VALIDATION REPORT

BioHeat International B.V.

Josapar Itaqui Biomass Cogeneration Project

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Member of SGS Group (Société Générale de Surveillance)

Date of issue:	Project No.:
25-09-2007	CDM.Val0214d
Project title	Organisational unit:
Josapar Itaqui Biomass Cogeneration Project	SGS Climate Change Programme
Revision number	Client:
05	BioHeat International B.V.

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

The SGS will request the registration of the Josapar Itaqui Biomass Cogeneration 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.:			Subject.:
CDM validation			
Work carried out by			Work carried out by
Fabian Goncalves – Lead Assessor Geisa Principe – Assessor			
Technical review			Technical review
Authorized signatory			Authorized signatory
Date of final decision:	Number of pages: 13	D	Number of pages:

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. Introduction

1.1 Objective

The Bioheat International B.V. has commissioned SGS to perform the validation of the project: Josapar Itaqui Biomass Cogeneration 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

Josapar Itaqui is a rice mill located in Itaqui city, Rio Grande do Sul state, Brazil. The core business of Josapar is the production of paddy rice and parboiled rice for the market in Brazil and exporting markets. Josapar is the second rice company in Rio Grande do Sul state.
The purpose of the project is to avoid methane emissions due to the decay of unutilized rice husks and to avoid carbon emissions related to electricity generation for the grid.

The project will eliminate electricity demand from the grid, will sell the surplus generated to the grid, using only rice husks as fuel, complying with Josapar energy demand and exporting surplus. With this new thermal power plant, Josapar will deactivate the old boiler used only to produce process steam. After full implementation of the project 31,878 tonnes of rice husks will be combusted and the project activity will prevent annually 19,827 tonnes of rice husks from decay, avoiding methane emissions.

Total amount of emission reductions for the first crediting period is 259,521 tCO2e

Baseline Scenario:
No investment in clean power generation; electricity generation by fossil fuel sources, and the biomass is left to decay and methane is emitted to the atmosphere, continuation of the current situation.

With-project scenario:
Construction of a new biomass cogeneration unit of 6MW and 15.5MW thermal of installed capacity, using rice husks as fuel. With project implementation 31,878 tonnes of rice husks are consumed, so the project activity prevents annually net 19,827 tonnes of rice husks from decay, avoiding the associated methane emissions.

Leakage:
No leakage is anticipated.

Environmental and social impacts:
The project will promote sustainable development by increasing employment opportunities, implementation of new source of electricity generation, optimization in the use of natural resources; avoid new uncontrolled waste disposal places, using a large amount of rice residues.

1.4 The names and roles of the validation team members

Name	***Role***
Fabian Gonçalves – SGS Brazil	*Lead Assessor*
Geisa Principe – SGS Brazil	*Assessor*

Statement of Competence of team members are attached at Annex IV.

2. Methodology

2.1 Review of CDM-PDD and additional documentation

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

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

2.2 Use of the validation protocol

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

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

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

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

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

2.3 Findings

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

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

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

is issued, where:

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

II. validation protocol requirements have not been met; or

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

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

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

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

2.4 Internal quality control

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

3. Determination Findings

3.1 Participation requirements

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

Annex 1: Netherlands has ratified the Kyoto Protocol on 31st May 2002.

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

CAR 1 was raised: No letter of approval from Annex I country has been proved to the validator.

Letter was received, dated on 06/07/2006. CAR 1 was closed out.

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 has received the validation report.

3.2 Baseline selection and additionality

This activity confirms with category I.D Renewable electricity generation for a grid, that comprises renewable energy generation units that supply electricity to an electricity distribution system that is or would have been supplied by at least one fossil fuel or non-renewable biomass fired generation unit.

The project comprises the use of rice husks, which is a renewable biomass to be used to supply electricity to and displace electricity from the south-southeast-midwest Brazilian grid. The unit uses only rice husks, which is renewable biomass. The plant maximum output of heat (15.5MW th) and power (6 MWe), the sum of these if below the limit of 45 MWthermal. This is the first biomass power plant to be installed in Josapar Itaqui. The project is not a retrofitted or modified facility, the old non-environmental boiler will be deactivate; the biomass plant will be a new facility and will produce a maximum 6 MW to the grid that is below the limit of 15 MW.

This activity confirms with category III.E too – Avoidance of methane production from biomass decay through controlled combustion.

Decay will be prevented through controlled combustion of rice husks and less methane will be produced and emitted to the atmosphere. The waste composition is 100% rice husks. The emissions through electricity or diesel consumption are zero because the plant will be fully supplied by a renewable source. Emissions related to the biomass transportation will be zero because the rice husks are generated in the rice mill. The only project emissions will come from the ash transportation, maximum 5 tonnesCO2 annually. Project emissions leads to direct carbon emissions of less than 15 kilo tonnes of CO2e annually.

It is conclude that category AMS I.D version 10 and AMS III.E version 11 is applicable to the small scale project activity.

The UNFCCC website does not show another registered project with the same characteristics.
Therefore, this project is not considered a debundled component of a larger activity.

According to simplified methodologies, project participants shall provide an explanation to show that the project activity would not have occurred anyway due to at least one pre-defined barrier.

The project demonstrated additionality by using the Attachment A to Appendix B from the CDM EB (barrier analysis). The project described two scenarios, continuation of current activities (scenario 1) and construction of a renewable energy plant (scenario 2). The investment barrier in scenario 2 was select because this barrier would prevent that the project would have occurred. During site visit the original IRR with formula and data used was verified. The discount rate was cross checked with national rate, verified the equipment quotation.

NIR 3 was raised: To correct the NPV and discount tax in the PDD according to the financial analysis worksheet verified during site visit.

The PDD was revised and copy of the worksheet was provided. NIR 3 was closed out.

The IRR presented represents a financial barrier for the project activity. The IRR without carbon credit is 2.4% and considering carbon credit is 10.4%. The IRR is lower than discount rate (9.75%) without carbon credit.

In order to perform the analysis using IRR, the discount rate applied was the TJLP (Taxa de Juros de Longo Prazo – Long term interest rate http://www.bndes.gov.br/produtos/download/tjlp_evolucao.xls), set by the BNDES bank.
It was demonstrated that the IRR of 2.4% was lower than discount rate indicating that the project is not a financially attractive option.
The assumptions and data used for NPV calculation (without and with CERs) were provided in the PDD. The spreadsheets with the detailed analysis and data were verified during the validation process.

Despite the barrier associated with the project, it was decided to implement it. The fact that the project would be able to benefit from carbon credits was one of the key factors in the decision making.
It was concluded that the project is additional.

3.3 Application of Baseline methodology and calculation of emission factors

The methodology applied to this Small Scale Project activity is Type I, Category I.D version 10 – grid connected renewable electricity generation and Type III, Category III.E version 11 – avoidance of methane production from biomass decay through controlled combustion.

In the methodology, the simplified baseline is the kWh produced by the renewable generating unit multiplied by an emission coefficient calculated in a transparent and conservative manner as: the average of the “approximate operating margin” and the “build margin”.

The baseline emission factor is calculated as a combined margin, consisting of the operating margin and the build margin of the relevant electricity system. For the purpose of determining the build margin and the operating margin emission factors, a project electricity system is defined by the spatial extent of the power plants that can be dispatched without significant transmission constraints. Similarly a connected electricity system is defined as one that is connected by transmission lines to the project and in which power plants can be dispatched without significant transmission constraints.
During validation assessment CAR 2 was raised: To correct the emission factor using the most recent value available (until 2005).
The PDD was revised and calculation of the new emission factor was verified, copy was provided.
CAR 2 was closed out.

To estimate the baseline emissions related to the avoidance of methane production from biomass decay through controlled combustion, the baseline was calculate using the first order decay model based on the method of the IPCC guidelines, as referred to in category III.E and described in category III.G.

The estimated amount of methane that would in the absence of the project be generated from disposal of waste was calculated using the "Tool to determine methane emissions avoided from dumping wast at a solid waste disposal site". Data used can be confirmed. The waste (rice rusk) is classified as waste type "Food, food waste, beverages and tobacco", dry waste (38%).
According to Itaqui City Hall the applicable decay rate is k=0.4 (mean annual temperature >20°C and mean annual precipitation > 1000mm).

This project does not create any leakage as defined in the methodology.

Emission reductions for category I.D version 10 is the emission reduction due to grid connected renewable electricity production = baseline emissions of electricity generations.

Emission reduction for category III.E version 11 is the emission reduction by the avoidance of methane production from biomass decay through controlled combustion = project activity emissions, minus baseline methane emissions from biomass decay.

The total emission reduction of the project activity is: ERtotal = ER I.D + ER III.E

3.4 Application of Monitoring methodology and Monitoring Plan

The monitoring methodology is in line with the monitoring methodology mentioned in category I.D version 10 and III.E version 11.
The monitoring plan encompasses metering the electricity generated by rice husk combustion regarding category I.D.
For category III.E, the emission reduction will be measured as the difference between the baseline emissions and the sum of the project emission and leakage. It was justified that the monitoring methodology III.E is applicable and correctly applied.

3.5 Project design

The project applies the correct PDD format.

One observation was raised to include the date and version in the PDD. The PDD was revised and the observation was closed out.

3.6 Environmental Impacts

No environmental impact expected. When the project starts will be necessary to comply with requirements of the environmental agency. The project will contribute to displace more carbon intensive electricity generation sources from the south-southeast-midwest grid, promoting the use of renewable fuel (rice husk) for electricity generation.
The project will improve the local environmental condition due to the adequate treatment of rice husks residues. Currently these residues are a problem because they are left decomposing in landfill, releasing methane emissions to the atmosphere.

3.7 Local stakeholder comments

Local stakeholders have been invited by letters to comment on the Josapar Itaqui Biomass Co-generation Project.

The invitation was sent to specific stakeholders, considered representative of the general public (according Resolution 1 of the DNA):

- City Hall of Itaqui;
- Chamber of Itaqui;

- Environmental agencies from the state and Local Authority;
- The Brazilian NGO Forum;
- District Attorney;
- Local communities' associations.

Copies of the letters sent to stakeholders and records of receiving were verified (formal records from the post office). Comments from stakeholders was received and a summary of the comments and the report on how due account was taken was provided during validation assessment, and in the PDD.

4. Comments by Parties, Stakeholders and NGOs

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

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

The PDD and the monitoring plan for this project were made available on the SGS website http://cdm.unfccc.int/Projects/Validation/DB/AH6Q5U56D32DB9EVDQ72P7QGQT8NG7/view.html and were open for comments from 15 Mar 2006 until 14 Apr 2006. 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 comments received.

5. Validation opinion

Steps have been taken to close out 3 findings and one observation.

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

By using rice husk as biomass to electricity generation and avoid methane emissions due to decay of unutilised rice husks, the project results in reducing greenhouse gas emissions that are real, measurable and give long-term benefits to the mitigation of climate change. A review of the investment barrier presented demonstrates that the proposed project activity was not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. If the project is implemented as designed, the project is likely to achieve the estimated amount of emission reductions.
The validation is based on the information made available to SGS and the engagement conditions detailed in the report. The validation has been performed using a risk based approach as described above. The only purpose of this report is its use during the registration process as part of the CDM

project cycle. Hence SGS can not be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

6. List of persons interviewed

Date	*Name*	*Position*	*Short description of subject discussed*
7-8th June, 2006	Diego Machado Silveira	Project developer	Technical issues, operational issues, findings, monitoring plan, baseline, quality procedures, licenses.
7-8th June, 2006	Marie Bertolucci Ehrengerger	Lawyer	Licenses, stakeholder consultation process, findings.
8th June, 2006	Luiza Termignoni	Project developer	Validation process and findings.
8th June, 2006	Teobaldo Grabin	Project developer	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, Josapar Itaqui Biomass Cogeneration Project, version 01, 08/02/2006; version 02, 08/06/2006; version 03, 05/07/2006; version 04, 27/07/2006; version 05, 17/10/2006; version 06, 25/01/2007; version 07, 30/03/2007; version 08, 16/07/2007.

/2/ Simplified baseline and monitoring methodologies for selected small scale CDM project activity – AMS ID Grid connected renewable electricity generation, version 10, 23 December 2006.

/3/ Simplified baseline and monitoring methodologies for selected small scale CDM project activity – AMS IIIE Avoidance of methane production from biomass decay through controlled combustion, version 11, 23 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/ Laudo de Exames de Balança 523484, verification 1.735.128-5, 17/10/2005; and 523484, verification 1.735.129-7, 17/10/2005 issued by INMETRO. Calibration certificate.

/5/ Rice husks worksheet 2003-2005. Worksheet with quantity of rice husks generated and consumed.

/6/ Josapar Itaqui BCP, June 2006. CDM project management planning.

/7/ Financial analysis. Worksheets with financial analysis.

/8/ Invoice December/2005 and worksheet with energy consumption 2003-2005. Energy invoice for the year 2005.

/9/ CERs Josapar Itaqui project. Worksheets with data of biomass decay parameters,

project emissions, electricity displace, baseline emissions.

/10/ "Comunicato técnico, 02/05/2006 Winckieel" (temperature control of the rice deposit). "Informativo técnico, 24/04/2006 Keplerweber" (control of the aeration system of the plant). Technical information.

/11/ Emission factor 2003-2005. Emission factor data, ONS data (National Operator of the electricity system).

/12/ "Ensaio em casca de arroz", number 17136/55654, 13/01/2006 issued by Cientec. Rice husk analysis to determine the ash content, humidity.

/13/ Potencial Bioenergético do Setor Arrozeiro do RS, 2001. Universidade Federal RS. Study that confirms the ash content in the rice rusk, %of husk and humidity of the rice.

Annex 1 - Local assessment checklist

CDM.Val0214d

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 SGS Brazil.

Issue	**Findings**	**Source /Means of Verification**	**Further action / clarification / information required?**
Verify calibration certificate.	Verified "Laudo de Exames de Balança 523484, verification 1.735.128-5, 17/10/2005; and 523484, verification 1.735.129-7, 17/10/2005 issued by INMETRO".	Site visit/DR	No
Investment barrier: verify financial analysis.	NIR 3 was raised: To correct the NPV and discount tax in the PDD according to the financial analysis worksheet verified during site visit. The PDD was revised and copy of the worksheet was provided. NIR 3 was closed out.	Site visit/DR/I	NIR 3 was closed out. Ok
Verify emission factor document: "Fator de Redução de Emissões no Grid Interconectado do Sistema Sul-Sudeste-Centro-Oeste".	CAR 2 was raised: To correct the emission factor using the most recent value available (until 2005). The PDD was revised and calculation of the new emission factor was verified, copy was provided. CAR 2 was closed out.	Site visit/DR/I	CAR 2 was closed out. Ok
Verify ANEEL license.	The project will start in 2008 and do not have the license. ANEEL license will be	Site visit/DR	No

Issue	Findings	Source /Means of Verification	Further action / clarification / information required?
	requested before the project implementation.		
To verify the project like described in the PDD.	It was verified controls, worksheets and invoices that was used in the project: "Comunicado técnico, 02/05/2006 Winckieel" (temperature control of the rice deposit). "Informativo técnico, 24/04/2006 Keplerweber" (control of the aeration system of the plant). Worksheet 2003-2005 with electricity imported form the grid. Worksheet 2003-2005 with rice husks generated and rice produced control. Verified invoices and worksheet that prove the transportation of rice husks to landfill.	Site visit	No

ANNEX 2 - VALIDATION PROTOCOL

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

Requirement	Description	
Participation requirements	The participation requirements as set out in Decision 17/CP7 need to be satisfied	Covered in table 1
Baseline and monitoring methodology	The baseline and monitoring methodology complies with the requirements pertaining to a methodology previously approved by the Executive Board	Baseline methodology is covered in table 2 Monitoring methodology is covered in table 4
Additionality	The project activity is expected to result in a reduction in anthropogenic emissions by sources of greenhouse gases that are additional to any that would occur in the absence of the proposed project activity	Covered in table 3
Monitoring plan	Provisions for monitoring, verification and	Covered in table 5

	reporting are in accordance with relevant decisions of the COP/MOP	
Environmental impacts	Project participants have submitted to the designated operational entity documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts and, if those impacts are considered significant by the project participants or the host Party, have undertaken an environmental impact assessment in accordance with procedures as required by the host Party;	Covered in table 6
Comments by local stakeholders	Comments by local stakeholders have been invited, a summary of the comments received has been provided, and a report to the designated operational entity on how due account was taken of any comments has been received;	Covered in Table 7
Other requirements	The project activity conforms to all other requirements for CDM project activities in relevant decisions by the COP/MOP and the Executive Board.	Covered in Table 8

TABLE 1 PARTICIPATION 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 letter of approval from Annex I country (Netherlands) was provided to the validator. Letter was received, dated on 06/07/2006. CAR 1 was closed out.	CAR 1	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 from non Annex I, Brazil.	Send the validation report to DNA	
1.3 All Parties (listed in Section A3 of the PDD) have ratified the Kyoto protocol and are allowed to participate in CDM projects	DR	UNFCCC web site	Yes. Brazil 23 Ago 02 Netherlands 31 May 02	Ok	Ok

REQUIREMENT	MoV	Ref	Comment	Draft finding	Concl
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 will eliminate the electricity consumption from the grid and will sell the small surplus generated, and will avoid methane emissions due to the decay of unutilized rice husks.	Ok	Ok
1.5 Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days (45 days for AR projects), and the project design document and comments have been made publicly available	DR	PDD / UNFCCC web site	PDD public available: 15 Mar 2006 until 14 Apr 2006 http://cdm.unfccc.int/Projects/Validation/DB/AH6Q5U56D32DB9EVDQ72P7QGQT8NG7/view.html 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. The project use version 02, 8 July 2005.	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	No. To be confirmed by local assessor. No ODA was used in this project. The financial plan was verified and do not consider ODA, the project will use private bank financing	Verify	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?			NA	NA	NA
1.9 Does the project meet the additional requirements detailed in: Table 9 for SSC projects Table 10 for AR projects Table 11 for AR SSC projects	DR	PDD	Yes, see table 9.	Ok	Ok

REQUIREMENT	MoV	Ref	Comment	Draft finding	Concl
1.10 Is the current version of the PDD complete and does it clearly reflect all the information presented during the validation assessment.	DR	PDD	Yes, used the current version.	Ok	Ok
1.11 Does the PDD use accurate and reliable information that can be verified in an objective manner?	DR	PDD	Yes. To be confirmed by local assessor. Data, emission factor and applicable values were verified and discussed during site visit. Copy of the documents mentioned in the PDD was provided.	Verify	Ok

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

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

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

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

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

Table 7 Comments 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.	Ok	Ok
7.2 Have appropriate media been used to invite comments by local stakeholders?	PDD	DR	Verify letter sent to stakeholders. Letters were sent in local language.	Verify	Ok
7.3 If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	PDD	DR	Verify letters. Verified letters dated on 20/06/2006 sent to local stakeholders and delivery receipt received on 30/06/2006 – 05/07/2006: (copy was provided) City Hall of Itaqui; Chamber of Itaqui; Environmental agencies from the state and local	Verify	Ok

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			authority; Brazilian NGO forum; District Attorney; Local communities.		
7.4 Is a summary of the stakeholder comments received provided?	PDD	DR	To be confirmed by local assessor. Yes, the project received two comments that were described in version 4 of the PDD. Copy was provided.	Verify	Ok
7.5 Has due account been taken of any stakeholder comments received?	PDD	DR	Yes. It was described in section G.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	They used the current version, no changes have been observed.	Ok	Ok
8.1.2 Substantive issues: does the PDD address all the specific requirements under each header. If requirements are not applicable / not relevant, this must be stated and justified	PDD	DR	Yes.	Ok	Ok
8.2 Technology 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	Yes, the project uses state of art convencional Rankine cycle. Combustion of the fuel will be performed with proven technologies as a medium pressured boiler. The power plant control will be	Ok	Ok

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			supervised by a high standard LPCs and computers.		
8.3 Is the project technology likely to be substituted by other or more efficient technologies within the project period?	PDD	DR	No.	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	PTZ is responsible for training to operators before the project starts.	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	Starting date: 01/08/2008 Lifetime: 30 years	Ok	Ok
8.3.2 Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max. two x 7 years or fixed crediting period of max. 10 years)?	PDD	DR	Renewable crediting period, 7 years.	Ok	Ok
8.3.3 Does the project's operational lifetime exceed the crediting period	PDD	DR	Yes.	Ok	Ok

TABLE 9 ADDITIONAL REQUIREMENTS FOR SSC PROJECTS

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
SSC projects use the SSC PDD and simplied baseline and monitoring methodologies as detailed in Appendix B (to the Modalities and Procedures for Small scale CDM projects, Annex II to Decision 21/CP.8) Indicative simplied baseline and monitoring methodologies for selected small scale CDM project activity categories					
9.1 Does the project qualify as a small scale CDM project activity as defined in paragraph 6 (c) of decision 17/CP.7 on the modalities and procedures for the CDM?	PDD	DR	Yes. The project comprises combustion of renewable rice husks in a biomass boiler for electricity generation (6.0 MW), which is below the limit for type I projects. The maximum output of heat (15.5 MWh) and	Ok	Ok

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			power (6.0 MWh) is below the limit of 45 MWthermal required for small scale projects. The project emit less than 15 Kilotonnes of CO2 equivalent annually		
9.2 The project conforms to one of the categories listed in Appendix B to Annex II to Decision 21/CP8	PDD	DR	Yes. Categories ID and IIIE, the project comprises the use of rice husks, renewable biomass to be used to supply electricity to and displace electricity from the Brazilian grid; and the decay is prevented through controlled combustion of rice husks and less methane is produced and emitted to the atmosphere.	Ok	Ok
9.3 The small scale project activity is not a debundled component of a larger project activity?	PDD	DR	The project is not debundled of a larger project activity. Project participant does not have any other CDM project activity in the same site and category. It was confirmed in the unfccc website that there is no other registered project or under registration in the same place.	Ok	Ok
9.4 PDD has been prepared in accordance with appendix A of Annex II to Decision 21/CP8	PDD	DR	Yes. The current version was used.	Ok	Ok
9.5 The project uses a simplified baseline and monitoring methodology specified in Appendix B. If not, they may propose changes to the meths or a new SSC project category	PDD	DR	They use simplified baseline and monitoring methodology. The choice of the applicable baseline calculation for the project category is justified on the PDD, section B2. The project complies with the applicability conditions. During site visit the baseline emission factor	Ok	Ok

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			(EF for AMS ID) was verified (verified the spreadsheet with most recent data available 2003-2005, the data was obtained from ONS – Operator of the National Electricity System). The monitoring plan presents good monitoring practice appropriate to the circumstances of the project activity. Worksheets with baseline data were verified. See list of documents consulted.		
9.6 Is there any bundling of SSC activities into one PDD? If so, does the monitoring plan consider sampling of activities? Refer to para 19 of Annex II. Also, note bundling provisions in SSC Briefing Note and SSC meths I C / I D and III D and Para 22e of Appendix B	PDD	DR	No.	Ok	Ok
9.7 Is EIA required by host party? If not, none is required irrespective of SHC. If yes, has one been performed consistent with local requirements?	PDD	DR	When the project starts will be necessary to comply with requirements of the environmental agency.	Verify	Ok
9.8 The project results in emission reductions that area additional in accordance with the following requirements: (para 26) The project is additional if emissions are reduced below those in the absence of the project (Para 27) Simplified baseline can be used; if not, baseline proposed shall cover all gases, sectors and sources listed in Annex A to the KP Para 28) One or more barriers as detailed in attachment A to Appendix B to Annex II will be used to demonstrate that the project would not proceed without the CDM	PDD	DR	Yes, emissions are reduced below in the absence of the project. The references mentioned in the PDD related to the rice production in Brazil were verified. The project is located in the most important rice region in the country. They uses simplified baseline. To calculate the baseline for AMS IIIE the project uses AMS IIIG, the AMSIIIE refers to AMS	Ok	Ok

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			IIIG in this point. The project follows the methodology correctly. They use attachment A to appendix B. The investment barrier would prevent that the project would have occurred. During site visit the original IRR with formula and data used was verified. The discount rate was cross checked with national rate, verified the equipment quotation and it was concluded that the project is additional. See list of documents consulted. The other scenario presented was the continuation of current activities, verified that there is no legal requirement to implement the project activity, the project can continue to use energy from the grid and the environmental agency do not require conditions related to landfill the rice husks.		
9.9 Leakage is calculated according to the provisions of the SSC methodologies in Appendix B (http://cdm.unfccc.int/Projects/pac/ssclistmeth.pdf)	PDD	DR	Leakage is not applicable.	Ok	Ok
9.10 The project boundary shall be constructed in accordance with the requirements of the SSC meths in Appendix B	PDD	DR	The project boundary encompasses the physical, geographical sites of the rice mills, and the landfill located in Itaqui city where wastes and combustion residues will be displaced.	Ok	Ok
9.11 The Monitoring plan shall be consistent with the requirements of	PDD	DR	Yes. The monitoring plan presents the necessary	Ok	Ok

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
the SSC methodology in Appendix B and shall provide for the collection and archiving of data needed to determine project emissions, baseline emissions and leakage.			requirements to collect, record, archive, QA/AC for project emissions and baseline emissions.		
9.12 The monitoring plan shall present good monitoring practice appropriate to the circumstances of the project activity (para 33)	PDD	DR	Yes. Section D.4 of the PDD presents the QA/QC and section D.5 presents the management structure. It was prepared a management procedure for Josapar Itaqui project, which defines project organization, how to collect monitoring data, data processing, management quality and troubleshooting. See list of documents consulted.	Ok	Ok
9.13 If project activities are bundled, separate monitoring plan shall be prepared for each of the activities or an overall plan reflecting good monitoring practice will be prepared, consistent with the above requirements	PDD	DR	No.	Ok	Ok

TABLE 10ADDITIONAL REQUIREMENTS FOR AR PROJECTS - NA

TABLE 11ADDITIONAL REQUIREMENTS FOR SSC AR PROJECTS - NA

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

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
Verify calibration certificate.	Site visit	DR	Verified “Laudo de Exames de Balança 523484, verification 1.735.128-5, 17/10/2005; and 523484, verification 1.735.129-7, 17/10/2005 issued by INMETRO”.	Ok	Ok

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
Investment barrier: verify financial analysis.	Site visit	DR/I	NIR 3 was raised: To correct the NPV and discount tax in the PDD according to the financial analysis worksheet verified during site visit. The PDD was revised and copy of the worksheet was provided. NIR 3 was closed out.	NIR 3	Ok
Verify emission factor document: “Fator de Redução de Emissões no Grid Interconectado do Sistema Sul-Sudeste-Centro-Oeste”.	Site visit	DR/I	CAR 2 was raised: To correct the emission factor using the most recent value available (until 2005). The PDD was revised and calculation of the new emission factor was verified, copy was provided. CAR 2 was closed out.	CAR 2	Ok
Verify ANEEL license.	Site visit	DR	The project will start in 2007 and do not have the license. ANEEL license will be requested before the project implementation.	Ok	Ok
To verify the project like described in the PDD.	Site visit	DR/I	It was verified controls, worksheets and invoices that was used in the project: “Comunicado técnico, 02/05/2006 Winckieel” (temperature control of the rice deposit). “Informativo técnico, 24/04/2006 Keplerweber” (control of the aeration system of the plant). Worksheet 2003-2005 with electricity imported form the grid. Worksheet 2003-2005 with rice husks generated and rice produced control.	Ok	Ok

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			Verified invoices and worksheet that prove the transportation of rice husks to landfill.		

Annex 3 - FINDINGS OVERVIEW

Findings from validation of *josapar itaqui biomass cogeneration project – cdm.val0214d*

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

Description of table:

Type — Findings are either New Information Requests (NIR) or Corrective Action Requests (CAR). CARs are items that must be addressed before a project can receive a recommendation for registration. NIRs may lead to the raising of CARs. Observations are included at the end and may or may not be addressed. They are primarily to act as signposts for the verifying DOE.

Issue — Details the content of the finding

Ref — refers to the item number in the Validation Protocol

Response — Please insert response to finding, starting with the date of entry.

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

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

Date: 23/03/2006 Raised by: Geisa Principe

No.	Type	Issue	Ref
1	CAR	No letter of approval from Annex I country, Natherlands was provided to the validator.	1.1
Date: [Comments]			
Date: 27/07/2006 [Acceptance and close out] Letters were received, dated on 06/07/2006 and 19/07/2006. CAR 1 was closed out.			

Date: 07/06/2006 Raised by: Fabian

No.	Type	Issue	Ref
2	CAR	To correct the emission factor using the most recent value available (until 2004).	Table 12
Date: [Comments]			
Date: 20/06/2006 – Fabian Gonçalves. [Acceptance and close out] The PDD was revised and calculation of the new emission factor was			

verified, copy was provided. CAR 2 was closed out.

Date: 07/06/2006 Raised by: Fabian

No.	Type	Issue	Ref
3	NIR	To correct the NPV and discount tax in the PDD according to the financial analysis worksheet verified during site visit.	Table 12
Date: [Comments]			
Date: 20/06/2006 – Fabian Gonçalves. [Acceptance and close out] The PDD was revised and copy of the worksheet was provided. NIR 3 was closed out.			

Observations:

1- To insert date and version in the PDD.

Date: 20/06/2006 – Fabian Gonçalves. [Acceptance and close out] The PDD was revised. Observation was closed.

Annex 4 - Statement of Competence

Name:Fabian Goncalves SGS Affiliate:SGS Brazil

Status

- Product Co-ordinator ☒
- Operations Co-ordinator ☐
- Technical Reviewer ☐
- Expert ☐

	Validation	Verification
- Local Assessor	☒	☒
- Lead Assessor	☒	☒
- Assessor / Trainee Lead Assessor	☒	☒

Scopes of Expertise

1. Energy Industries (renewable / non-renewable) ☒
2. Energy Distribution ☐
3. Energy Demand ☐
4. Manufacturing ☒
5. Chemical Industry ☒
6. Construction ☐
7. Transport ☐
8. Mining/Mineral Production ☐
9. Metal Production ☐
10. Fugitive Emissions from Fuels (solid,oil and gas) ☐
11. Fugitive Emissions from Production and ☐

Consumption of Halocarbons and Sulphur Hexafluoride

12. Solvent Use ☐

13. Waste Handling and Disposal ☒
14. Afforestation and Reforestation ☐
15. Agriculture ☐

Approved Member of Staff by Marco van der Linden Date: 27/07/2006

Statement of Competence

Name:Geisa Principe SGS Affiliate:SGS Brazil

Status

- Product Co-ordinator ☐
- Operations Co-ordinator ☐
- Technical Reviewer ☐
- Expert ☐

	Validation	Verification
- Local Assessor	☒	☒
- Lead Assessor	☐	☐
- Assessor / Trainee Lead Assessor	☒	☒

Scopes of Expertise

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

Approved Member of Staff by Marco van der Linden Date: 13/03/2007

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