

UK.CDM.AR6.Validation Issue 2 CDM.Val0830

1/36

VALIDATION REPORT

Salto Jauru Energética S.A.

Ecoinvest Carbon Brasil Ltda.

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

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Project	Programme
	_
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Revision number 01	Client: Salto Jauru Energética S.A. Ecoinvest Carbon Brasil Ltda.
Revision number 01	Client: Salto Jauru Energética S.A. Ecoinvest Carbon Brasil Ltda.

Summary

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

The project activity consists of the installation of a small hydroelectric plant with a capacity of 19 MW, located in Jauru River, in the municipality of Jauru and Indiavaí/MT - Brazil. The plant has the objective to provide renewable electricity to the municipality.

Total amount of emission reductions estimated for the first crediting period is 219,026tCO₂e.

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

Subject.:				
CDM validation		Indexing terms		
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Geisa Principe - Assessor				
Technical review				
Sanjeev Kumar			No distribution without permission from the	
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Authorized signatory				
			Limited distribution	
Date of final decision:	Number of pages:			
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Abbreviations

Approved Methodology
Corrective Action Request
Certified Emission Reduction
Designated National Authority
Monitoring Plan
New Information Request
Project design Document
Société Générale de Surveillance
Emission Factor



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1. Introduction

1.1 Objective

Salto Jauru Energética S.A. has commissioned SGS to perform the validation of the project: Salto Small Hydro Power Plant Project with regard to the relevant requirements for CDM project activities. The purpose of a validation is to have an independent third party assess the project design. In particular, the project's baseline, the monitoring plan (MP) and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of Certified Emission Reduction (CER). UNFCCC criteria refer to the Kyoto Protocol criteria and the CDM rules and modalities and related decisions by the COP/MOP and the CDM Executive Board.

1.2 Scope

The scope of the validation is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. SGS has employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of CERs.

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

1.3 GHG Project Description

This report summarizes the results of the validation of 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 Ecoinvest 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 219,026 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.

Name	Role
Fabian Gonçalves – SGS Brazil	Lead Assessor
Geisa Principe – SGS Brazil	Assessor
Irma Lubrecht – SGS NL	Technical reviewer

1.4 The names and roles of the validation team members

2. Methodology

2.1 Review of CDM-PDD and additional documentation

The validation is performed primarily as a document review of the publicly available project documents. The assessment is performed by trained assessors using a validation protocol.

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

2.2 Use of the validation protocol

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

• it organises, details and clarifies the requirements the project is expected to meet; and



 it documents both how a particular requirement has been validated and the result of the validation.

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

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

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

2.3 Findings

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

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

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

is issued, where:

- I. mistakes have been made with a direct influence on project results;
- II. validation protocol requirements have not been met; or
- III. there is a risk that the project would not be accepted as a CDM project or that emission reductions will not be verified.

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

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



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

2.4 Internal quality control

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

3. Determination Findings

3.1 Participation requirements

Brazil is listed as the host Party. Brazil has ratified the Kyoto Protocol on 23rd August 2002.

(<u>http://unfccc.int/files/essential_background/kyoto_protocol/application/pdf/kpstats.pdf</u>). 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.

3.2 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 06, issued on 19th May, 2006).

ACM 0002 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.

The project follows the "Tool" to demonstrate additionality.

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 3).

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 v3, sub-step 1a require 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.

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.

"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: not applicable in this project.

"Tool" Step 3: barrier analysis.

Two barriers were faced by the project activity.

A summary of the Brazilian electricity market was presented to explain the regulatory uncertainty in the sector.

Investment barrier: verified the financial analysis (investment spreadsheet). Brascan considered the return of 20% to invest in new projects. The IRR of the SHP Salto is 17.5% without carbon credits.

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). During project implementation one additional barrier was faced related to the energy tariff. The PPA signed between Salto Jauru Energética S/A and Centrais Elétricas Matogrossenses S.A on 13/03/206 the energy tariff is R\$ 120.00.

A comparison between PPA tariff and Proinfa was presented. The Proinfa program is an incentive to the sector and a proof that incentives are necessary to promote the construction of energy projects in Brazil. SHP Salto is not assessing this incentive because the Proinfa finished on May 2004.

The IRR with carbon credit is 20.3%, this increase would compensate the risk. The inclusion of revenues from CERs makes the project IRR surpass the return defined internally (20%).

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).

Infrastructure barrier: the project is located 411 Km from Cuiabá (state capitol) in a non developed state. Verified the internal monitoring report, January 2006 that demonstrates the lack of infrastructure problems faced by 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.

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

3.3 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-anti emission factor calculated was $0.2611 \text{ tCO}_2\text{e}/\text{MWh}$.

3.4 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 exante 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.

3.5 Project design

It was assumed a renewable crediting period which will start on 01/01/2008. 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.

3.6 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 (previous and installation): LP n°088/2000 issued by FEMA on 25/09/2000; LI n°250/2002 issued by FEMA on 25/07/2002; LI n°188/2003 issued by FEMA on 02/09/2003; LI n°466/2004 issued by FEMA on 12/01/2002; LI n°857/2006 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).

3.7 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 n°1. Copy of the letters and delivery receipt was provided. The summary of comments received and how the comments have been taken were provided.



4. Comments by Parties, Stakeholders and NGOs

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

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

The PDD and the monitoring plan for this project were made available on the SGS website <u>http://cdm.unfccc.int/Projects/Validation/DB/LFPCDGLWQ6VE8CUNRTV9675SLH2VSB/view.html</u> and were open for comments from 02 Mar 07 - 31 Mar 07. Comments were invited through the UNFCCC CDM homepage.

4.2 Compilation of all comments received

Comment number	Date received	Submitter	Comment
0			

4.3 Explanation of how comments have been taken into account

No comment received.

5. Validation opinion

Steps have been taken to close out 9 findings.

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

By the displacement of fossil fuels by renewable energy sources in the generation of electricity, the project results in reductions of greenhouse gas emissions that are real, measurable and give long-term benefits to the mitigation of climate change. A review of the barriers presented demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. If the project is likely to achieve the estimated amount of emission reductions.

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



6. List of persons interviewed

Date	Name	Position	Short description of subject discussed
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.
- /2/ ACM0002- Consolidated methodology for grid-connected electricity generation from renewable sources, version 6, 19 May 2006.
- /3/ Tool for the demonstration and assessment of additionality, version 3, 16 February 2007.

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 VPMI nº 011/2006, 13/03/2006.



Annex 1 - Local assessment checklist CDM.Val0830

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

Issue	Findings	Source /Means of Verification	Further action / clarification / information required?
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.	Site visit/DR	No
	Verified the ANEEL Portaria nº 103, 03/03/2005 that defines the capacity factor of the SHP Salto (72%).		
Verify PPA (Power purchase agreement)	Verified the Power purchase agreement VPMI nº 011/2006 between Salto Jauru Energética S/A – SAJESA and Centrais Elétricas Matogrossenses S.A. – CEMAT, 13/03/2006.	Site visit/DR	No
Verify project like described in the PDD.	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).	Site visit/DR	No
	Verified the COGS – Operational control located in Curitiba/PR.		
	The SHP will be operated by the supervisory system located in Curitiba; all data will be obtained automatically.		
	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.		
	Brascan (SHP Salto owner) is responsible for the calibration and maintenance of the energy meter.		
	The energy data is protected by password and the system has restricted access.		



Issue	Findings	Source /Means of Verification	Further action / clarification / information required?
Verify the reservoir area.	Verified the map of the reservoir and technical report issued by SEMA (state environmental agency) that defines the reservoir area (79 ha).	Site visit/DR	No

ANNEX 2 - VALIDATION PROTOCOL CDM.VAL0830

THIS VALIDATION PROTOCOL IS DESIGNED TO ENSURE THAT THE PROJECT MEETS THE REQUIREMENTS FOR CDM PROJECTS THAT ARE DETAILED IN PARAGRAPH 37 OF THE CDM MODALITIES AND PROCEDURES. EACH REQUIREMENT IS COVERED IN A SEPARATE TABLE. THE FOLLOWING REQUIREMENTS ARE DISCUSSED IN THIS PROTOCOL:

Requirement

Description

Participation	The participation requirements as set out in	Covered in table 1
requirements	Decision 17/CP7 need to be satisfied	
Baseline and	The baseline and monitoring methodology	Baseline methodology is
monitoring	complies with the requirements pertaining to a	covered in table 2
methodology	methodology previously approved by the Executive Board	Monitoring methodology is covered in table 4
Additionality	The project activity is expected to result in a reduction in anthropogenic emissions by	Covered in table 3
	additional to any that would occur in the	
	absence of the proposed project activity	
Monitoring plan	Provisions for monitoring, verification and reporting are in accordance with relevant	Covered in table 5
	decisions of the COP/MOP	
Environmental	Project participants have submitted to the	Covered in table 6
impacts	designated operational entity documentation	
I	on the analysis of the environmental impacts of	
	the project activity, including transboundary	
	impacts and, if those impacts are considered	
	significant by the project participants or the	
	host Party, have undertaken an environmental	
	impact assessment in accordance with	
	procedures as required by the host Party;	
Comments by local	Comments by local stakeholders have been	Covered in Table 7
stakeholders	invited, a summary of the comments received	
	has been provided, and a report to the	



	designated operational entity on how due account was taken of any comments has been received;	
Other requirements	The project activity conforms to all other requirements for CDM project activities in relevant decisions by the COP/MOP and the Executive Board.	Covered in Table 8

SMALL SALE PROJECTS AND AR PROJECTS HAVE SPECIFIC REQUIREMENTS WHICH ARE COVERED IN TABLE 9-11. SMALL SCALE SSC PROJECTS HAVE SPECIAL REQUIREMENTS WHICH MIGHT DEVIATE FROM THE REQUIREMENTS OF OTHER CDM PROJECTS. THESE REQUIREMENTS ARE TESTED IN TABLE 9. PLEASE NOTE THAT SOME QUESTIONS IN TABLE 9 OVERLAP WITH QUESTIONS IN THE OTHER TABLES. WHERE THE QUESTIONS IN TABLE 9 CONTRADICT OR OVERLAP QUESTIONS ELSEWHERE IN THE CHECKLIST, THE QUESTIONS IN TABLE 9 SHALL PREVAIL. FOR THE VALIDATION OF SMALL SCALE PROJECTS, ASSESSOR IS REQUIRED TO ADDRESS THE QUESTIONS IN TABLE 9 FIRST BEFORE STARTING WITH THE QUESTIONS IN THE OTHER TABLES.

FURTHER REMARKS ON THE USE OF THIS DOCUMENT:

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

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

TABLE 1PARTICIPATION REQUIREMENTS FOR CLEAN DEVELOPMENT MECHANISM (CDM)
PROJECT ACTIVITIES (REF PDD, LETTERS OF APPROVAL AND UNFCCC WEBSITE)
ALL CDM PROJECT ACTIVITIES

REQUIREMENT	MoV	Ref	Comment	Draft finding	Concl
1.1 The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3 and be entered into voluntarily.	DR	PDD	No Annex I country in this project.	Ok	Ok
1.2 The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof, and be entered into voluntarily	DR	PDD	No Letter of Approval by host country (Brazil) has been submitted to the validator. The letter will be issued by the DNA after they analyse the	Send the validation report to DNA	



REQUIREMENT	MoV	Ref	Comment	Draft finding	Concl
			draft validation report.		
1.3 All Parties (listed in Section A3 of the PDD) have ratified the Kyoto protocol and are allowed to participate in CDM projects	DR	UFC CC	Yes. Brazil: 23 August 2002	Ok	Ok
1.4 The project results in reductions of GHG emissions or increases in sequestration when compared to the baseline; and the project can be reasonably shown to be different from the baseline scenario	DR	PDD	The project activity reduces emissions of greenhouse gas (GHG) as the result of the displacement of generation from fossil- fuel thermal plants that would have otherwise been delivered to the interconnected grid.	Ok	Ok
1.5 Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days (45 days for AR projects), and the project design document and comments have been made publicly available	DR	UFC CC	PDD was publicly available: 02 Mar 07 - 31 Mar 07 <u>http://cdm.unfccc.int/Proj</u> <u>ects/Validation/DB/LFPC</u> <u>DGLWQ6VE8CUNRTV9</u> <u>675SLH2VSB/view.html</u> No comments received.	Ok	Ok
1.6 The project has correctly completed a Project Design Document, using the current version and exactly following the guidance	DR	PDD	Yes.	Ok	Ok
1.7 The project shall not make use of Official Development Assistance (ODA), nor result in the diversion of such ODA	DR	PDD	This project activity do not made use of ODA. The project was financed by BNDES.	Ok	Ok
1.8 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?			N.A		
1.9 Does the project meet the additional requirements detailed in: Table 9 for SSC projects Table 10 for AR projects			N.A		



REQUIREMENT	MoV	Ref	Comment	Draft finding	Concl
Table 11 for AR SSC projects					
1.10 Is the current version of the PDD complete and does it clearly reflect all the information presented during the validation assessment.	DR Site visit I	PDD	PDD version 3 of the template.	Ok	Ok
1.11 Does the PDD use accurate and reliable information that can be verified in an objective manner?	DR Site visit	PDD	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.	NIR 7	Ok
			It was included all data available in the PDD version 2. NIR 7 was closed out.		

TABLE 2BASELINE METHODOLOGY(IES) (REF: PDD SECTION B AND E AND ANNEX 3
AND AM) NORMAL CDM PROJECTS ONLY

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
2.1 Does the project meet all the applicability criteria listed in the methodology	PDD ACM 0002	DR	ACM 0002 (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/m ²). The project has currently power density = 24.05 W/m ²	Ok	Ok
2.2 Is the project boundary consistent with the approved methodology	PDD ACM 0002	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	Ok	Ok



CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			(South-Southeast-Midwest interconnected subsystem of the Brazilian grid).		
2.3 Are the baseline emissions determined in accordance with the methodology described	PDD ACM 0002	DR	The baseline emission factor is defined as (EF_y) and is calculated as a combined margin (<i>CM</i>), consisting of the combination of operating margin (OM) and build margin (BM) factors.	Ok	Ok
			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.		
2.4 Are the project emissions determined in accordance with the methodology described	PDD ACM 0002	DR	The version 6 of the ACM0002 requires that the PE should be calculated from the "power density".	Ok	Ok
			Verified:		
			Reservoir area = 0.79 Km2		
			Installed capacity = 19MW		
			Power density = 24.05 W/m2		
			The power density is higher than 10W/m ² , project emissions is not applicable according ACM0002 methodology.		
2.5 Is the leakage op the project activity determined in accordance with the	PDD	DR	Leakage is not applicable.	Ok	Ok
methodology described	ACM 0002				
2.6 Are the emission reductions determined in accordance with the	PDD	DR	Yes. The emissions factor	Ok	Ok
methodology described	ACM 0002		emissions reductions was revised.		

Table 3Additionality (Ref: PDD Section B3 and AM) Normal CDM projects only



CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
3.1 Does the PDD follow all the steps required in the methodology to determine the additionality	PDD ACM 0002 Tool	DR	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 3). 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. CAR 3 was raised. The Tool v3, sub-step 1a require 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	CAR	Ok



CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			methodology; - If applicable, continuation of the current situation. It is not clearly described which alternatives will be considered in the barrier analysis.		
			The revised version 3 of the PDD follows the Tool version 3, the barrier analysis was correctly applied. CAR 3 was closed out.		
3.2 Is the discussion on the additionality clear and have all assumptions been supported by transparent and documented evidence	ACM 0002 PDD	DR	No. Lack of infrastructure barrier: to present more detail. What was necessary specifically; evidences. NIR 4 was raised.	NIR 4 NIR 5	
			More detail was added in the revised PDD, according verified during site visit. Copy of the internal monitoring report mad by TD Engenharia was provided. 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.		
			Step 1: the project defines some alternatives as the continuation of		



CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			current situation (common practice in Brazil) of electricity supplied by thermal plants and large hydro; and the project implementation without CDM revenue.		
			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.		
			Step 2: not applicable in this project.		
			Step 3: barrier analysis.		
			Two barriers were faced by the project activity.		
			A summary of the Brazilian electricity market was presented to explain the regulatory uncertainty in the sector.		
			Investment barrier: verified the financial analysis (investment spreadsheet). Brascan considered the return of 20% to invest in new projects. The IRR of the SHP Salto is 17.5% without carbon credits.		
			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		



CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			(corrected value until 2007 is R\$ 140.83). During project implementation one additional barrier was faced related to the energy tariff. The PPA signed between Salto Jauru Energética S/A and Centrais Elétricas Matogrossenses S.A on 13/03/2006 the energy tariff is R\$ 120.00.		
			A comparison between PPA tariff and Proinfa was presented. The Proinfa program is an incentive to the sector and a proof that incentives are necessary to promote the construction of energy projects in Brazil. SHP Salto is not assessing this incentive because the Proinfa finished on May 2004.		
			The IRR with carbon credit is 20.3%, this increase would compensate the risk. The inclusion of revenues from CERs makes the project IRR surpass the return defined internally (20%).		
			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).		
			Infrastructure barrier: the project is located 411 Km from Cuiabá (state capitol) in a non		



CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			developed state. Verified the internal monitoring report, January 2006 that demonstrates the lack of infrastructure problems faced by the project.		
			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 recently small hydro power plants, including 11 Brascan's plants, had included the carbon credit revenue in the feasibility studies.		
			The applicable steps of the Tool were assessed correctly and it was concluded that the project is additional due to the barriers presented and the common practice in Brazil.		
3.3 Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?	ACM 0002 PDD	DR	Yes, the project activity reduces GHG by avoiding electricity generation by fossil fuel sources.	Ok	Ok
3.4 Is it demonstrated/justified that the project activity itself is not a likely baseline scenario	PDD ACM 0002	DR	Yes, there is no obligation or requirement to construct the SHP and it was demonstrated that this not the common practice in Brazil.	Ok	Ok

Table 4Monitoring methodology (PDD Section D and AM) Normal CDM projects only

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
4.1 Does the project meet all the applicability criteria listed in the monitoring methodology	PDD ACM 0002	DR	Yes.	Ok	Ok
4.2 Does the PDD provide for the monitoring of the baseline emissions as	PDD ACM	DR	PDD section B.6.2: to present the parameters	CAR	Ok



CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
required in the monitoring methodology	0002		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.	6 CAR 8	
			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.		
			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 methodology. CAR 8 was closed out.		
4.3 Does the PDD provide for the monitoring of the project emissions as required in the monitoring methodology	PDD ACM 0002	DR	PE is dependent on the reservoir area and capacity installed of the plant. The project has a small reservoir area. The power density is 24.05 W/m2.	Ok	Ok
4.4 Does the PDD provide for the monitoring of the leakage as required in the monitoring methodology	PDD ACM 0002	DR	There is no leakage.	Ok	Ok
4.5 Does the PDD provide for Quality Control (QC) and Quality Assurance (QA)	PDD	DR	Yes.	Ok	Ok



CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
Procedures as required in the monitoring methodology	AM				

Table 5Monitoring plan (PDD Annex 4) Normal CDM projects only

CHECK	LIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
5.1 Monitoring	of Sustainable Development	Indicato	rs/ Enviro	onmental Impacts		
5.1.1	Does the monitoring plan provide the collection and archiving of relevant data concerning environmental, social and economic impacts?	PDD	DR	Verified that the environmental impact is not significant (according environmental license). The methodology does not require any monitoring concerning environmental, social impacts. The project is following the license issued by SEMA/MT (environmental agency).	Ok	Ok
5.1.2	Is the choice of indicators for sustainability development (social, environmental, economic) reasonable?	PDD	DR	See 5.1.1.	Ok	Ok
5.1.3	Will it be possible to monitor the specified sustainable development indicators?	PDD	DR	See 5.1.1.	Ok	Ok
5.1.4	Are the sustainable development indicators in line with stated national priorities in the Host Country?	PDD	DR	See 5.1.1.	Ok	Ok
5.2 Project Mai	nagement Planning					
5.2.1 responsi manage	Is the authority and ibility of project ment clearly described?	PDD	DR/I	Brascan is responsible for the hydro power plant operation (Financial manager – project responsible), and a consultant company was contracted.	Ok	Ok
5.2.2	Is the authority and responsibility for registration, monitoring,	PDD	DR/I	The project is not operational yet.	Ok	Ok



CHECI	KLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
	measurement and reporting clearly described?					
5.2.3	Are procedures identified for training of monitoring personnel?	PDD	DR Site visit I	There is an operation training plan that will be implemented: "Roteiro de treinamentos operacionais básicos".	Ok	Ok
5.2.4	Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	PDD	DR Site visit I	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).	Verify	Ok
5.2.5	Are procedures identified for calibration of monitoring equipment?	PDD	DR Site visit I	Verify on site. Brascan has internal procedures for calibration. Verified the procedure of another SHP (SN-17-00- 00 v1, 04/10/2006.	Verify	Ok
				The calibration procedure for Salto Jauru SHP will be prepared.		
5.2.6	Are procedures identified for maintenance of monitoring equipment and installations?	PDD	DR Site visit I	The specific procedures for operation, maintenance, monitoring, measurements, report, adjustments will prepared before project operation.	Ok	Ok
5.2.7	Are procedures identified for monitoring, measurements and reporting?	PDD	DR I	See 5.2.6.	Ok	Ok
5.2.8	Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	PDD	DR I	See 5.2.6.	Ok	Ok
5.2.9	Are procedures identified for dealing with possible monitoring data	PDD	DR Site	See 5.2.6.	Ok	Ok



CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
adjustments and uncertainties?		visit I			
5.2.10 Are procedures identified for review of reported results/data?	PDD	DR I	See 5.2.6.	Ok	Ok
5.2.11 Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	PDD	DR I	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.	Ok	Ok
5.2.12 Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?	PDD	DR I	See 5.2.11.	Ok	Ok
5.2.13 Are procedures identified for corrective actions in order to provide for more accurate future monitoring and reporting?	PDD	DR I	See 5.2.11.	Ok	Ok

Table 6Environmental Impacts (Ref PDD Section F and relevant local legislation) Normal CDM projects only

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
6.1 Has an analysis of the environmental impacts of the project activity been sufficiently described?	PDD	DR	Yes.	Ok	Ok
6.2 Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	PDD	DR	Verified the preliminary environmental assessment (Diagnóstico Ambiental Prévio da PCH Salto issued by TD Engenharia on July 2000).	Ok	Ok
			Verified the environmental project (Projeto Básico Ambiental PCH Salto issued by SOMA on December 2005.		
6.3 Will the project create any adverse environmental effects?	PDD	DR	The environmental effects were considered	Ok	Ok



CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			by the environmental agency during the licensing process.		
6.4 Are transboundary environmental impacts considered in the analysis?	PDD	DR	Transboundary environmental impact was considered in the licensing process.	Ok	Ok
6.5 Have identified environmental impacts been addressed in the project design?	PDD	DR	The project obtained the licenses required by the Brazilian environmental regulation.	Ok	Ok
6.6 Does the project comply with	PDD	DR	Yes.	Ok	Ok
environmental legislation in the host country?			Verified the licenses issued (previous and installation):		
			LP nº088/2000 issued by FEMA on 25/09/2000.		
			Ll nº250/2002 issued by FEMA on 25/07/2002.		
			Ll nº188/2003 issued by FEMA on 02/09/2003.		
			Ll nº466/2004 issued by FEMA on 12/01/2002.		
			Ll nº857/2006 issued by SEMA on 07/12/2006 valid until 07/12/2007.		
			The requests of the state environmental agency were addressed.		

Table 7Comments by local stakeholders (Ref PDD Section G) All CDM projects activities

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
7.1 Have relevant stakeholders been consulted?	PDD	DR	Yes, as listed in the PDD, section E and verified during the validation assessment.	Ok	Ok
7.2 Have appropriate media been used to invite comments by local stakeholders?	PDD	DR	Verify language and information used in the consultation process.	Ok	Ok
			Letters sent to stakeholders were verified. They are prepared in local		



CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			language.		
7.3 If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	PDD	DR	Copy of the letters and delivery receipts were provided.	Ok	Ok
7.4 Is a summary of the stakeholder comments received provided?	PDD	DR	Yes, one comment received. See section E.2 of the PDD. Copy of the comment was provided.	Ok	Ok
7.5 Has due account been taken of any stakeholder comments received?	PDD	DR	Yes, see section E.3 of the PDD.	Ok	Ok

TABLE 8 OTHER REQUIREMENTS. ALL CDM PROJECT ACTIVITIES

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
8.1 Project Design Document					
8.1.1 Editorial issues: does the project correctly apply the PDD template and has the document been completed without modifying/adding headings or logo, format or font.	PDD	DR	According to PDD Guidelines to present the information under section A.2 maximum one page. CAR 1 was raised.	CAR 1	Ok
			Verified the new version 2 of the PDD, the information under section A.2 is correct. CAR 1 was closed out.		
8.1.2 Substantive issues: does the PDD address all the specific requirements	PDD	DR	Section A.4 of the PDD describes the project as a	CAR 2	Ok
under each header. If requirements are not applicable / not relevant, this must be stated and justified			run-of-river, Verified during site visit that the project is a new hydro plant with small reservoir. CAR 2 was raised.	CAR 9	
			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		



	CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
				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.		
8.2 T	echnology to be employed					
8.2.1	Does the project design engineering reflect current good practices?	PDD	DR	Yes.	Ok	Ok
8.2.2	Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	PDD	DR/ site visit	Yes. The facility is a hydro power plant.	Ok	Ok
8.3 8	s the project technology likely to be substituted by other or more efficient technologies within the project period?	PDD	DR/ site visit	It is not expected.	Ok	Ok
8.2.	4 Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	PDD	DR/I	It was verified during the site visit, by interviews. Operators will be trained on the operational, monitoring and maintenance procedures before the hydropower plant starts the operation.	Verify	Ok
8.3	Duration of the Project/ Crediting	Period				
8.3.1	Are the project's starting date and operational lifetime clearly defined and reasonable?	PDD	DR	Yes, section C.1.1.	Ok	Ok
8.3.2	Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max. two x 7 years or fixed crediting period of max. 10 years)?	PDD	DR	Renewable crediting period: first period 7 years.	Ok	Ok



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

TABLE 12ADDITIONAL INFORMATION TO BE VERIFIED BY LOCAL ASSESSORS / SITE VISIT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
Verify operation licence from ANEEL (national energy agency).	DR	DR/ site visit	Verified the ANEEL Despacho nº 1079, 21/12/2004 that approves the project SHP Salto with an installed potency of 19 MW.	Ok	Ok
			Verified the ANEEL Portaria nº 103, 03/03/2005 that defines the capacity factor of the SHP Salto (72%).		
Verify PPA (Power purchase agreement)	DR	DR/ site visit	Verified the Power purchase agreement VPMI nº 011/2006 between Salto Jauru Energética S/A – SAJESA and Centrais Elétricas Matogrossenses S.A. – CEMAT, 13/03/2006.	Ok	Ok
Verify project like described in the PDD.	DR	DR/ site visit	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).		
			Verified the COGS – Operational control located in Curitiba/PR.		
			The SHP will be operated by the supervisory system located in Curitiba; all data will be obtained automatically.		



CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			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.		
			Brascan (SHP Salto owner) is responsible for the calibration and maintenance of the energy meter.		
			The energy data is protected by password and the system has restricted access.		
Verify the reservoir area.	Site visit	DR/ visit	Verified the map of the reservoir and technical report issued by SEMA (state environmental agency) that defines the reservoir area (79 ha).	Ok	Ok

Annex 3 - FINDINGS OVERVIEW

Findings from validation of CDM.Val0830

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:

Туре	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.
lssue	Details the content of the finding
Ref	refers to the item number in the Validation Protocol
Response	Please insert response to finding, starting with the date of entry.



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

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

Date: 02/03/2007

Raised by: Fabian Gonçalves

No.	Туре	Issue	Ref		
1	CAR	According to PDD Guidelines to present the information under section	8.1.1		
		A.2 maximum one page.			
Date:	Date: 19/03/2007				
Inform	Information regarding the description of the project activity (section A.2) was revised and reduced				
in the	in the new version of the PDD (version 2).				
Date: 28/03/2007 – Fabian Gonçalves.					
[Acco	[Acceptance and close out] Varified the new version 2 of the DDD, the information under section				

[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.

Date: 02/03/2007

Raised by: Fabian Gonçalves

Туре	Issue	Ref	
CAR	Section A.4 of the PDD describes the project as a run-of-river, Verified	8.1.2	
	during site visit that the project is a new hydro plant with small reservoir.		
19/03/2	007		
nation re	egarding that Salto SHP Project is a run-of-river was revised and corrected i	n the	
new version of the PDD (version 2). Salto SHP Project is a new hydro plant with small reservoir.			
Date: 28/03/2007 – Fabian Gonçalves.			
[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.			
	Type CAR 19/03/2 nation re ersion c 28/03/2 ptance a ed in th	Type Issue CAR 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. 19/03/2007 nation regarding that Salto SHP Project is a run-of-river was revised and corrected in ersion of the PDD (version 2). Salto SHP Project is a new hydro plant with small reservoir. 28/03/2007 – Fabian Gonçalves. ptance and close out] The information that the SHP is a new hydro plant with reserved in the PDD version 2. CAR 2 was closed out.	

Date: 02/03/2007

Raised by: Fabian Gonçalves

No.	Туре	Issue	Ref
3	CAR	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 3). 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: 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.	3.1

Date: 19/03/2007

The "Tool for the demonstration and assessment of additionality" version 3 was utilized in the new version of the PDD (version 2).

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.

Step 4: Analysis regarding other activities similar to the proposed project activity was included in

the new version of the PDD (version 2).

Date: 28/03/2007 – Fabian Gonçalves.

[Acceptance and close out] The Tool v3, sub-step 1a require 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 underliving methodology;
 If applicable, continuation of the current situation.
- It is not clearly described which alternatives will be considered in the barrier analysis.

30/03/2007 – Fabian Gonçalves.

The revised version 3 of the PDD follows the Tool version 3, the barrier analysis was correctly applied. CAR 3 was closed out.

Date: 02/03/2007

Raised by: Fabian Gonçalves

No.	Туре	Issue	Ref
4	NIR	Lack of infrastructure barrier: to present more detail. What was necessary specifically; evidences of the lack of infrastructure.	3.2
Date: 10/02/2007			

Date: 19/03/2007

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).

Date: 30/04/2007 - Fabian Gonçalves.

[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.

Date: 02/03/2007

Raised by: Fabian Gonçalves

No.	Туре	Issue	Ref	
5	NIR	Institutional barrier: to present the source of the electricity values	3.2	
		presented.		
Date:	19/03/2	007		
Inform	Information regarding electricity values source was included in the new version of the PDD			
(versi	(version 2).			
Date:	Date: 30/04/2007 – Fabian Gonçalves.			
[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.

Date:	02/03/2	007
No	Tuno	

Raised by: Fabian Gonçalves

No.	Туре	Issue	Ref
6	CAR	PDD section B.6.2: to present the parameters available at validation	4.2
		(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.	
Date:	19/03/2	007	
In sec	tion B.6	5.2 of the new version of the PDD (version 2) was included information regar	ding
area a	area and emission factor parameters and excluded parameter operating margin emission factor.		
Date: 28/03/2007 – Fabian Gonçalves.			
[Acce	[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.

Date: 02/03/2007 Raised by: Fabian Gonçalves				
No.	Туре	Issue	Ref	
7	NIR	Table 5 of the PDD presents the share of hydroelectricity in the country	1.11	
		from 1999-2003. To include the data of the years 2004 and 2005 (most		
		recent years available).		
Date:	Date: 19/03/2007			
Inform	Information regarding the share of hydroelectricity from 2004 was included in the new version of			
the PI	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.				
Date: 28/03/2007 – Fabian Gonçalves.				
[Acce	[Acceptance and close out] It was included all data available in the PDD version 2 NIR 7 was			

[Acceptance and close out] It was included all data available in the PDD version 2. NIR 7 was closed out.

Date: 02/03/2007

Raised by: Fabian Gonçalves

No.	Туре	Issue	Ref
8	CAR	Section B.7.1, data and parameter monitored: the PDD is not according	4.2
		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	
Date: 19/03/2007			
Inform	nation re	garding parameters monitored was included in the new version of the PDD	(version
2).			
Date: 30/04/2007 – Fabian Gonçalves.			
[Acceptance and close out] The revised version 3 of the PDD presents the monitored parameters			
according methodology CAP 9 was aloged out			

according methodology. CAR 8 was closed out.

Date: 02/03/2007 Raised by: Fabian		007 Raised by: Fabian Gonçalves	
No.	Туре	Issue	Ref
9	CAR	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.	8.1.2
Date: Inforn of the	19/03/2 nation re PDD (v	007 egarding about CDM letter or approval requirement were excluded in the net ersion 2).	w version

Date: 28/03/2007 – Fabian Golçalves.

[Acceptance and close out] The PDD was revised (version 2). CAR 9 was closed out.

Observations:

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