2 | DR | In the absence of the project activity the energy would be imported from the grid (baseline scenario). | Y | Y |
| B.3.3. Is the choice of the baseline compatible with the available data? | 1,2 | DR | Yes, the baseline scenario is the continuation of the current situation of electricity supplied by large hydro and thermal power plants. | Y | Y |
| B.3.4. Is conservativeness addressed in the way of identifying the baseline? | 1,2 | DR | Yes. | Y | Y |
| B.3.5. Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios? | 1,2 | DR | The baseline selected represents the most likely scenario. | Y | Y |



| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|---|------------|------|-----------------|-------------|-------------|
| B.4. Additionality | | | | | |
| B.4.1. Does the PDD clearly demonstrate the additionality using the approach as given by the methodology and by following all the required steps? | 1 | DR | Yes, see B.4.2. | Y | Y |

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|--|---------|------|--|-------------|-------------|
| <p>B.4.2. In case of using the additionality tool: Is the 'Additionality Tool' used in the PDD latest version? If an earlier version has been used, do the changes impact the discussion in the PDD? Are all steps followed in a transparent manner?</p> | 1,2,3 | DR | <p>The PDD version 1 uses the "Tool" version 2 to demonstrate additionality. To revise the PDD using the most recent version of the "Tool" (version 5.2). Step 1b: the alternatives shall be in compliance with all mandatory applicable legal and regulatory requirements taking into account the enforcement in the region or country and EB decisions.</p> <p>Step 4: It's required to analyse other activities similar to the proposed project activity. Project are considered similar if they are in the same country/region or rely on a broadly similar technology, are of a similar scale, and take place in a comparable environment with respect to regulatory framework, investment climate, access to technology, access to financing, etc. CAR 3 was raised.</p> <p>The Tool v5.2, sub-step 1a require the alternatives to be included:</p> <ul style="list-style-type: none"> - The proposed project activity undertaken without being registered as a CDM project activity; - Other realistic and credible alternative scenario to the proposed CDM that deliver outputs and on services with comparable quality, properties and application areas, taking into account, where relevant, examples of scenarios identified in the underlying methodology; - If applicable, continuation of the current situation. <p>It is not clearly described which alternatives will be considered in the barrier analysis. The revised version 7 of the PDD follows the Tool version 5.2. CAR 3 was closed out.</p> | CAR 3 | Y |

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|---|---------|------|---|-------------|-------------|
| B.4.3. Is the discussion on additionality and the evidence provided consistent with the starting date of the project If the project has started before the validation is it discussed how the CDM was taken into account in the decision to go ahead with the project activity | 1,2,3 | DR | <p>In order to prove the CDM consideration it is important to understand the timeline proposed to the project activity.</p> <p>The investment decision was on December 20th, 2005 and the contract for the construction starts in the same date. The commissioning starting date was on September 4th, 2007 and the Commercial operations on December 28th, 2007.</p> <p>Brascan always seek for the carbon credits to develop your projects. This was evidenced through an internal presentation dated of December 20th, 2004. This document presents the description, partners involved, risk, and financial analysis for Salto Project. The financial analysis presented in this document presents the IRR of the project with and without CER revenues.</p> | | |
| Cont. | 1,2,3 | DR | <p>Considering that the investment decision was on December 20th, 2005, the date in which contract was signed with Consórcio Construtor Salto, composed by CR Almeida S.A. Engenharia de Obras, Hidráulica Industrial S.A. Indústria e Comércio and Intertechne Consultores Associados S/C Ltda. the project activity considered the CDM before its implementation. The knowledge of CDM consideration can be also demonstrated in Brascan Energética S.A. experience with other five registered CDM projects.</p> | Y | Y |

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|--|---------|------|---|--|-------------|
| <p>B.4.4. Is the discussion on additionality consistent with the identification all potential realistic and credible baseline scenarios</p> <p>B.4.5. Do the identified alternative include technologies and practices that include outputs (e.g) cement or services comparable with the proposed CDM project activity</p> | 1,2,3 | DR | <p>The project follows the “Tool” to demonstrate additionality (version 5.2).</p> <p>The PDD version 1 uses the “Tool” version 2 to demonstrate additionality. The PDD version 7 uses the most recent version of the “Tool”.</p> <p>Step 1b: the alternatives shall be in compliance with all mandatory applicable legal and regulatory requirements taking into account the enforcement in the region or country and EB decisions.</p> <p>Step 4: It’s required to analyse other activities similar to the proposed project activity. Project are considered similar if they are in the same country/region or rely on a broadly similar technology, are of a similar scale, and take place in a comparable environment with respect to regulatory framework, investment climate, access to technology, access to financing, etc.</p> <p>The Tool v5.2, sub-step 1a require the alternatives to be included:</p> <p>- The proposed project activity undertaken without being registered as a CDM project activity;</p> | <p>CAR 3</p> <p>NIR 4</p> <p>NIR 5</p> | Y |

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|--------------------|---------|------|---|-------------------------|-------------|
| Cont. | 1,2,3 | DR | <p>- Other realistic and credible alternative scenario to the proposed CDM that deliver outputs and on services with comparable quality, properties and application areas, taking into account, where relevant, examples of scenarios identified in the underlying methodology;</p> <p>- If applicable, continuation of the current situation.</p> <p>It is not clearly described which alternatives will be considered in the barrier analysis. CAR 3 was raised.</p> <p>The revised version 3 of the PDD follows the Tool version 3, the barrier analysis was correctly applied. CAR 3 was closed out. The most recent version of the PDD (version 7) correctly applies the Tool version 5.2.</p> <p>In the discussion of additionality more information were requested:</p> <p>Lack of infrastructure barrier: to present more detail. What was necessary specifically; evidences. NIR 4 was raised. More detail was added in the revised PDD. Copy of the internal monitoring report made by TD Engenharia was provided. The report issued by TD Engenharia describes the infrastructure barriers faced: roads without infrastructure to access the plant</p> | CAR 3 NIR 4 NIR 5 | Y |

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|--------------------|---------|------|--|-------------------------|-------------|
| Cont. | 1,2,3 | DR | <p>, because of that road were built, and maintenance control of the road was established. NIR 4 was closed out.</p> <p>Institutional barrier: to present the source of the electricity values presented. NIR 5 was raised.</p> <p>As described in the PDD version 2, the government electricity market has been changing in Brazil, but this condition does not prevent the project implementation. The institutional barrier was not considered in the PDD version 3. NIR 5 was closed out.</p> <p>The PDD version 7 excluded the barrier analysis in order to use step 2 of the Tool. The investment barrier was included in the step 2 as financial analysis.</p> <p>“Tool” Step 1: the project defines some alternatives as the continuation of current situation (common practice in Brazil) of electricity supplied by thermal plants and large hydro; and the proposed project activity undertaken without being registered as a CDM project activity</p> <p>Verified that both alternatives are in compliance with regulation. There is no obligation to build the SHP and Brascan group has activities in other markets.</p> | CAR 3 NIR 4 NIR 5 | Y |

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|--|-----------|------|--|-------------|-------------|
| B.4.6. If an investment analysis has been used, has it been shown that the proposed project activity is economically or financially less attractive than at least one other alternative without the revenue from the sale of CERs? | 1,2,3,4,6 | DR | <p>“Tool” Step 2: verified the financial analysis (investment spreadsheet). Brascan considered the return of 20% (ROA – Return of Assets) to invest in new projects. To evidence the expected return of 20% copy of the Brascan presentation in 2005 was provided. The ROA in the range of 20% adjusted to the risk profile of the investment. The ROA is used as a reference value. The Benchmark value used in the project is the WACC and was calculated based in parameters observed in global financial markets. These assumptions, the cost of capital in Brazil is close to a global cost of capital adjusted for local inflation and capital structure. Cost of Debt considers risk free rate, levered debt premium, pre-tax cost of debt and consumer price index. Cost of Equity considers risk free rate, equity risk premium, estimated country risk premium, adjusted industry beta and consumer price index. These parameters are based on available data that was confirmed by the validation team (BNDES quotations, cumulative inflation, emerging markets bond index, and others). The calculation of WACC was provided. The calculated WACC for this project is 21.6%, this is the benchmark adopted to compare with the internal rate of return (IRR).</p> | Y | Y |

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|--------------------|-----------|------|---|-------------|-------------|
| Cont. | 1,2,3,4,6 | DR | <p>The IRR of the SHP Salto is 18.3% without carbon credits. The assumptions and the spreadsheet calculation were provided and were considered correct. Verified the contract to implement the SHP Salto (between Salto Jauru Energética and Consórcio Construtor Salto, 20/12/2005). It was possible to confirm the investment to build the SHP.</p> <p>When the decision to build the SHP Salto, the energy tariff expected was R\$ 127.00 in 2005, at this time the tariff was corrected (with taxes and inflation) to obtain the expected tariff in 2007 (corrected value calculated until 2007 is R\$ 140.83).</p> <p>A sensitivity analysis was conducted increasing the energy tariff and reducing the costs. The investment was not included in the analysis because the investment is defined in the contract and a variation in a sensitivity analysis is not applicable, because it is not real and not provable to happen. The energy tariff considered in the project are based according prices established in the PPA (Power Purchase Agreement), and then they will not change in the years, but an increase of 10% in the energy tariff were conducted for the sensitivity analysis and it was made a reduction of 10% in the costs.</p> | Y | Y |

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|--------------------|-----------|------|---|-------------|-------------|
| Cont. | 1,2,3,4,6 | DR | <p>Through the sensitivity analysis the maximum internal rate of return obtained is 18.4%, still lower than the WACC and ROA.</p> <p>The financial indicator calculated for the project, the IRR is considered correct, as can be seen in the cash flow worksheet. The IRR of 18.3 % per year is lower than the WACC of 21.6% and also lower than the ROA. Confirmed that the project activity is not financially attractive. The CER revenue will bring additional benefits to the project activity.</p> <p>Other important information is that SHP Salto is asking financing for BNDES. To obtain the financing some guaranties are required, as signed PPA and the potential CER revenue (verified "Consulta Prévia" sent to BNDES). The CER is considered fundamental to obtain the financing for the project.</p> <p>"Tool" Step 4: the common practice in Brazil is not the construction or operation of small hydro plants. The common is the construction of large hydro plants and recently thermal plants. Most of the 14 small hydro power plants (Brascan's plants) had included the carbon credit revenue in the feasibility studies. 11 small hydro plants are CDM projects with 5 registered projects.</p> | Y | Y |

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|--|---------|------|---|-------------|-------------|
| B.4.7. If a barrier analysis has been used, has it been shown that the proposed project activity faces barriers that prevent the implementation of this type of proposed project activity but would not have prevented the implementation of at least one of the alternatives? | 1 | DR | Not applicable, barrier analysis was excluded in the PDD version 6 and 7. | Y | Y |
| B.4.8. Has it been shown that the project is not common practice? | 1,7,8 | DR | <p>The common practice analysis was conducted using the ANEEL (Agencia Nacional de Energia Eletrica) and UNFCCC website as reference. 43 hydro plants started operations from 2005 to 2007, where 19 received CDM incentives and 14 from Proinfa, totalizing 33 projects with some kind of incentives, which represents 76.7 % of the total small hydro plants and can not be compared with project activity.</p> <p>Considering the state of Mato Grosso where the project is located, among the 13 hydro plants that started operations, 11 received incentives and can not be compared with project activity. The other 2 hydro plants that are not receiving incentives have 2MW each and one start operation in 2005 and the other in 2006. The installed capacity is significantly lower than Salto project with 19MW and can not be compared with project activity.</p> <p>From this result, it was demonstrated that the project activity is not a common practice.</p> | Y | Y |
| B.4.9. Is it demonstrated/justified that the project activity itself is not a likely baseline scenario | 1 | DR | Yes, there is no obligation or requirement to construct the SHP and it was demonstrated that this not the common practice in Brazil. | Y | Y |

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|---|---------|------|---|-------------|-------------|
| B.5. Application of the Baseline Methodology | | | | | |
| B.5.1. Has the approved methodology been applied correctly for determining baseline emissions ? | 1,2 | DR | <p>The baseline emission factor is defined as (EF_y) and is calculated as a combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) factors.</p> <p>The methodology mentions that the baseline emission factor is calculated considering the generation for the most recent 3 years available at the time of the PDD submission.</p> | Y | Y |
| B.5.2. Has the approved methodology been applied correctly for determining project emissions ? | 1,2 | DR | <p>The version 7 of the ACM0002 requires that the PE should be calculated from the “power density”.</p> <p>Verified:</p> <p>Reservoir area = 0.79 Km²</p> <p>Installed capacity = 19MW</p> <p>Power density = 24.05 W/m²</p> <p>The power density is higher than 10W/m², project emissions is not applicable according ACM0002 methodology.</p> | Y | Y |
| B.5.3. Has the approved methodology been applied correctly for determining leakage ? | 1,2 | DR | Leakage is not applicable. | Y | Y |
| B.5.4. Where applicable, has the approved methodology been applied correctly for the direct calculation of emission reductions | 1 | DR | Yes. The emissions factor used to determine the emissions reductions was revised and is correctly applied. | Y | Y |

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|---|---------|------|--|-------------|-------------|
| B.5.5. Have all the methodological choices been explained, have they been properly justified and are they correct | 1 | DR | ACM 0002 (version 7) is applicable to grid-connected renewable power generation project activities which include among other conditions "new hydro plant with small reservoir". (Installed power generation capacity divided by the surface area at full reservoir level greater than 4 W/m ²). The project has currently power density = 24.05 W/m ² | Y | Y |
| B.5.6. Are uncertainties in the GHG emissions estimates properly addressed in the documentation? | 1 | DR | Yes, the calculation is correctly and can be confirmed through documents and official data source. | Y | Y |
| B.6. Ex-ante Data and Parameters Used | | | | | |
| B.6.1. Are the data provided in compliance with the methodology? | 1 | DR | Yes, all ex-ante parameters are considered in the PDD version 7. The main parameter is the ex-ante emission factor. | Y | Y |
| B.6.2. Is all the data derived from official data sources or replicable records and have these been correctly quoted? | 1 | DR | The ex-ante emission factor is derived from official data sources ONS (Operador Nacional do Sistema) and detailed information is provided in the PDD and spreadsheet. | Y | Y |
| B.6.3. Is the vintage of the baseline data correct? | 1 | DR | Yes, the correct data for the project period is applied. | Y | Y |

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|--|---------|------|---|-------------|-------------|
| B.7. Calculation of Emissions Reductions | | | | | |
| B.7.1. Has the approved methodology been applied correctly for determining emission reductions ? | 1,5 | DR | Yes, the methodology is correctly applied: $EF_y = w_{OM} \cdot EF_{OM,y} + w_{BM} \cdot EF_{BM,y}$ $EF_y = 0.2611 \text{ tCO}_2\text{e/MWh}$ $PE_y = 0 \text{ and } LE=0$ $ER_y = EF_y \cdot EG_y$ | Y | Y |
| B.7.2. Are the emission reduction calculations documented in a complete and transparent manner? | 1,5 | DR | Yes, the formulas used are presented in the PDD and also the spreadsheet with calculation was verified. | Y | Y |
| B.7.3. Have conservative assumptions been used to calculate emission reductions? | 1,5 | DR | Yes, used the correct data confirmed through documented evidences. | Y | Y |
| B.7.4. Is the projection based on provable input parameter? | 1,5 | DR | See section B.6. | Y | Y |
| B.7.5. Is the projection based on same procedures as used for later monitoring or acceptable alternative models? | 1,5 | DR | The same procedure for calculation will be used for later monitoring but using the measured data. | Y | Y |
| B.7.6. Is the calculation of the emission reduction correct? | 1,5 | DR | Yes, formulas and data correctly applied in the spreadsheet provided. | Y | Y |
| B.8. Emission Reductions | | | | | |
| B.8.1. Will the project result in fewer GHG emissions than the baseline scenario? | 1,5 | DR | Yes, the project reduces emissions as the result of the displacement of generation from fossil fuel thermal plants that would have otherwise been delivered to the interconnected grid. | Y | Y |

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|--|---------|------|---|-------------|-------------|
| B.8.2. Is the form/table required for the indication of projected emission reductions correctly applied? | 1,5 | DR | The table in the PDD with estimated emission reductions is correctly applied. | Y | Y |
| B.8.3. Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period? | 1,5 | DR | Yes. | Y | Y |
| B.9. Monitoring Methodology | | | | | |
| <p>B.9.1. Does the monitoring methodology provide a consistent approach in the context of all parameter to be monitored and further information provided by the PDD?</p> <p>Are all parameters and data that is available at validation consistent with the approved methodology</p> | 1,2 | DR | Yes, the parameters presented in the PDD version 7 are consistent with methodology ACM0002 version 7. | Y | Y |

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|---|---------|------|--|----------------|-------------|
| B.9.2. Does the monitoring methodology apply consistently the choice of the option selected for monitoring both of project and baseline emissions? | 1,2 | DR | <p>PDD section B.6.2: to present the parameters available at validation that is used to calculate the ex-ante emission reduction. The EF operating margin is a monitored parameter and is not applicable under section B.6.2. CAR 6 was raised.</p> <p>The parameters available at validation were included in the PDD version 2. It was defined that the EF used is ex-ante. CAR 6 was closed out.</p> <p>Section B.7.1: the PDD is not according methodology. To include items, according methodology ACM0002. The recording frequency of the parameters EF, EF operating margin, EF build margin, and lambda is yearly. The recording frequency of the parameter EG is hourly measurement and monthly recording. CAR 8 was raised.</p> <p>The revised version 3 of the PDD presents the monitored parameters according methodology. CAR 8 was closed out.</p> | CAR 6 CAR 8 | Y |
| B.10. Data and Parameters Monitored | | | | | |
| B.10.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the emission reductions within the project boundary during the crediting period? | 1,2 | DR | Yes, the project activity will be monitored according to ACM0002 version 7 and the parameters are presented in the PDD version 7. | Y | Y |

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|---|---------|------|--|-------------|-------------|
| B.10.2. Are the choices of project GHG indicators reasonable and in conformance with the requirements set by the approved methodology applied? | 1,2 | DR | Yes, the monitored parameters are according to the required by the methodology: -EGy -TEGy -Cap _{PJ} -A _{PJ} | Y | Y |
| B.10.3. Will it be possible to determine the specified project GHG indicators? | 1,2 | DR | Yes, indicator in conformance with the requirements of ACM0002 version 7. | Y | Y |
| B.10.4. Is the information given for each monitoring variable by the presented table sufficient to ensure the verification of a proper implementation of the monitoring plan? | 1,2 | DR | Yes, the information is sufficient to ensure the implementation of the monitoring plan. | Y | Y |
| B.10.5. Is the information given for each monitoring variable by the presented table sufficient to ensure the delivery of high quality data free of potential for biases or intended or unintended changes in data records? | 1,2 | DR | Yes, the measures of energy delivered to the grid will be from energy meter and cross check will be made using receipt of electricity purchase or evidences from CCEE – Câmara de Comercialização de Energia Elétrica, a Brazilian government entity which monitors the electricity on the national interconnected grid. | Y | Y |
| B.10.6. Is the monitoring approach in line with current good practice, i.e. will it deliver data in a reliable and reasonably acceptable accuracy? | 1,2 | DR | Yes. | Y | Y |
| B.10.7. Are all formulae used to determine project emission clearly indicated and in compliance with the monitoring methodology. | 1,2 | DR | PE = 0 | Y | Y |

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|--|---------|------|---|-------------|-------------|
| B.11. Quality Control (QC) and Quality Assurance (QA) Procedures | | | | | |
| B.11.1. Is the selection of data undergoing quality control and quality assurance procedures complete? | 1 | DR | Yes, procedures from project participant, ONS and CCEE will be followed and calibrated meter will be used. | Y | Y |
| B.11.2. Is the belonging determination of uncertainty levels done correctly for each ID in a correct and reliable manner? | 1 | DR | Yes, the level of uncertainty is low: The electricity energy generated can be cross checked with official source. The data related to the emission factor comes from official source. | Y | Y |
| B.11.3. Are quality control procedures and quality assurance procedures sufficiently described to ensure the delivery of high quality data? | 1 | DR | See section B.11.1 above. | Y | Y |
| B.11.4. Is it ensured that data will be bound to national or internal reference standards? | 1 | DR | Yes. The monitoring data can be compared with official source. | Y | Y |
| B.11.5. Is it ensured that data provisions will be free of potential conflicts of interests resulting in a tendency of overestimating emission reductions? | 1 | DR | Yes, the energy delivered to the grid will be cross checked with third party data. | Y | Y |
| B.12. Operational and Management Structure | | | | | |
| B.12.1. Is the authority and responsibility of project management clearly described? | 1 | DR | The monitoring plan states that Salto Jauru and Brascan are responsible for the project management. | Y | Y |
| B.12.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described? | 1 | DR | Brascan is responsible for the project management, and training in the appropriate monitoring, measurement and reporting. Operators will be trained. | Y | Y |
| B.12.3. Are procedures identified for training of monitoring personnel? | 1 | DR | See Section B.12.2 above. | Y | Y |

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|---|---------|------|---|-------------|-------------|
| B.13. Monitoring Plan (Annex 4) | | | | | |
| B.13.1. Is the monitoring plan developed in a project specific manner clearly addressing the unique features of the CDM activity? | 1 | DR | Brascan is responsible for the hydro power plant operation (Financial manager – project responsible), and a consultant company was contracted. | Y | Y |
| B.13.2. Does the monitoring plan completely describes all measures to be implemented for monitoring all parameter required, including measures to be implemented for ensuring data quality? | 1 | DR | Yes, the monitoring plan describes how project will be implemented and monitored. | Y | Y |
| B.13.3. Does the monitoring plan provide information on monitoring equipment and respective positioning in order to safeguard a proper installation? | 1 | DR | The project is not operational yet. | Y | Y |
| B.13.4. Are procedures identified for calibration of monitoring equipment? | 1 | DR | Verify on site. Brascan has internal procedures for calibration. Verified the procedure of another SHP (SN-17-00-00 v1, 04/10/2006). The calibration procedure for Salto Jauru SHP will be prepared. | Verify | Y |
| B.13.5. Are procedures identified for maintenance of monitoring equipment and installations? | 1 | DR | The specific procedures for operation, maintenance, monitoring, measurements, report, adjustments will prepared before project operation. Unintended emissions from the hydro power plant are not expected. Other potential emergencies and troubles should be covered by the operational manual (Operation and Maintenance). | Y | Y |

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|---|---------|------|--|-------------|-------------|
| B.13.6. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation) | 1 | DR | See B.13.5. | Y | Y |
| B.13.7. Are procedures identified for dealing with possible monitoring data adjustments and missing data allowing redundant reconstruction of data in case of monitoring problems?? | 1 | DR | See B.13.5. | Y | Y |
| B.13.8. Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable? | 1 | DR | The energy generation is controlled by COGS (Operational control) at Brascan office. All data will be collected automatically and checked internally and third party involved. | Y | Y |
| B.13.9. Are procedures identified for project performance reviews before data is submitted for verification, internally or externally? | 1 | DR | See B.13.9 | Y | Y |
| B.14. Baseline Details | | | | | |
| B.14.1. Is there any indication of a date when determine the baseline? | 1 | DR | Yes, 09/01/2007. | Y | Y |
| B.14.2. Is this in consistency with the time line of the PDD history? | 1 | DR | Yes, consistent with PDD version 1, 09/01/2007. | Y | Y |
| B.14.3. Is all data required provided in a complete manner by annex 3 of the PDD? | 1 | DR | Yes, annex 3 presents the data used in the baseline. | Y | Y |
| C. Duration of the Project / Crediting Period | | | | | |
| C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable? | 1 | DR | Project starting date 20/12/2005 the date in which contract was signed. Operational lifetime 35 years. | Y | Y |

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|---|---------|------|--|-------------|-------------|
| C.1.2. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2 renewals or fixed crediting period of max. 10 years)? | 1 | DR | Renewable crediting period: first period 7 years. | Y | Y |
| C.1.3. Does the project's operational lifetime exceed the crediting period | 1 | DR | Yes. | Y | Y |
| D. Environmental Impacts | | | | | |
| D.1.1. Does the project comply with environmental legislation in the host country? | 1,12 | DR | Yes. Verified the licenses issued LI n°857/2006 issued by SEMA on 07/12/2006 valid until 07/12/2007. The requests of the state environmental agency were addressed. | Y | Y |
| D.1.2. Has an analysis of the environmental impacts of the project activity been sufficiently described? | 1,12 | DR | Yes. | Y | Y |
| D.1.3. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved? | 1,12 | DR | Verified the environmental project (Projeto Básico Ambiental PCH Salto issued by SOMA on December 2005. | Y | Y |
| D.1.4. Will the project create any adverse environmental effects? | 1,12 | DR | The environmental effects were considered by the environmental agency during the licensing process. | Y | Y |
| D.1.5. Are transboundary environmental impacts considered in the analysis? | 1,12 | DR | Transboundary environmental impact was considered in the licensing process. | Y | Y |
| D.1.6. Have identified environmental impacts been addressed in the project design? | 1,12 | DR | The project obtained the licenses required by the Brazilian environmental regulation. | Y | Y |

| Checklist Question | Ref. ID | MoV* | Comments | Draft Concl | Final Concl |
|---|---------|------|---|-------------|-------------|
| E. Stakeholder Comments | | | | | |
| E.1.1. Have relevant stakeholders been consulted? | 1 | DR | Yes, as listed in the PDD, section E and verified during the validation assessment. | Y | Y |
| E.1.2. Have appropriate media been used to invite comments by local stakeholders? | 1 | DR | Verify language and information used in the consultation process. Letters sent to stakeholders were verified. They are prepared in local language. | Y | Y |
| E.1.3. 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? | 1 | DR | Copy of the letters and delivery receipts were provided. | Y | Y |
| E.1.4. Is the undertaken stakeholder process described in a complete and transparent manner? | 1 | DR | Yes, as listed in the PDD, section E and verified during the validation assessment. | Y | Y |
| E.1.5. Is a summary of the stakeholder comments received provided? | 1 | DR | Yes, one comment received. See section E.2 of the PDD. Copy of the comment was provided. | Y | Y |
| E.1.6. Has due account been taken of any stakeholder comments received? | 1 | DR | Yes, see section E.3 of the PDD. | Y | Y |

Table 3 References

| Reference ID | Title / Description | Comments |
|--------------|---|--|
| 1 | Project Design Document, Salto Small Hydro Power Plant Project – A Brascan Energética S/A Project Activity: Version 1, 09/01/2007; Version 2, 22/03/2007; Version 3, 18/05/2007; Version 4, 28/05/2007; Version 5, 10/09/2007; Version 6, 13/08/2008; Version 7, 07/10/2008. | Project Design Document, Salto Small Hydro Power Plant Project – A Brascan Energética S/A Project Activity: |
| 2 | ACM0002- Consolidated methodology for grid-connected electricity generation from renewable sources, version 7, EB36. | ACM0002- Consolidated methodology for grid-connected electricity generation from renewable sources, version 7, EB36. |
| 3 | Tool for the demonstration and assessment of additionality, version 5.2 | Tool for the demonstration and assessment of additionality, version 5.2 |
| 4 | Financial analysis spreadsheet. | Financial analysis spreadsheet. |
| 5 | CER spreadsheet. | CER spreadsheet. |
| 6 | Letter sent to BNDES (Consulta Prévia). | Letter sent to BNDES |
| 7 | ANEEL Despacho nº 1079, 21/12/2004 that approves the project SHP Salto with an installed potency of 19 MW. | ANEEL Despacho nº 1079, 21/12/2004 that approves the project SHP Salto with an installed potency of 19 MW. |
| 8 | ANEEL Portaria nº 103, 03/03/2005 that defines the capacity factor of the SHP Salto (72%). | ANEEL Portaria nº 103, 03/03/2005 that defines the capacity factor of the SHP Salto (72%). |
| 9 | Emission Factor worksheet. | Emission Factor worksheet. |
| 10 | SHP Salto data sheet. | SHP Salto data sheet. |
| 11 | Reservoir map. | Reservoir map. |
| 12 | Installation license nº 857/2006, issued by SEMA, 07/12/2006. | Installation license |
| 13 | Operation training plan (Roteiro de treinamentos operacionais básicos). | Operation training plan |
| 14 | PPA VPPI nº 011/2006, 13/03/2006. | PPA VPPI nº 011/2006, 13/03/2006. |



A.3 Annex 3: Overview of Findings

Findings Overview

Findings from validation of Salto Small Hydro Power Plant Project – A Brascan Energética S/A Project Activity

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: This is an open list and more findings may be added as validation progresses.

Please Note: This is an open list and more findings may be added as validation progresses.

| | | | | | | | |
|---|------------|-------|-----|------------|---------------------------------------|-------|-------|
| Date: | 02/03/2007 | | | Raised by: | Fabian Gonçalves | | |
| No.: | 01 | Type: | CAR | Issue : | Project description | Ref.: | A.2.2 |
| Lead Assessor Comment | | | | | Date: 02/03/2007 | | |
| According to PDD Guidelines to present the information under section A.2 maximum one page. | | | | | | | |
| Project Participant Response: | | | | | Date: 19/03/2007 | | |
| Information regarding the description of the project activity (section A.2) was revised and reduced in the new version of the PDD (version 2). | | | | | | | |
| Acceptance and Close out by Lead Assessor: | | | | | Date: 28/03/2007 | | |
| Information Provided: Revised PDD Information Verified: Revised PDD | | | | | Verified Document Reference: Ref.1 | | |
| Reasoning for not acceptance or acceptance and close out: Verified the new version 2 of the PDD, the information under section A.2 is correct. CAR 1 was closed out. | | | | | | | |

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|--|------------|-------|-----|---------|---------------------|---------------------------------------|-------|-------|
| Date: | 02/03/2007 | | | | Raised by: | Fabian Gonçalves | | |
| No.: | 2 | Type: | CAR | Issue : | Project description | | Ref.: | A.2.2 |
| Lead Assessor Comment | | | | | | Date: 02/03/2007 | | |
| Section A.4 of the PDD describes the project as a run-of-river, Verified during site visit that the project is a new hydro plant with small reservoir. | | | | | | | | |
| Project Participant Response: | | | | | | Date: 19/03/2007 | | |
| Information regarding that Salto SHP Project is a run-of-river was revised and corrected in the new version of the PDD (version 2). Salto SHP Project is a new hydro plant with small reservoir. | | | | | | | | |
| Acceptance and Close out by Lead Assessor: | | | | | | Date: 28/03/2007 | | |
| Information Provided: Revised PDD. Information Verified: Revised PDD | | | | | | Verified Document Reference: Ref.1 | | |

Reasoning for not acceptance or acceptance and close out:
The information that the SHP is a new hydro plant with reservoir was included in the PDD version 2. CAR 2 was closed out.

| | | | | | | | |
|--|------------|-------|-----|------------|---------------------------------------|-------|-------|
| Date: | 02/03/2007 | | | Raised by: | Fabian Gonçalves | | |
| No.: | 3 | Type: | CAR | Issue : | Additionality dicussion | Ref.: | B.4.2 |
| Lead Assessor Comment | | | | | Date: 02/03/2007 | | |
| <p>The PDD version 1 uses the "Tool" version 2 to demonstrate additionality. To revise the PDD using the most recent version of the "Tool" (version 5.2).</p> <p>Step 1b: the alternatives shall be in compliance with all mandatory applicable legal and regulatory requirements taking into account the enforcement in the region or country and EB decisions.</p> <p>Step 4: Its required to analyse other activities similar to the proposed project activity. Project are considered similar if they are in the same country/region or rely on a broadly similar technology, are of a similar scale, and take place in a comparable environment with respect to regulatory framework, investment climate, access to technology, access to financing, etc.</p> | | | | | | | |
| Project Participant Response: | | | | | Date: 19/03/2007 | | |
| <p>The "Tool for the demonstration and assessment of additionality" version 5.2 was utilized in the new version of the PDD (version 7).</p> <p>Step 1b: The project activity and the alternative scenario are in compliance with all regulations according the following entities: National Electric System Operator (ONS from the Portuguese Operador Nacional do Sistema Elétrico), Electricity Regulatory Agency (ANEEL from the Portuguese Agência Nacional de Energia Elétrica), and the CDM Executive Board.</p> <p>Step 4: Analysis regarding other activities similar to the proposed project activity was included in the new version of the PDD (version 7).</p> | | | | | | | |
| Acceptance and Close out by Lead Assessor: | | | | | Date: 13/08/2008 | | |
| Information Provided: Revised PDD Information Verified: Revised PDD | | | | | Verified Document Reference: Ref.1 | | |
| <p>Reasoning for not acceptance or acceptance and close out: The Tool v5.2, sub-step 1a require the alternatives to be included:</p> <ul style="list-style-type: none"> - The proposed project activity undertaken without being registered as a CDM project activity; - Other realistic and credible alternative scenario to the proposed CDM that deliver outputs and on services with comparable quality, properties and application areas, taking into account, where relevant, examples of scenarios identified in the underlying methodology; - If applicable, continuation of the current situation. <p>The revised version 7 of the PDD follows the Tool version 5.2. CAR 3 was closed out.</p> | | | | | | | |

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|---|------------|-------|-----|------------|------------------|-------|-------|
| Date: | 02/03/2007 | | | Raised by: | Fabian Gonçalves | | |
| No.: | 4 | Type: | NIR | Issue : | Barrier analysis | Ref.: | B.4.4 |
| Lead Assessor Comment | | | | | Date: 02/03/2007 | | |
| <p>Lack of infrastructure barrier: to present more detail. What was necessary specifically; evidences of the lack of infrastructure.</p> | | | | | | | |
| Project Participant Response: | | | | | Date: 19/03/2007 | | |
| <p>Evidences about the lack of infrastructure in the location of Salto SHP Project Activity can be seeing in Salto Jauru Energética S/A Internal Monitoring Report from January 2006, made by TD Engenharia Ltda. and it was presented to DOE. Explanations and details regarding lack of infrastructure were included in the new version of the PDD (version 2).</p> | | | | | | | |
| Acceptance and Close out by Lead Assessor: | | | | | Date: 30/04/2007 | | |

| | |
|---|---------------------------------------|
| Information Provided: Revised PDD Information Verified: Revised PDD | Verified Document Reference: Ref.1 |
| Reasoning for not acceptance or acceptance and close out: More detail was added in the revised PDD, according verified during site visit. Copy of the internal monitoring report made by TD Engenharia was provided. NIR 4 was closed out. In the PDD version 6 the barrier analysis was excluded and the step 2 of the "Tool" financial analysis was used to demonstrate additionality. | |

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|---|------------|-------|-----|------------|------------------|---------------------------------------|-------|
| Date: | 02/03/2007 | | | Raised by: | Fabian Gonçalves | | |
| No.: | 5 | Type: | NIR | Issue : | Barrier analysis | Ref.: | B.4.4 |
| Lead Assessor Comment | | | | | Date: 02/03/2007 | | |
| Institutional barrier: to present the source of the electricity values presented. | | | | | | | |
| Project Participant Response: | | | | | Date: 19/03/2007 | | |
| Information regarding electricity values source was included in the new version of the PDD (version 2). | | | | | | | |
| Acceptance and Close out by Lead Assessor: | | | | | Date: 30/04/2007 | | |
| Information Provided: Revised PDD Information Verified: Revised PDD | | | | | | Verified Document Reference: Ref.1 | |
| Reasoning for not acceptance or acceptance and close out: As described in the PDD version 2, the government electricity market has been changing in Brazil, but this condition does not prevent the project implementation. The institutional barrier was not considered in the PDD version 3. NIR 5 was closed out. In the PDD version 6 the barrier analysis was excluded and the step 2 of the “Tool” financial analysis was used to demonstrate additionality. | | | | | | | |

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|---|------------|-------|-----|------------|---------------------------------------|-------|-------|
| Date: | 02/03/2007 | | | Raised by: | Fabian Gonçalves | | |
| No.: | 6 | Type: | CAR | Issue : | Emission factor | Ref.: | B.9.2 |
| Lead Assessor Comment | | | | | Date: 02/03/2007 | | |
| PDD section B.6.2: to present the parameters available at validation (emission factor and area) that is used to calculate the ex-ante emission reduction. The EF operating margin is a monitored parameter and is not applicable under section B.6.2. | | | | | | | |
| Project Participant Response: | | | | | Date: 19/03/2007 | | |
| In section B.6.2 of the new version of the PDD (version 2) was included information regarding area and emission factor parameters and excluded parameter operating margin emission factor. | | | | | | | |
| Acceptance and Close out by Lead Assessor: | | | | | Date: 28/03/2007 | | |
| Information Provided: Revised PDD Information Verified: Revised PDD | | | | | Verified Document Reference: Ref.1 | | |
| Reasoning for not acceptance or acceptance and close out: The parameters available at validation were included in the PDD version 2. It was defined that the EF is ex-ante. CAR 6 was closed out. | | | | | | | |

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|--|------------|-------|-----|---------|------------------------------|------------------|-------|-------|
| Date: | 02/03/2007 | | | | Raised by: | Fabian Gonçalves | | |
| No.: | 7 | Type: | NIR | Issue : | Years of the emission factor | | Ref.: | A.2.3 |
| Lead Assessor Comment | | | | | | Date: 02/03/2007 | | |
| Table 5 of the PDD presents the share of hydroelectricity in the country from 1999-2003. To include the data of the years 2004 and 2005 (most recent years available). | | | | | | | | |

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|--|---------------------------------------|
| Project Participant Response: | Date: 19/03/2007 |
| Information regarding the share of hydroelectricity from 2004 was included in the new version of the PDD (version 2). Considering that data regarding 2005 is not available from ONS yet, this information was not included in the new version of the PDD. | |
| Acceptance and Close out by Lead Assessor: | Date: 28/03/2007 |
| Information Provided: Revised PDD Information Verified: Revised PDD | Verified Document Reference: Ref.1 |
| Reasoning for not acceptance or acceptance and close out: It was included all data available in the PDD version 2. NIR 7 was closed out. | |

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|---|--|------------|------------------|
| Date: | 02/03/2007 | Raised by: | Fabian Gonçalves |
| No.: | 8 | Type: | CAR |
| Issue : | Monitored parameters | | Ref.: B.9.2 |
| Lead Assessor Comment | Date: 02/03/2007 | | |
| Section B.7.1, data and parameter monitored: the PDD is not according methodology. To include items 5, 6, 7, 9, 10, 12, 12a, 12b. According methodology ACM0002 the recording frequency of the parameters EF, EF operating margin, EF build margin, and lambda is yearly. The recording frequency of the parameter EG is hourly measurement and monthly recording.. | | | |
| Project Participant Response: | Date: 19/03/2007 | | |
| Information regarding parameters monitored was included in the new version of the PDD (version 2). | | | |
| Acceptance and Close out by Lead Assessor: | Date: 30/04/2007 | | |
| Information Provided: (Describe the type of information provided for each Reference document, include extra lines for more references) Information Verified: (Explain how the information was verified) | Verified Document Reference: (Document reference name and number/date must comply with reference list in AR6) | | |
| Reasoning for not acceptance or acceptance and close out: The revised version 3 of the PDD presents the monitored parameters according methodology. CAR 8 was closed out. | | | |

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|--|---------------------------------------|------------|------------------|
| Date: | 02/03/2007 | Raised by: | Fabian Gonçalves |
| No.: | 9 | Type: | CAR |
| Issue : | Section D of the PDD | | Ref.: A.2.2 |
| Lead Assessor Comment | Date: 02/03/2007 | | |
| Section D: The information about the CDM letter or approval requirement is not applicable in the PDD section D. This is the information that will be sent to Brazilian DNA. To exclude this information. | | | |
| Project Participant Response: | Date: 19/03/2007 | | |
| Information regarding about CDM letter or approval requirement were excluded in the new version of the PDD (version 2). | | | |
| Acceptance and Close out by Lead Assessor: | Date: 28/03/2007 | | |
| Information Provided: Revised PDD Information Verified: Revised PDD | Verified Document Reference: Ref.1 | | |
| Reasoning for not acceptance or acceptance and close out: The PDD was revised (version 2). CAR 9 was closed out. | | | |

A.4 Annex 4: Team Members Statements of Competency

Statement of Competence

Name: Fabian Goncalves

SGS Affiliate: SGS Brazil

Status

- | | | |
|---------------------------|-------------------------------------|--------------------------|
| - Product Co-ordinator | <input checked="" type="checkbox"/> | |
| - Operations Co-ordinator | | <input type="checkbox"/> |
| - Technical Reviewer | <input type="checkbox"/> | |
| - Expert | <input type="checkbox"/> | |

Validation

Verification

- | | | |
|---------------------------------------|-------------------------------------|-------------------------------------|
| - Local Assessor | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| - Lead Assessor | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| - Assessor / Trainee Lead Assessor | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

Scopes of Expertise

- | | | |
|---|-------------------------------------|--------------------------|
| 1. Energy Industries (renewable / non-renewable) | <input checked="" type="checkbox"/> | |
| 2. Energy Distribution | <input type="checkbox"/> | |
| 3. Energy Demand | <input type="checkbox"/> | |
| 4. Manufacturing | <input checked="" type="checkbox"/> | |
| 5. Chemical Industry | <input type="checkbox"/> | |
| 6. Construction | <input type="checkbox"/> | |
| 7. Transport | <input type="checkbox"/> | |
| 8. Mining/Mineral Production | <input type="checkbox"/> | |
| 9. Metal Production | <input type="checkbox"/> | |
| 10. Fugitive Emissions from Fuels (solid, oil and gas) | | <input type="checkbox"/> |
| 11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride | | <input type="checkbox"/> |

- | | |
|-------------------------------------|-------------------------------------|
| 12. Solvent Use | <input type="checkbox"/> |
| 13. Waste Handling and Disposal | <input checked="" type="checkbox"/> |
| 14. Afforestation and Reforestation | <input type="checkbox"/> |
| 15. Agriculture | <input type="checkbox"/> |

Approved Member of Staff by Siddharth Yadav Date: 18/10/2007

Statement of Competence

Name: Geisa Principe

SGS Affiliate: SGS Brazil

Status

- | | | |
|---------------------------|-------------------------------------|--------------------------|
| - Product Co-ordinator | <input type="checkbox"/> | |
| - Operations Co-ordinator | | <input type="checkbox"/> |
| - Technical Reviewer | <input type="checkbox"/> | |
| - Expert | <input checked="" type="checkbox"/> | |

| | Validation | Verification |
|---------------------------------------|-------------------------------------|-------------------------------------|
| - Local Assessor | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| - Lead Assessor | <input type="checkbox"/> | <input type="checkbox"/> |
| - Assessor / Trainee Lead Assessor | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

Scopes of Expertise

| | | |
|---|-------------------------------------|--------------------------|
| 1. Energy Industries (renewable / non-renewable) | <input checked="" type="checkbox"/> | |
| 2. Energy Distribution | <input type="checkbox"/> | |
| 3. Energy Demand | <input type="checkbox"/> | |
| 4. Manufacturing | <input type="checkbox"/> | |
| 16. Chemical Industry | <input type="checkbox"/> | |
| 17. Construction | <input type="checkbox"/> | |
| 18. Transport | <input type="checkbox"/> | |
| 19. Mining/Mineral Production | <input type="checkbox"/> | |
| 20. Metal Production | <input type="checkbox"/> | |
| 21. Fugitive Emissions from Fuels (solid,oil and gas) | | <input type="checkbox"/> |
| 22. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride | | <input type="checkbox"/> |
| 23. Solvent Use | <input type="checkbox"/> | |
| 24. Waste Handling and Disposal | <input type="checkbox"/> | |
| 25. Afforestation and Reforestation | <input type="checkbox"/> | |
| 26. Agriculture | <input type="checkbox"/> | |

Approved Member of Staff by Siddharth Yadav Date: 22/08/2007