VALIDATION REPORT

PTZ BioEnergy Ltd

CAMIL Itaqui Biomass Electricity Generation Project

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Date of Issue:	**Project Number:**
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Project Title:	
CAMIL Itaqui Biomass Electricity Generation Project	
Organisation:	**Client:**
SGS United Kingdom Limited	PTZ Bioenergy Ltd.
Publication of PDD for Stakeholders Consultation	
Commenting Period:	Not Applicable, Renewal of Crediting Period
First PDD Version and Date:	Version 1, 1st July 2008
Final PDD Version and Date:	Version 4, 15th September 2009

Summary:

PTZ Bioenergy Ltd. has commissioned SGS to perform the validation of the request for renewal of crediting period for CDM project activity: CAMIL Itaqui Biomass Electricity Generation Project. The project was registered with UNFCCC with reference number UN0231 for the first crediting period starting 01st July 2001 until 30th June 2008.

Methodology used: AMS-I.C. Thermal Energy for the user with or without electricity

AMS-III.E. Avoidance of methane production from decay of biomass through controlled combustion, gasification or mechanical/thermal treatment

Version and Date: AMS-I.C Version 13 EB38 and AMS-III.E Version 15.1 EB36

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 for renewal of crediting period. 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 report is based on the findings of document reviews, and responses from the project participants to the findings that were raised in this report.

The report and the annexed validation describes a total of 35 findings which include:

- 25 Corrective Action Requests;
- 9 Clarification Requests and
- 1 Further Action Request.

All findings have been closed out satisfactorily and the project will be recommended to the CDM Executive Board with a request for renewal of crediting period.

Subject:	
CDM Validation	
Validation Team:	
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Technical Review:	
Technical Reviewer: Aurea Nardelli Date: 03-11-2009 and 03-12-2009 Sectoral Expert (1): Sandeep Kurmi Sectoral Expert (13): Talita Beck	☐ Limited Distribution
Authorised Signatory:	
Name: Siddharth Yadav Date: 7th December 2009	☐ Unrestricted Distribution

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2	-	-

Abbreviations

ABNT	Associação Brasileira de Normas Técnicas (Brazilian Association of Technical Standards)
ANEEL	Agência Nacional de Energia Elétrica (Brazilian Electricity Regulatory Agency)
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emissions Reduction
CL	Clarification Request
COP	Conference of the Parties
DOE	Designated Operational Entity
DR	Document Review
EB	Executive Board
EF	Emission Factor
FAR	Foward Action Request
FEPAM	Fundação Estadual de Proteção Ambiental (State Foundation for Environmental Protection)
I	Interview
IPCC	International Panel on Climate Change
LoA	Letter of Approval
MP	Monitoring Plan
MOP	Meeting of the Parties
NBR	Norma Técnica Brasileira (Brazilian Technical Standards)
PDD	Project Design Document
PP	Project Participant
QA	Quality Assurance
QC	Quality Control
RDF	Refuse-derived fuel
SSC	Small Scale
SGS	Société Générale de Surveillance
SB	Stabilised biomass
UFRGS	Universidade Federal do Rio Grande do Sul
UNFCCC	United Nations Framework Convention on Climate Change

Table of Content

1. Validation Opinion 5
2. Introduction 6
2.1 Objective 6
2.2 Scope 6
2.3 GHG Project Description 6
2.4 The Names and Roles of the Validation Team Members 6
3. Methodology 7
3.1 Review of CDM-PDD and Additional Documentation 7
3.2 Use of the Validation Protocol 7
3.3 Findings 7
3.4 Internal Quality Control 8
4. Validation Findings 9
4.1 Project Design 9
4.2 Eligibility as a Small Scale Project 11
4.3 Baseline Selection 11
4.4 Application of Baseline Methodology and Calculation of Emission Factors 17
4.5 Application of Monitoring Methodology and Monitoring Plan 25
4.6 Choice of the Crediting Period 30
5. List of Persons Interviewed 31
6. Document References 32

Annexes:

A.1 Annex 1: Local Assessment 35
A.2 Annex 2: Validation Protocol 39
A.3 Annex 3: Overview of Findings 1
A.4 Annex 4: Team Members Statements of Competency 29

1. Validation Opinion

SGS United Kingdom Ltd has been contracted by PTZ Bioenergy Ltd. to perform a validation of the request for renewal of crediting period for CDM Project Activity: CAMIL Itaqui Biomass Electricity Generation Project in Brazil.

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

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

By producing electricity with a biomass electricity unit with 4.2MWe of installed capacity using rice husk residues as fuel and by avoiding stock pilling of such residues in a solid waste disposal site the project activity will result in reductions of greenhouse gas emissions that are real, measurable and give long-term benefits to the mitigation of climate change.

In our opinion, the project meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria. The project correctly applies methodologies AMS-I.C and AMS-III.E versions 13 and 15.1 respectively. It is demonstrated that the project is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity.

The total emission reductions from the project are estimated to be 125,635 tCO2e over a 7 year crediting period, averaging 17,948 tCO2e annually. The emission reduction forecast has been checked and it is deemed likely that the stated amount is achieved given the underlying assumptions do not change.

The project will hence be recommended by SGS for renewal of crediting period with the UNFCCC.

Signed on Behalf of the Validation Body by Authorized Signatory

Signature:

Name: Siddharth Yadav

Date: 7th December 2009

2. Introduction

2.1 Objective

PTZ Bioenergy Ltd. has commissioned SGS to perform the validation of the request for renewal of crediting period for CDM Project Activity: CAMIL Itaqui Biomass Electricity Generation 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 criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of Certified Emission Reduction (CER). UNFCCC criteria refer to the Kyoto Protocol criteria and the CDM rules and modalities and related decisions by the COP/MOP and the CDM Executive Board.

2.2 Scope

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

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

2.3 GHG Project Description

The reduction in greenhouse gas emissions will happen by avoiding methane emissions from dumping of the rice husks in a solid waste disposal site and by using the husks to generate electricity with the use of:

One medium pressure boiler (Gerador de Vapor BGV 35,000) of 22bar with capacity for 35,000Kg/h of steam production at 350℃

One turbine (TGM Turbinas) being fed at 0.09 bar (this has a maximum installed capacity of 0.12 bar).

One generator (WEG) with a maximum installed capacity of 4200KWe at 13,800V and 60Hz.

2.4 The Names and Roles of the Validation Team Members

Name	Role	Affiliate
Fabian Gonçalves	Lead Assessor	SGS Brazil
Talita Beck	Local Assessor / Sectoral Expert (13)	SGS Brazil
Sandeep Kumir	Sectoral Expert (1)	SGS India

3. Methodology

3.1 Review of CDM-PDD and Additional Documentation

The validation is performed primarily as a document review of the project documents submitted to SGS. The assessment is performed by trained assessors using a validation protocol attached as Annex 2 Table 2.

The site visit was carried out on July 8th and 10th, 2008 in PTZ's office and CAMIL's plant. The project developers were interviewed by the Assessors.

The documents and evidences were confirmed on site visit. The results of this local assessment are summarized in ANNEX 1 to this report.

The staff members at the Camil Plant were interviewed to confirm statements in the PDD through review of documents and operations.

3.2 Use of the Validation Protocol

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

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

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

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

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

3.3 Findings

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

A clarification request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met

Where a non-conformance arises the Assessor shall raise a **Corrective Action Request (CAR).** A CAR is issued, where:

I. The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
II. The CDM requirements have not been met;
III. There is a risk that emission reductions cannot be monitored or calculated.

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

A forward action request (FAR) is raised during validation to highlight issues related to project implementation that require review during the first verification of the project activity. FARs shall not relate to the CDM requirements for renewal of crediting period.

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

3.4 Internal Quality Control

Following the completion of the assessment process and a recommendation by the Assessment team, all documentation will be forwarded to a Technical Reviewer. The task of the Technical Reviewer is to check that all procedures have been followed and all conclusions are justified. The Technical Reviewer will either accept or reject the recommendation made by the assessment team. Findings can be raised at this stage and Client must address them within agreed timeline.

4. Validation Findings

4.1 Project Design

4.1.1 Project Title

From the information supplied in the PDD (version 1) (ref. 1) section A.1. contained the following:

- Title: CAMIL Itaqui Biomass Electricity Generation Project
- Version: 1
- Date: 1st July 2008

The project title allows the reader to identify the unique project activity.

Subsequent versions were:

Version	Date
2	30th March 2009
3	8th July 2009
4	15th September 2009

4.1.2 Description of the Project Activity

Section A.2 of the PDD describes the project activity an its purpose which is "to avoid methane emissions due to the decay of unutilized rice husks and to avoid carbon emissions related to grid connected electricity generations".

It also explains the background of the project and details of the technology and how this will reduce greenhouse gas emissions. The PDD states that CAMIL is one of the biggest rice producing companies in Brazil. The main activity in the region where the project is located is rice production and processing. The rice mills generate huge amounts of biomass residues (mainly rice husks) which are disposed of in licensed areas. The CAMIL project consists in a biomass electricity unit with 4.2 MWe of installed capacity using rice husks residues as fuel. CAMIL uses its own rice mill residues and thus reduces the amount of waste going to licensed areas and replaces energy from the grid with its own production using the rice husks. The overall thermal generation capacity of the plant is described to be of 30.35 MWth.

Section A.4.2 of the PDD gives more detailed information on the technology used. The description of the technology explains that reduction of the greenhouse gas emissions will happen by avoiding methane emissions from dumping of the rice husks and by using the husks to generate electricity with the use of:

1. One medium pressure boiler (Gerador de Vapor BGV 35,000) of 22bar with capacity for 35,000Kg/h of steam production at 350℃
2. One turbine (TGM Turbinas) being fed at 0.09 bar (this has a maximum installed capacity of 0.12 bar).
3. One generator (WEG) with a maximum installed capacity of 4200KWe at 13,800V and 60Hz.

The production of rice husks and the disposal of the surplus were evidenced during site visit. The design capacity of the power generating unit remains 4.2 MWe and utilizes rice husks as evidenced by site visit and by Ref. 8, the authorizing resolution issued by ANEEL (Brazilian Electricity Regulatory Agency from the Portuguese Agência Nacional de Energia Elétrica). During the site visit the DOE also verified and confirmed the turbine and boiler capacity.

The information provided on the location of the project is clear in section A.4.1.4 of the PDD however version 1 did not show latitudes and longitudes. The new site where husks are stored (Borges de Medeiros, 2225) in Itaqui were also not mentioned.

CAR #3 was raised to ask the PP to correct that in the PDD. The corrective action is transcribed below:

CAR#3: Latitudes and Longitudes of the project site are missing from the PDD. The new site where husks are stored (Address: Borges de Medeiros, 2225) in Itaqui are also not mentioned.

To answer to **CAR #3** the PP added the latitudes and longitudes of the rice mill and landfill as well as the storage place in Borges de Medeiros, 2225 to PDD version 3.

The PP also explained that the location of Borges de Medeiros, 2225 refers to a store house used to temporally keep a certain amount of back-up rice husks for the Power Plant so that if production at the mill temporarily stops they have a supply of rice husks close by.

The itinerary between the store house and CAMIL (where the Power Plant is located) does not present additional project emissions, once the store house is located 2 km far from CAMIL resulting in a total distance (CAMIL - Store House - CAMIL) equals to 4 km which is well below the distance of 12 km performed by the truck in the baseline scenario (from CAMIL up to the Landfill).

The DOE checked that the coordinates as well as the storage house were added to the revised PDD and confirmed that these were included. The geographical coordinates of the project site were crosschecked with Google Earth map (Ref. 40) and they confer. The distance from the project site to the landfill site were checked during site visit in the car's odometer and recorded (see Annex 1 of this report) and the distance between the project site and the storage site in Borges de Medeiros, 2225 were checked by entering the addresses on Google Maps site (Ref. 50).

CAR #3 was therefore closed out.

In the DOE opinion the description of the project activity in version 4 of the PDD (the last version presented) is complete and also an accurate representation of the actual situation.

4.1.3 Project Participants

The Project Participants shown in section A.3. of the PDD version 1 were:

- CAMIL Alimentos S/A (Brazil)
- PTZ BioEnergy Ltd. (Brazil)
- Bioheat International B.V. (Netherlands)
- Essent Energy Trading B.V. (Netherlands and Germany)

As this is a renewal of the crediting period, the LoAs for all the PPs shown in version 1 of the PDD from July 1st 2008, are shown in the UNFCCC website (Ref.5).

However, the UNFCCC website shows Essent Energy Trading BV Switzerland as PP and this was not shown in section A.3. of version 1 of the PDD from July 1st 2008.

CL #1 Clarification is required as to why the UNFCCC website shows Essent Energy Trading BV Switzerland as PP and this is not shown in the version 1 of the PDD from July 1st 2008.

The PP explained that Essent Energy Trading BV has Letters of Approvals of and holding accounts in three different countries: Germany, The Netherlands and Switzerland. Version 2 of the PDD is reflecting the necessary changes.

The DOE checked the revised PDD and confirmed that the name of the PP Essent Energy Trading BV Switzerland was added to section A.3.

CL #1 was therefore closed out.

CAR# 2 was raised because not all the contact details for all the six Project Participants were shown in Annex 1 of the PDD version 1.

The PP explained that Essent Energy Trading BV has accounts in three different countries: Germany, The Netherlands and Switzerland. The letters of approval are directed to Essent Energy B.V. in The Netherlands and all the details of Essent Energy B.V. in The Netherlands are available in the section A.3 of the PDD.

The DOE checked the LoAs and these are in fact addressed to Netherlands so that, it was concluded that the address for the Netherlands office of Essent Energy B.V. as point of contact for all other offices of Essent Energy B.V. in Annex 1 is correct.

CAR #2 was therefore closed out.

After the closure of this corrective action the PP provided the form F-CM-MOC dated June 8th 2009 whereby the change of contact details for Essent Energy B.V. to the address in Switzerland was requested to the UNFCCC (ref.52). The PP also provided the email received from the CDM registry with the confirmation that required changes had taken place (Ref. 53). The PDD was once again updated to reflect this change.

The DOE therefore confirms that all project participants are listed in tabular form in section A.3 of the PDD and that this information is consistent with the contact details provided in annex 1 of the PDD (Switzerland office as the contact for Essent Energy B.V.). The participation of all PPs has been approved by the Parties involved (ref.5) and no entities other than the ones approved as project participants are included in these sections of the PDD.

Brazil has ratified the Kyoto Protocol on 23rd August 2002, Netherlands on 31st May 2002, Germany on 31st May 2002 and Switzerland on 9th July 2003 (Ref. 46).

4.1.4 Public Funding

Evidences collected during site visit, for example the ANEEL Authorizing Resolution N4 of January 10th 2005 (from the Portuguese Resolução Autorizativa N°4 - 10/01/2005), (Ref. 8) and the Operational License N: 3270/2005-DL of July 5th 2005 (from the Portuguese FEPAM Licença de Operação N:3270/2005-DL - 05/07/2005), issued by the state environmental regulators FEPAM (Ref. 9), state CAMIL S/A as the entrepreneurs for the Thermoelectric plant. There was no other evidence of public funding of the project and it was concluded that the situation remains the same as in the previous crediting period.

4.2 Eligibility as a Small Scale Project

The DOE assessed the project and validated the overall thermal capacity of the plant (using the boiler as its bottle neck) as 30.35 MW_{th}. This could be evidenced by the specifications on the boiler used in the project (ref. 30) which showed that the boiler had a capacity of 26,100,000 kcal/h (= 30.35MW/h). The DOE also checked that the estimated emission reductions in the second crediting period for the project are of a maximum 20,683 tCO_2e/year. That is the project activity is in accordance with paragraph 28 (a) and (c) of decision 1 of the CMP.2 (Ref. 47), which states that Type I project activities shall have a maximum output capacity of 15MW (or an appropriate equivalent 45 MW_{th} in this case) and Type III project activities, otherwise known as other project activities, shall be limited to those that result in emission reductions of less than or equal to 60kt CO2 equivalent annually.

Further discussion of the eligibility of the project according the chosen methodologies is described below in section 4.3.

4.3 Baseline Selection

4.3.1. Choice and Applicability

The latest version of the methodology AMS-I.D 'Grid connected renewable electricity generation' (used in the previous crediting period) no longer applies to this project since cogeneration systems are no longer eligible under the category. From the SSC methodologies of the appendix B of the 'Simplified modalities and procedures for small-scale clean development mechanism activities' (Ref.6), type I projects, only the methodology AMS-I.C. 'Thermal energy for the user with or without electricity' applies to a project which generates thermal energy for its own use and for the production of electricity to the grid (this methodology is therefore applicable for cogeneration systems). The methodology AMS-I.C. Version 13 was therefore used instead of the latest version of AMS-I.D. This was the latest approved baseline and monitoring methodology available at the time the validation assessment was carried out (more specifically the issuance of findings) and thus follows the rules of the 'Procedures for renewal of the crediting period of a registered CDM Project Activity' Version 5 (EB46 Annex 11 – Ref.7).

AMS-III.E 'Avoidance of methane production from decay of biomass through controlled combustion, gasification or mechanical/thermal treatment', Version 15.1 was also the latest approved baseline and monitoring methodology applied in the original CDM-PDD of the registered CDM project activity at the time the validation assessment was carried out (more specifically the issuance of findings) and thus follows the rules of the 'Procedures for renewal of the crediting period of a registered CDM Project Activity' Version 5

(EB46 Annex 11 – Ref.7). This is the only approved methodology to be applied to projects which avoid methane emission from decay of biomass through controlled combustion.

The applicability criteria for methodology AMS-I.C and a discussion about each of them are listed below:

1) Renewable energy technologies that supply users with thermal energy that displaces fossil fuels. Example includes energy derived from renewable biomass for water heating, space heating, or drying and other technologies that provide thermal energy that displaces fossil fuel. Biomass-based co-generation systems that produce heat and electricity are included in this category.

According to the first Validation Report all energy consumed by Camil was from the interconnected grid (Ref.18).

It was evidenced during site visit that the technology used in the project is still the combustion of rice husks to produce thermal and electrical energy for its own use and delivery to the grid. The PPs have consulted the SSC WG (Ref.17) to clarify whether by using the methodology AMS-I.C they could claim CERs for the export of energy to the grid and the answer was positive.

2) Where thermal generation capacity is specified by the manufacturer, it shall be less than 45MW.

Making reference to the thermal generation capacity of the applicability criteria (45MW), the PDD version 1 stated that the "nominal capacity of the plant is 4.2 MWe plus 7.8 MWth, which is well below the above mentioned maximum output capacity". The capacity of the generator was verified to be 4.2MWe, however it was not clear from site visit where the heat capacity stated in the PDD was obtained from (evidence) and what transformation was done to come to the conclusion that the 45MW was not breached.

CL #4 was raised to clarify this point.

The PP explained that 7.8 MWth was the capacity of the plant designed to process heat and the overall thermal capacity of the plant was 30.35MWth. This could be evidenced by the specifications of the boiler used in the project. The plate with the specifications of the boiler used in the project (ref. 30) states that the calorific capacity of the boiler is of 26,100,000kcal/h. This represents 30.35 MW/h according to the software Convert. The PP made the overall thermal generation capacity of the plant explicit in the PDD version 3.

The DOE checked and confirmed that this was in the PDD.

CL #4 was closed out.

Applicability criteria 3 and 4 of the methodology AMS-I.C does not apply to this project since the project uses only rice husks as energy source and there was no addition of renewable energy units to existing ones.

With regards to the applicability criteria for the methodology AMS-III.E:

1) This project category comprises measures that avoid the production of methane from biomass or other organic matter that:

(b) Is already deposited in a waste disposal site without methane recovery

It was verified during site visit that the project comprises measures that avoid the production of methane from rice husks which would have otherwise been left to decay in a waste disposal site without methane recovery. Evidence of that is that the excess husks produced by Camil and which are not used to produce electricity are still being disposed of in that manner (ref.19).

2) Due to the project activity, decay of the wastes of type referred to in paragraph 1 (b) above is prevented through (a)controlled combustion.

It was also verified that the boiler uses rice husks as fuel and thus, due to project activity, decay is prevented through controlled combustion.

3) The produced RDF/SB shall be used for combustion either on site or off-site

No evidence that RDF/SB is produced on site was observed during visit.

4) In the case of stockpiles of wastes baseline emission calculations as described in the "Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site" shall be adjusted. Stockpiles can be characterized as waste disposal sites that consist of wastes of homogeneous nature with similar origin (e.g. rice husks). Paragraph 22 of the methodology provides

specific instructions for the calculation of the baseline emissions where the baseline is stockpiling of the waste.

It was verified during site visit that in the baseline scenario rice husks are stockpiled (see photography of the site used by Camil Ref.19 to dispose of excess rice husks not used to produce electricity). The adjustments recommended by the methodology AMS-III.E and the 'Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site' were checked and the DOE confirmed that they were correctly applied.

5) Measures are limited to those that result in emission reduction of less than or equal to 60 Kt CO2 equivalent annually.

According to the PDD version 1 for the second crediting period, the estimates of emission reductions in the second crediting period are of a maximum 22,299 tCO_2eq/year. This is less then 60Kt of CO_2. In the last version of the PDD (version 4) this value was of 20,683 tCO_2eq/year.

6) Where in the baseline usually there is a reduction in the amount of waste through regular open burning or removal for other applications, the use of the "Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site" shall be adjusted to take account of this burning or removal in order to estimate correctly the baseline emission.

The environmental license of the landfill was checked and it prohibits the burning of solid residues of any nature in the area. The license also requires Camil to produce a quarterly report with information which includes the removal of rice husks from the area. This report was not evidenced during site visit and **CL #5** described below was raised.

CL #5: Applicability number 6 of the methodology AMS-III.E requires the "tool to determine methane emissions avoided from dumping waste at a solid waste disposal site" to be adjusted if in the baseline there is usually a reduction in the amount of waste through regular removal for other applications. PPs are required to present to the DOE the quarterly reports requested by the environmental agency (FEPAM) in its landfill operational license of the 13/05/05 (Ref.20), so that the DOE can check whether there has been removals of rice husks from the area during for the period covered by the license (4 years). If there have been removals the PPs are required to explain these removals.

The DOE asked the PP and checked a sample of 4 reports from the years of 2005, 2006, 2008 and 2009. Each of the reports refers to a period of 3 months so that a total sample of 12 months from a 4 year period (the period covered by the license) was checked to confirm that no removals had occurred. All the reports checked are included under ref.41 (named Camil quarterly reports to FEPAM). The assessment team did not evidence removals of waste from the landfill site from the sample of reports verified (ref.41), furthermore the landfill operational license (ref.20) also specifies that no open burning shall occur and the assessment team concluded that usually there is no reduction in the amount of waste through regular open burning nor removal of waste for other applications at the solid waste disposal site.

CL #5 was therefore closed out.

CL #6: Clarification is required about paragraph 18 of the landfill operational license by FEPAM (Ref.20) which states that 'the company will have to send, within 60 days, a technical proposal for minimizing the generation of residues destined to the licensed landfill area, considering studies of the utilization of rice husks as a source of energy. This study should present proposals, perspectives and chronograms forecasted by the company to make this reduction viable'.

The PP provided to the DOE the document "Relatório Técnico 10.08.05" (ref. 42) with its waste minimisation proposal which included the use of rice husks in the thermal plant. The documented mentions that the proposal was already part of the preliminary license applied for in 2000. Further interviews with Project Participants and FEPAM (the local environmental regulators) were carried out to clarify this issue too.

In the interview with FEPAM the DOE verified that any industrial activity is required by law to have a waste management plan but this law does not provide guidelines to the specifics of what should be done to reduce waste generation (i.e. use of husks as substrate). The choice of the management plan is carried out by the company. The license reflects requirements of the waste management plan proposed by CAMIL at the time of requesting the preliminary license (which is a pre-requisite for the

installation license and the operational license) so the request for a technical proposal in the landfill operational license stems from the management choice established by CAMIL to the regulators and not by specifics of the legislation. In this way, the DOE concluded that the statement of the license is not a regulatory requirement that would necessarily reduce emissions from the landfill and which would need accounting for since other waste management strategies could be applied (i.e. use of husks as substrate).

CL #6 was closed out.

7) The project activity does not recover or combust methane unlike AMS-III.G. Nevertheless the location and characteristics of the disposal site in the baseline conditions are known in such a way as to allow the estimation of its methane emissions.

   The above was confirmed during site visit (refer to Annex 1 of this report and ref. 19).

8) If the project activity involves combustion, gasification or mechanical/thermal treatment of partially decayed waste mined (i.e. removed) from a solid waste disposal site in addition to freshly generated waste the project participants shall demonstrate that there is adequate capacity of the combustion, gasification or mechanical/thermal treatment facility to treat the newly generated wastes in addition to the partially decayed wastes removed from the disposal site. Alternately justifications for combusting, gasifying or mechanically/thermally treating the partially decayed wastes instead of the newly generated wastes shall be provided.

   It was verified during site visit that the project activity does not involve the combustion, gasification or mechanical/thermal treatment of partially decayed waste mined (i.e. removed) from a solid waste disposal site (Annex 1 and ref. 41).

9) If the combustion facility, the produced syngas, producer gas or RDF/SB is used for heat and electricity generation within the project boundary, that component of the project activity shall use a corresponding methodology under type I project activities.
   During site visit it was seen that a combustion facility is used to generate electricity. This component of the project uses methodology AMS-I.C. version 13.

   With regards to applicability criteria numbers 10 to 14). There was no evidence of RDF/SB production or gasification observed during site visit.

   15) In case residual waste from controlled combustion is delivered to a landfill, emissions from the residual waste shall be taken into account using the first order decay model (FOD) described in AMS-III.G.

   Section B.2. of the PDD versions 1 for the renewal of the crediting period states that “Although the ash generated is stored in landfills, it is defined as an inert material and according to table for DOCj (fraction of degradable organic carbon) of the IPCC2006 Guidelines for National Greenhouse Gas Inventories, the DOCj for inert materials is 0 which results in zero emissions related to ash.”

   CL #7 was raised during the validation assessment to ask the PP for the reference used to define ash as an inert material so that the DOE could validate the statement on version 1 of the PDD seen above.

   The PP sent to the DOE an analysis of the ash (ref.33) and the Brazilian technical standard NBR 10,004 (ref. 32). The DOE examined the analysis sent by the PP with results of the tests carried out with the ash of the rice husks (ref. 33) and its classification according to NBR 10,004 (ref. 32). The report states that the ash from the rice husks is inert and solubility values reported are all below the limits set in NBR 10,004.

   CL #7 was therefore closed out.

   After the above assessment the DOE concluded that the selected methodologies are applicable to the proposed CDM project.

4.3.2. Project Boundary

During the desk review the DOE found that the description of the Project Boundary could be further explained so that the emission sources would be more clearly identified. **CAR #8** was raised as follows:

CAR #8: The project's boundary needs to be further explained based on the guidance of the methodologies AMS-I.C and AMS-III.E.

To answer **CAR #8** the PP revised the description of the project boundary on section B.3. in version 2 of the PDD. The DOE checked the project boundaries and confirmed that all selected sources in the project boundary matched the ones required in the approved methodologies used.

CAR #8 was therefore closed out,

However the boundary was further changed in subsequent versions of the PDD to reflect explanation given in CAR #11 about the fact that the rice mill is not included in the project boundary. CAR #11 is further explained below in subsequent sections of this report.

The DOE also found that the Brazilian Grid was used for calculations but was not correctly named throughout the PDD. **CAR #9** was raised to address this issue of the PDD.

The PP corrected the PDD and the DOE checked and confirmed that the relevant grid was correctly identified in accordance with EB guidance through out the PDD and calculations.

CAR #9 was therefore closed out.

4.3.3. Baseline selection

Neither one of the methodologies (AMS-I.C. or AMS-III.E) calls for the use of the "Tool for the demonstration and assessment of additionality" or the "Combined tool to identify the baseline scenario and demonstrate additionality".

The impact of new relevant national and/or sectoral policies and circumstances on the baseline was taken into account through the environmental license of the project (ref. 20) and interview with FEPAM (Environmental agency), we verified that any industrial activity is required by law to have a waste management plan but this law does not provide guidelines to the specifics of what should be done to reduce waste generation (i.e. use of husks as substrate). The choice of the management plan is carried out by the company. The license reflects requirements of the waste management plan proposed by CAMIL at the time of requesting the preliminary license. The conclusion is that there is no requirement that impact the second crediting period of the registered project activity.

The baseline scenario indicated in the PDD version 1 for the renewal of the crediting period is the situation before implementation of the grid connected renewable electricity production facility and the disposal of waste in stockpiles where they were left to decay.

According to paragraph 6 of the methodology AMS-I.C. for renewable energy technologies that displace technologies using fossil fuels, the simplified baseline is the fuel consumption of the technologies that would have been used in the absence of the project activity times the emission factor coefficient for the fossil fuel displaced.

Paragraph 7 of the methodology states that cogeneration projects must chose between 5 options for baseline emission calculations depending on the technology that would have been used in the absence of project activity. The PPs chose option (e) Electricity is imported from the grid and/or produced in an onsite captive power plant (with a possibility of export to the grid); steam/heat is produced from renewable biomass (p.s. no emission reduction can accrue on account of heat generation).

According to the first Validation Report all energy consumed by Camil was from the interconnected grid (ref.18) and Camil burnet 30 tonnes per day of rice husks in three old boilers. There was no mention in the previous Validation Report as to the use of the boilers so that **CL #10** was raised as follows.

CL #10: Evidence is required that the three old boilers were used for steam and heat production in the baseline scenario, although no emission reduction can be accrued from heat generation, as to guarantee the baseline scenario chosen in the PDD version 1 for the renewal of the crediting period reflects the requirement of the methodology AMS-I.C.

To close out **CL #10** the PP explained that Camil Alimentos S.A. is a rice mill that also extracts oil from rice. This process needs steam to operate and the only way that a rice mill generates steam is through boilers. In the baseline year, year 2000, Camil was already extracting oil, what can be evidenced by the fact that the old boilers were under use at the time. To support this information the PP provided the opening terms of the boilers which were dated 1st September 1988.

The DOE checked the opening terms of two of the baseline boilers (ref. 31) and confirmed the address of installation and dates. These together with the explanation of the PP above and the validation report of the previous crediting period dated 14th December 2005 (with the description of the same old boilers) are considered sufficient evidence that boilers were generating steam and heat in the baseline year 2000.

CL #10 was therefore closed out.

Paragraph 9 of the methodology AMS-I.C states that baseline emissions for electricity imported from the grid shall be calculated as the amount of electricity produced with the renewable energy technology multiplied by the CO2 emission factor of the grid and that this should be calculated according to procedures detailed in the AMS.I.D.

CAR #11: Section B.4 of the PDD version 1 does not address in the text, paragraph 9 of the methodology (baseline emissions for electricity that used to be imported from the grid and which is now produced by the renewable power unit).

To resolve **CAR #11** the PP explained that Camil power plant does not import electricity from the grid to run the power plant equipments. It is the rice mill that imports electricity from the grid when the power plant is not generating enough energy. Considering this, the baseline emissions for electricity imported from the grid is not applied to the Camil power plant project.

The DOE accepted the explanation provided by the PP however asked the PP to remove the rice mill from the project boundary in section B.3. of the PDD. The PP subsequently changed the PDD to exclude the rice mill from project boundary. The DOE checked that the project boundary was corrected in page 12 of the PDD version 3 and confirmed that the boundary clearly showed that the Rice Mill was not included in it.

CAR #11 was therefore closed out.

Paragraph 14 of the methodology AMS-I.C explains how the baseline emissions from the production of electricity shall be calculated and states that heat generation from the project are not eligible.

The PDD states that no emission reductions will be claimed for heat generation and because there was no captive power plant generation in the baseline the emission factor for the grid will be applied for electricity exported to the grid. The DOE confirmed that this is in accordance with paragraph 14 of the methodology.

The ex-post emission factor of the grid was calculated using 2007 values, which is correct (most recent data available at the time of the submission of the request for renewal of the crediting period to the DOE). Nevertheless the vintage was not clearly defined in the PDD version 1. **CAR #12** was raised to ask the PP to correct this.

CAR #12: data vintages which have been used and which will be used for the calculation of the EF are not clearly specified in all sections of the PDD, neither the methodologies and/or tools which apply.

The PP corrected the PDD version 4 to clearly state the data vintages used. The DOE checked that the vintages and year used (ex-post EF for the year 2007) was consistent throughout the PDD and the spreadsheet for calculation of ERs. The DOE also confirmed that they were in accordance with the applicable methodologies and with the “Tool to calculate the emission factor for an electricity system” and that the steps followed in the later were clearly specified.

CAR #12 was therefore closed out.

With regards to methodology AMS-III.E, the baseline emissions are the amount of methane that would have been emitted from the decay of the cumulative quantity of waste diverted or removed from the disposal site, to date, by the project activity, calculated as the methane generation potential using the “Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site”.

The version of the tool was not indicated in the PDD Version 1 so **CAR #13** was raised..

CAR #13: The version of the “Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site” in the PDD version 1 needs to be updated.

The PP revised the PDD in order to close **CAR #13**. The DOE checked and confirmed that the PDD version 2 used the latest version of the "Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site" (version 4, - ref. 49).

CAR #13 was closed out.

It was verified during site visit that the waste (rice husks) is stockpiled. The adjustment to the parameters k (decay rate) and MCF (Methane Correction Factor), as requested by the methodology in the case of stockpiling, were done in the PDD version 1.

In determining the waste prevented from disposal the year of 2000 has been used as the control group as also requested by the methodology.

The methodology also requires the biomass that will be taken away from the stockpiles to be taken into account. This has already been discussed above in CL#5, CL#6 and CL#7 (about removed waste for other purposes and about ashes), in the section about applicability criteria of this report.

In summary, the only alternative baseline scenario presented in the PDD is the continuation of the situation before project activity. After the revision of the issues raised in the findings above, the DOE can confirms that the baseline selection is correct.

Methodology AMS-I.C lists 5 options for the baseline scenario. The PDD issued for the renewal of the crediting period reflects these options. The PPs have correctly selected the option relevant to the situation described as the situation previous to the implementation of the project amongst the alternatives and uses the correct emission factors of the Brazilian National Grid as per "Tool to calculate the emission factor for an electricity system" version 1.1 and as per approved methodology.

The methodology AMS-III.E gives only one option to the alternative scenario: "the situation where, in the absence of the project activity, organic waste is left to decay within the project boundary and methane is emitted to the atmosphere". This option is also reflected in the PDD and it is done in accordance with the "Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site" version 4 as required by the approved methodology.

4.4 Application of Baseline Methodology and Calculation of Emission Factors

4.4.1 Application of Baseline Methodology

<u>Baseline Emissions</u>

The methodology AMS-I.C. states that baseline emissions are the fuel consumption of the technologies that would have been used in the absence of the project activity times an emission coefficient.

For electricity imported from the grid the baseline shall be calculated as the amount of electricity produced with the renewable energy technology (GWh) multiplied by the CO_2 emission factor of that grid. The emission factor for grid electricity shall be calculated as per procedures detailed in AMS-I.D.

The emission factor for the displacement of electricity (the exceeding) should be calculated according to paragraph 11 of the methodology. Since in CAMIL electricity was never produced in the baseline (i.e. in captive power plants) the emission factor of the electricity exported will be the one for the grid.

The formula used in the PDD version 1 was:

$BEy= EGy*EFy$

BEy = Baseline emissions

EGy= Energy generated by the project

EFy = Emission factor of the grid as defined by the "Tool to calculate the emission factor for an electricity system".

But at times it was reported as:

$BEy= \sum(Egj,y*Efj,y)/12$

The DOE raised the following corrective action to ask the PPs to correct such inconsistencies.

CAR #14: The Baseline emissions formula are sometimes described in the PDD as BEy= EGy*EFy and some times as BEy= ∑(Egj,y*Efj,y)/12. Revise the whole PDD for formula inconsistencies (not just this one) and use the formulae which best describe the procedures in the methodologies and tools so that the same procedure is used in the ex-ante estimates of emissions reduction and during the monitoring period.

The PP reviewed Version 4 of the PDD and the DOE confirmed that all formulas including the baseline emissions formula of the methodology AMS-I.C. were correct and consistent. CAR#14 was closed out.

The formula presented in the PDD version 1 for the calculation of the emission factor of the grid was:

$$Efj,y = (W_{OM} * EF_Omj,y)+(W_{BM}*EF_Bmy)$$

This was different from the specified formula in the tool and because the calculations were carried out on a monthly basis using the result for the formula above, the resulting electricity baseline was higher than if calculated as specified in the tool. To guarantee that the correct method would be used during the crediting period the DOE raised the following corrective action:

CAR #15: The formula used to calculate the emission factor of the grid is different from the one given in the "Tool to calculate the emission factor for an electricity system" version 1.1. The differences in the formulas applied have resulted in a difference of + 2% in the BEy value calculated.

In order to resolve **CAR #15** the PP revised the Spreadsheet calculations dated 22/09/09 (last version of the spreadsheet calculations) and the DOE verified that it used the formulas as per "Tool to calculate the emission factor for an electricity system". The PDD was also checked by the DOE and found to be revised by the PP accordingly. The Emission Factor (combined margin) calculated is 0.1309 tCO2/MWh. It will be calculated ex-post from yearly monitored data, as per the methodology/tool requirements.

CAR #15 was therefore closed out.

The methodology AMS-III.E states that the baseline should be calculated as follows:

$$BEy = BE_{CH4,SWDS,y}$$

Where $BE_{CH4,SWDS,y}$ is calculated as per "Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site" in tCO_2e.

The formula used in the PDD version 1 was $BEy = BE_{CH4,SWDS,y} – Mdy,reg * GWP_CH_4$

The diffrences in the formula were resolved in CAR #19 below and the formula was changed in the PDD to $BEy= BE_{CH4,SWDS,y}$ as required by the methodology.

The methodology asks that in determining the amount of waste prevented from disposal (Wjx) as input into formula 1 in the Tool, the percentage of the biomass that is combusted in the project activity and which would have been dumped in a stockpile in the baseline situation and also would have remained in the stockpile for a sufficient period of time to decay shall be determined. A quantitative analysis shall be carried out using one of 3 options described in the methodology AMS-III.E page 5, in order of priority.

Factors <u>like</u> how much of the biomass to be used as fuel should be analyzed and quantified to show what percentage of the biomass would have remained in the stockpile.

Restrictions for leaving the biomass in a stockpile indefinitely should also be taken into account.

Both of the factors above should be quantified in Wj,x and adjusted accordingly, as the model in the Tool assumes that the waste would have remained at the disposal site for sufficient time to fully decay.

The choice of year 2000 as the control group for the above analysis had not been properly justified in the PDD version 1 and restrictions for leaving the biomass in a stockpile were not discussed in section B.6.1.

CAR #16: The methodology AMS-III.E requires a quantitative analysis to be carried out using one of 3 options described in page 5, in order of priority. It also states that restrictions for leaving the biomass in a stockpile indefinitely should also be taken into account. The choice of year 2000 as the control group has not been properly justified in the PDD and there is no discussion of the existence or not of restrictions in leaving the biomass in stockpiles.

To resolve **CAR #16** the PP sent to the DOE the Operational License by FEPAM to show that there are no restrictions on leaving biomass in the landfill area. The Operational License by FEPAM (n. 3270/2005 – DL,

dated on 5th July 2005) was verified and the DOE confirmed that there are no restrictions on leaving the biomass in the landfill area.

An explanation with regards to the option of quantitative analysis carried out as required by the Methodology AMS-III.E was added to the PDD version 2. Year 2000 was chosen as the baseline scenario since this was the year before the implementation of the power plant and the most similar scenario that would had happened if the power plant had not been built. The DOE agreed that year 2000 would represent the most recent data on waste disposal practices, before the implementation of the power plant, and thus the most accurate baseline scenario. However there was no explanation in the PDD version 2 as to why option 1 (project specific waste disposal data from at least 3 years prior to the implementation of the project activity) was not chosen. The reasoning for not choosing option 1 was subsequently added to the PDD version 3. The reason was that data on waste disposal practices from at least 3 years prior to the implementation of the project activity did not exist.

The DOE accepted the explanation as reasonable and since it had already agreed in the appropriateness of year 2000.

CAR #16 was closed out.

The MCF value (0.28) and k value ("for the relevant waste type must be the lower value from the range provided for the Boreal and Temperate Climate Zone as listed in Table 3.3 in Chapter 3, volume 5 of 2006 IPCC Guidelines for National Greenhouse Gas Inventories") are determined by the approved methodology too since waste in this case is disposed of in stockpiles. The value of k was correctly selected by the PP as 0.1 as this is the lower value for the wet range of the Boreal and Temperate Climate Zone of the Rapdly degrading waste of the table 3.3 in chapter 3 of volume 5 of 2006 IPCCC Guidelines for National Greenhouse Gas Inventories.

The PDD explains that the determination of the parameter Wj,x is done in the following manner as to take account of the use of biomass used as fuel in the project before project was implemented (year 2000) and other conservative measures:

Wj,x = Qbiomass * (1-MC)

Qbiomass = amount of rice husks prevented from disposal in the solid waste disposal site

MC = Moisture content

That indicates that the moisture content is being discounted when determining Wj,x.

CL #17: The discounting of moisture content from the biomass is not called for in the methodology AMS-III.E or the "Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site". Clarification is required as to why this is done. The reference given in the PDD section B.6.2 can not be found in the web so reference has to be provided. This reference will also be used to confirm husk to rice ratio used in the determination of Qbiomass_total (Qgenerated – Qremoved, where Qgenerated = Rice production at Camil * husk to rice ratio).

To resolve answer **CL #17** the PP explained that the moisture content of rice husks is 12%, which is very dry, also called 'air dry'. The "Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site", does not indicate whether with DOCj (% 'dry waste') 'air dry' or 'oven dry' is meant. However, as to be conservative, discounting of the moisture content is applied.

The DOE also checked the Federal University of the State of Rio Grande do Sul, 3rd Tecnical Report – Utilization of natural gas in the drying of rice grains (ref. 34) for the moisture content and confirmed the value of 12%. That is indeed very dry even if the "tool" means oven dry, and agrees that by discounting the 12% moisture content in rice husks the PP is being conservative since it is applying the correct dry waste DOCj value of 38%. The husk to rice ratio used in the determination of Qbiomass_total was also confirmed as 23% (as stated in Ref. 34). CL# 17 was therefore closed out.

Qbiomass = Qbiomass_total – Qbiomass_baseline (year 2000)

Where:

Qbiomass total = the total amount of biomass consumed in the project activity in the year x (tonnes per year, wet basis)

Qbiomass_baseline = biomass already consumed in the baseline situation (tonnes per year, wet basis). It is determined by data available from the year 2000 when Camil Itaqui biomass electricity project generation plant was not installed yet.

Qbiomass_total = Qgeneratedx – Qremoved

Where

Qgenerated = HC * Rpwith-husks,x

Where:

Rpwith-husks,x = amount of rice with husks produced in the year x (tonnes per year)

Qremoved = amount of rice husks removed by truck to landfill in year x (tonnes/year)

HC = Rice Husk Content of rice with husks (weight percentage %)

Rpwith-husks,x is what is actually measured (weighed). This is then multiplied by the known value of the percentage husk in the rice with husks. This method of measurement was used in the last crediting period and will continue to be used in this crediting period. The amount of rice husks taken to the landfill (Qremoved) are actually measured by lorries leaving the project site (each truck that leaves CAMIL industrial unit receives an invoice. Therefore, the number of invoices collected along a given period equals to the number of trucks leaving CAMIL industrial unit in a given period). This is discounted from the total amount generated to get the total used in by the project activity.

Qbiomass_baseline has been determined in the same way but with data from 2000. Thus:

Qbiomass_baseline = Qgenerated_baseline – Qremoved,baseline

Where:

Qgenerated,baseline = amount of rice husks produced in the baseline scenario (tonnes/year)

Qremoved,baseline = amount of rice husks removed by lorries in the baseline scenario (tonnes/year).

DOCj = 38% as food/dry waste. This is correctly selected according to the tool (ref.49).

With regards to OX (the oxidation factor), the value used was 0. However, the DOE verified from the landfill operational license (ref.20) that the landfill is to be covered with soil and subsequently planted with grasses which requires a value of 0.1 to be applied.

CL #18 The OX used is 0 with the justification that the solid waste disposal site is not covered with oxidizing material however the operational license of the landfill requires it to be subsequently covered with soil for subsequent planting of grasses.

To resolve **CL #18**, the PP changed the oxidation factor to 0.1 in version 2 of the PDD and version 2 of the ER calculations. The DOE checked the change.

CL #18 was closed out.

Section B.6.1 of the PDD version 1 stated that the parameter f (Fraction of methane captured at the SWDS and flared, combusted or used in another manner) from the 'Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site' was zero. This has been checked during site visit. However, there was no discussion about why the Mdy,regy had been added to the formula in the methodology AMS-III.E. Furthermore neither of these parameters was included in section B.7.1 of the PDD.

To address this issue **CAR #19** was raised by the DOE. To resolve **CAR #19** the PP removed *Mdy,regy* from the PDD version 2 and included parameter f (Fraction of methane captured at the SWDS and flared, from dumping waste at a solid waste disposal site) in section B.7.1. The DOE checked the changes were carried out.

CAR #19 was closed out.

Project Emissions

There are no requirements to account for project emissions under the approved methodology AMS-I.C.

According to methodology AMS-III.E

Eq (1) PEy = PEy,comb+ PEy, transp + PEy,power

Where:

PEy = project activity emissions in year "y" (tCO_2)

PEy, comb = Emissions through combustion and gasification of non-biomass carbon of waste and RDF/SB in the year "y" (tCO_2)

PEy, transp = Emissions through incremental transportation in the year "y" (tCO_2)

PEy power = Emissions through electricity or diesel consumption in the year "y" (tCO_2)

The PDD explains that PEy, comb = 0 because project only combusts rice husks. This has been confirmed during site visit (Annex 1). So the formula is reduced to:

<u>PEy = PEy, transp + PEy,power</u>

According to the methodology's

Eq (3) PEy, transp = $(Qy/Cty)*DAFw*EF_{CO2} + (Qy,ash/Cty,ash)*DAFash*EF_{CO2} + (Qy,_{RDF/SB}/Cty,_{RDF/SB})*DAF_{RDF/SB}*EF_{CO2}$

Where:

Qy = Quantity of waste combusted in the year y (tonnes)

Cty = Average truck capacity for waste transportation (tonnes/truck)

DAFw = Average incremental distance for waste transportation (Km/truck)

EFCO2 = CO2 emission factor from fuel use due to transportation (tCO2/Km)

Qy,ash = Quantity of combustion residues produced in year y (tonnes)

Cty, ash = Average truck capacity for residues transportation (tonnes/truck)

DAF,ash = Average distance for residues transportation (KM/truck)

Qy, RDF/SB = Quantity of RDF/SB produced in the year y (tonnes)

Cty,RDF/SB = Average truck capacity for RDF/SB transportation (tonnes/truck)

DAF RDF/SB = Aggregate average distance for RDF/SB transportation to the storage in the production site as well as to the end users site

PDD Version 1, page 29 states that in accounting for project emissions only ash is transported as a result of the project activity and therefore the formula applied is:

PEy, transp = $(Qy,ash/Cty,ash)*DAFash*EF_{CO2}$

Nevertheless, during site visit the PP mentioned that that there is a new site where husks are stored (Address: Borges de Medeiros, 2225) at approximately 1km from the project site. The DOE therefore opened **CAR #20** as follows.

CAR #20: The PDD Version 1, states that only ash is transported as a result of the project activity, however it was mentioned by PPs during the site visit that there is a new site where husks are stored (Borges de Medeiros, 2225) at approximately 1km from the site. The exclusion of these emissions from the project have to be justified in the PDD in sections B.3.1 – about project boundary sections (refer to CAR#8) – and B.6.1, due to requirements of the new version of the methodology AMS-III.E (paragraphs 17 (b) I, and 19 pages 3 and 4/10).

To resolve **CAR #20** the PP explained that the site at Borges de Medeiros, 2225 is a place where they keep for one or two days the rice husks when the feeding system of the boiler is full. It is not a landfill where the residues are left for decay.

The distance between the Camil address at Rua Afonso Escobar, 1193 and Avenue Borges de Medeiros, 2225 is around 1 km and the emissions related have not been considered in the project once the distance is small and once the period the rice husks are left is really short.

The DOE re-examined the text in the methodology AMS-III.E which states that project activity emissions consist of: "Incremental distances between the collection points to the project site as compared to the baseline disposal site". The distance the rice husks travelled to the baseline disposal site is approximately 10 km (checked by the DOE during site visit – Annex 1) and the distance to and from the storage place of the rice husks before it is combusted is approximately 1.3km so that the DOE concludes that there is no incremental distance travelled when these are compared. The distance from the project site to the landfill site were checked during site visit in the car's odometer and recorded (refer to Annex 1 of this report).

The DOE can confirm that the only source of project emissions to be accounted for according to methodology AMS-III.E are emissions from transportation of ash since RDF and SB are not carried out on site.

CAR #20 was closed out.

The DOE also raised a clarification about the exclusion of emissions from electricity consumption as follows:

CL #21: PEy, power was excluded from project emissions even though this is a requirement of the methodology AMS-III.E (see paragraph 17 I p.3/10). Clarification is required since during the last crediting period, the PDD required the PPs to monitor energy imported from the grid and the values for energy imported appear in past monitoring reports.

The PP explained that PEy, power was excluded because 'all electricity needed to run the rice husk power plant is produced by the same power plant'. Therefore it is not necessary to include PEy under AMS IIIE. (Refer to response under CAR #11).

The DOE closed CAR #11 above, because it became understood from PP's answers that energy utilised in the Rice Mill is from the grid and that this is not within the project boundary. The DOE checked that the project boundary had been corrected in page 12 of version 3 of the PDD. The boundary in version 4 of the PDD clearly shows that the Rice Mill is not included in the project activity.

Furthermore the PP explained that during the first crediting period, the energy imported from the grid to the rice mill was monitored and used only as a double-check on the electricity measured by the electronic supervisory system but that this QA/QC procedure was time consuming and unnecessary given that it is not requested by methodologies AMS-I.C or AMS-III.E, and that energy meters will be calibrated.

Page 30 of the PDD version 3 states that "All the electricity needed to run the rice husk power plant is produced by the same power plant. So the use of electricity is renewable and the emission through electricity or diesel consumption is zero."

CL #21 was closed out given that the DOE checked that in past verifications the energy imported was not discounted it was (as the PP informed) only used as a double check that the meter was operating correctly.

The formula used in the PDD for project emission is therefore summarized as Pey=Pey,transp. After the closure of the findings, which are mentioned above the DOE can confirm that this is correct.

Section B.6.1 of the PDD also states that the amount of combustion residues produced is determined in the following way:

$$Q_{y,ash} = AC * Q_{biomass}$$

Where

AC = ash content in rice husks (18% weight)

Qbiomass = quantity of biomass treated under the project activity (tonnes/year)

Applying an ash to husk factor to Qbiomass gives an indirect measure of Qy,ash. However, reference to the value of 18% was not initially provided to the DOE or cited in the PDD so that the following corrective action was opened.

CAR #22 reference to the ash to husk factor applied to find Qy,ash is missing from PDD.

The PP provided the document "UFRGS, Relatório Técnico N° 3 – Projeto: Utilização de gás natural na secagem de grãos de arroz - written by Prof. Carlos Bergmann Publication" shows the ash content of the biomass (ref. 34) to the DOE and the value for the ash to husk factor checked was 18.6%. The PP subsequently revised the PDD to version 4 and the DOE verified that the value used for ex-ante calculations in section B.7.1 of the PDD was 18.6% which is the correct value.

CAR #22 was therefore closed out.

Leakage Emissions

PDD version 1, page 23 states that "No leakage calculation is required, as no energy generating equipment is transferred from another activity and no energy generating equipment is transferred to another activity."

The requirement in the methodology AMS-I.C version 13 is no different from the methodology used in the past crediting period (AMS-I.D version 7) and the situation of the project has also not changed since previous crediting period (the same energy generating equipment is used).

PDD version 1, page 30 states that "The controlled combustion technology is not an equipment type transferred from/to another activity. Therefore leakage does not need to be considered."

Methodology AMS-III.E version 15.1 asks to consider leakage if equipments are transferred from another activity or if the existing equipment is transferred to another activity. The project situation has not changed from previous validation (the boilers used are still the same). There was no transfer of equipments from or to the project.

Emission Reductions

Page 21 of the PDD version 1 has the following formula for the direct calculation of emission reductions due to production of electricity:

$$ER_{IC} = BEel$$

Where

ER_{IC} is the Emission Reduction due to thermal energy for the user with or without electricity (tCO2eq)

BEel is Baseline Emissions of electricity generation (tCO2eq)

This is in accordance with methodology AMS-I.C.

Page 24 of the PDD version 1 has the following formula for the direct calculation of emission reductions due to avoidance of methane production from biomass decay through controlled combustion.

$$ER_{IIIE} = BEy - (PEy + Leakage_y)$$

This is in accordance with methodology AMS-III.E. The formulas which feed into this one and methodological choices made have already been thoroughly discussed above.

4.4.2 Ex-ante Data and Parameters Used

In the initial desk study, the DOE assessed all ex-ante data parameters used against the approved methodologies AMS-I.C and AMS-III.E and respective tools previously mentioned in this report.

The reference for the value for HC has been asked in CL #17 above and checked. The value of 23% is correctly quoted.

OX value has also been questioned in CL#18 above and was changed from 0 to 0.1. It is now correct.

The k value is 0.1 and is correctly quoted from the wet range of the Boreal and Temperate Climate Zone - Rapdly degrading waste of the table 3.3 in chapter 3 of valume 5 of 2006 IPCCC Guidelines for National Greenhouse Gas Inventories. MCF (0.28) was provided by methodology AMS-III.E.

All other values and sources for: wOM (weighting of operating margin emission factor), wBM (weighting of build margin emission factor, EF for the built margin (see Ref.21). Correctly quoted as 0.25, 0.75 and 0.0775 respectively. The combined margin EF for the grid was correctly calculated as 0.1309 tCO2/MWh.

Qbiomass_baseline (which is Qgenerated_baseline – Qremoved_baseline) has been validated against Camil Industry Maps which are spreadsheets used by Camil to map the production and volume of rice in all different stages of the production line every month and which have the values of RPwith-husks baseline (ref. 45). This in turn is multiplied by HC gives Qgenerated_baseline, the internal report of rice husks removed from Camil (ref. 46) and invoices which feed into the internal report of rice husks removed (ref. 25) for Qremoved baseline.

Model correction factor, F (fraction of methane in the solid waste disposal site gas), DOCf (fraction of degradable organic carbon that can decompose), DOCj (fraction of degradable organic carbon in each waste type) are provided by the "Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site" (ref. 49).

EFdiesel,CO2 was checked against references provided in the PDD (ref. 43, 44) and come from official sources or replicable records.

When checking whether the ex-ante parameters were reported and placed in the correct sections of the PDD (section B.6.2) the DOE found that some of them were misplaced and raised the following corrective action.

CAR #23: Section B.6.2 of the PDD version 1 does not reflect the ex-ante parameters mentioned in the methodology AMS-I.C and the 'Tool to calculate the emission factor for an electricity system' or the requirements of the latest 'Guidelines for completing the simplified project design document (CDM-SSC-PDD)' which says that "This section shall include a compilation of the data and parameters NOT monitored but determined upfront so as to be available for validation. Data from monitoring (e.g. measurements after the implementation of the project activity) should not be included here but in the table in section B.7.1."

All parameters must be revised to ensure they are placed under the relevant data sections (B.7.1 or B.6.2).

Revise all parameters listed in section B.7.1 so that it complies with requirements of the methodologies AMS-I.C. and AMS-III.E, the 'Tool to calculate the emission factor for an electricity system', the 'Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site' and the requirements of the latest 'Guidelines for completing the simplified project design document (CDM-SSC-PDD)'.

The PP subsequently revised all parameters listed in section B.6.2 and section B.7.1 in the PDD version 4. The DOE verified that these sections then complied with requirements of the methodologies AMS-I.C. and AMS-III.E, the 'Tool to calculate the emission factor for an electricity system', the 'Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site' and the requirements of the latest 'Guidelines for completing the simplified project design document (CDM-SSC-PDD)'.

CAR #23 was therefore closed.

4.4.3 Calculations of Emission Reductions

Baseline emission reductions for the methodology AMS-IC was correctly calculated using 2007 OM (ex-post) and BM (from the site of the Brazilian Ministry of Science and Technology following guidelines of the 'Tool to calculate the emission factor for an electricity system') and estimates of energy generated with Camil historical data for 2005, 2006 and 2007. The data for 2007 was checked during the validation visit and it is correct (see electricity generation reports (ref. 26). The values for the years of 2005 and 2006 were similar and because this will be a monitored parameter they are considered reasonable estimates of energy generated by the project activity.

Project emissions are zero for this same methodology. This is correct.

Baseline emissions for the methodology AMS-III.E: all required steps in the methodology as well as the tool have been followed in the spreadsheet calculations. A few issues have been raised with the choice of certain parameters and assumptions (see section 4.4.1of this report) but were resolved.

The DOE found that steps in the calculations of project emissions in the PDD and spreadsheets followed methodology specifications.

With regards to input factors of methodology AMS-I.C:

As stated above, values used for energy generated (EGy) were verified.

Parameter EFgrid_Omy, EFy, BEy are based on provable input parameters (see Ref.21 for EFs and Ref.26 for EGy).

With regards to input factors of methodology AMS-III.E:

Because the method of determining rice husk production (or Qgenerated) has changed during the last crediting period after a request for review and ultimately this affects the calculations of the ERs in the second crediting period, the values for RPwith-husks,x (rice production with husks – which is the indirect measurement used to determine rice husks) for the first crediting period had to be verified again. The input

parameters for historical Qgenerated were checked during site visit by sampling the years of 2002, 2006 and 2007 and crosschecking it with Camil Industry Maps which are spreadsheets used by Camil to map the production and volume of rice in all different stages of the production line every month (ref. 22). The year of 2007 was also crosschecked against ref. 23 and ref. 24. ref. 23 contains reports downloaded straight from Camil's rice data management system (Datasul EMS 204) during site audit. Ref. 24 contains invoices which feed into this system. The values used to determine Qremoved were checked against ref. 46 which is Camil's report on the rice husks removed by the trucks (Speed Transport, an outsourcer). A sample of Speed invoices for the year of 2007 (ref. 25) were in turn crosschecked with that. Values were therefore provable input parameters.

All of these values feed into Qbiomass_total, Qbiomass,x and Wx respectively. The values from 1st of July 2006 to 30th June 2007 have been used as estimates for Wx for the next crediting period. Since this parameter will be monitored the values used are deemed reasonable.

Qy,ash is also determined from Qbiomass_total so that the verification of Qgenerated was also important to determine this parameter.

CAR #24: Although Qgenerated is seen in section B.7.1 and it is an integral part in the determination of the ERs, this parameter was not explained in sections B.4, B.6 and B.6.3.

The explanation of how to calculate Qgenerated was subsequently added by the PP to sections B.4, B.6 and B.6.3 of the PDD version 2 and the DOE checked that this explanation made the calculations more transparent to the reader.

CAR #24 was therefore closed out.

MC and AC's reference was asked in section 4.4.1 of this report.

CAR #25: It was not evidenced how the value for Cty,ash was estimated. Furthermore, methodology AMS-III.E p.9 requires this parameter to be measured and monitored. It was also not mentioned in the PDD version 1 how this will be done.

To resolve CAR#25 the PP revised the PDD and sent the document "Capacidade_cinza-caçamba" by Speed transportation Ltda (ref.39) as evidence of the value of the trucks' ash carrying capacity. The revised PDD was checked by the DOE and the parameter CTy, ash showed as being monitored once a year in sections B.6.1, B.6.3 and B.7.1. The DOE checked and confirmed that the value is 7.66 t/truck.

CAR #25 was therefore closed.

GWP_CH4 is from 2006 IPCC Guidelines for National Greenhouse Gas Inventories (21).

The parameter f used was 0. The value used has already been discussed in previous sections.

The DOE checked the formulas applied and steps of the spreadsheet ERs calculations (ref. 27) and can confirm that they were all in accordance with the approved methodologies used and respective tools.

4.5 Application of Monitoring Methodology and Monitoring Plan

4.5.1 4.5.1 Compliance with Approved Methodology

Indicators of methodology AMS-I.C:

Energy generated (EGy), and the emission factor operating margin (EF_OM) are correctly chosen.

During review of documentation the DOE noticed that the approved methodology required thermal energy to be measured even though this value does not come into the ERs calculations. The DOE therefore raised the following corrective action.

CAR #26: The thermal energy does not come into the ERs calculations, however the methodology requires it to be measured. This parameter is not in section B.7.1 of version 1 of the PDD.

The PP subsequently revised the PDD and the DOE checked and confirmed that in version 3 of the PDD the parameters required to calculate the thermal energy generated, that is, boiler outlet steam flow, temperature and pressure, were shown in section B.7.1 and will be monitored.

CAR #26 was therefore closed out.

Indicators of the methodology AMS-III.E:

The parameter Wx required by the tool is indirectly monitored. By weighing the rice with husks entering Camil's process (or Rpwith-husks,x) and later applying a rice to husk factor from literature to this value, the amount of rice husks produced by Camil (or Q_generated) is monitored. The amount of rice husks taken away to the landfill (Q-removed,x) is also measured and this value is subtracted from the Q_generated to find out the value of the rice husks consumed by the project activity (or Qbiomass_total). The baseline is than taken from this value to generate Q_biomass. Wx is monitored by subtracting a moisture content value to Q-biomass,x.

The measurement of this parameter using Rpwith-husks,x was already approved in the previous crediting period as well as the subtractions of Q-removed,x to find out the value of rice husks consumed by the project activity (Qbiomass_total). The biomass is indirectly measured and the assessment team found that this is in compliance with the methodologies AMS-III.E, and AMS-I.C, with the "Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site" and with the "Indicative simplified baseline and monitoring methodologies for selected small-scale CDM project activity categories – General Guidance."

The discount of MC from the value of biomass consumed in the project activity was already discussed above in CL #17, it is not called for in the approved methodology but its use is conservative.

The subtraction of the baseline from Qbiomass_total is a requirement of the methodology.

GWP_CH4 is required by the tool.

F has already been extensively discussed above.

Qy,ash (or the quantity of combustion residues produced in the project activity) is indirectly measured using the same principle of Wx. It applies an ash content factor, which is monitored (AC), to the Qbiomass_total (which is the total generated by the project activity before deductions of the baseline).

Cty,ash is required to be monitored and it is found in section B.7.1 of the PDD version 4.

The exclusion of rice husks transportation and electricity consumed by the project have already been extensively discussed above.

The DOE confirms that choices of project GHG indicators in the PDD version 4 are complete, clearly described and in conformance with the requirements set by the approved methodologies.

4.5.2 Implementation of the Plan including QA and QC Procedures

AMS-I.C

Energy generated (EGy) will be monitored continuously by the electronic supervisory system.

During the desk review the DOE found that the specifications of the calibration of the equipment that measures energy generated was not in compliance with the 'Indicative Simplified Baseline and Monitoring Methodology for Selected Small-Scale CDM Project Activity Categories' General Guidance (Ref.28). The DOE then raised the following corrective action:

CAR #29: Section B.7.1. of the PDD version 1, parameter EGy,j states that "According to the measurement equipment supplier, the equipment does not require periodically calibration; however, to guarantee that the equipment is calibrated, a calibration has been done in 2008 and the accuracy error found was below 1%".

The 'Indicative Simplified Baseline and Monitoring Methodology for Selected Small-Scale CDM Project Activity Categories' General Guidance (Ref.28) states that "Measuring equipment should be certified to national or IEC standards and calibrated according to the national standards and reference points or IEC standards and recalibrated at appropriate intervals according to manufacturers specifications, but at least once in 3 years".

The PP subsequently changed the PDD to address the issues raised in CAR#29.

The DOE checked the revised PDD and can confirm that it now states that the "measuring equipment will be certified and calibrated by the equipment supplier according to national standards and recalibrated at least once in 3 years".

CAR #29 was therefore closed out.

The EF of the grid will be monitored using data from the Brazilian DNA (The Brazilian DNA made available the operating and the building margin emission factor calculated using option c – Dispatch data analysis OM. More information of the methods applied can be obtained in the DNA's website (http://www.mct.gov.br/index.php/content/view/4016.html) and vintage will be used in the project activity).

AMS-III.E

Section B.7.1 states that Rpwith-husks are taken from "Rice production numbers of the Camil Itaqui rice processing plant". This was seen during verifications in the previous crediting period. The value weighed by the flux balance is the one used to measure this parameter. This is not described in section B.7.1 of the PDD.

CAR #27: Section B.7.1 of the PDD does not specify the type of equipment used to measure the value of Rpwith-husks.

CAR #27 was subsequently closed out as the PP included in PDD version 3, and the DOE confirmed, the use of the flux balance to measure RPwith-husks.

Also during desk review, the DOE found that the calibration of the flux balance, which in this crediting period (as opposed to previous) will be the sole instrument used in the measurement of the biomass consumed by the project, should be in accordance with the 'Indicative Simplified Baseline and Monitoring Methodology for Selected Small-Scale CDM Project Activity Categories' General Guidance (ref. 28). The following corrective action was thus raised.

CAR #30: Since the flux-balance is an equipment which will be used to measure a variable most directly related to the emission reductions (e.g. the quantity of rice with husk used to calculate the amount of the husk used as fuel inputs) it should also be calibrated according to the 'Indicative Simplified Baseline and Monitoring Methodology for Selected Small-Scale CDM Project Activity Categories' General Guidance (ref. 28)

The DOE checked section B.7.1 of the PDD version 3 and it now states that "the flux balance will be calibrated according to the Brazilian standards at least once in 3 years".

CAR #30 was therefore closed out.

With regards to the monitoring of MC, AC and GWP_{CH4} the DOE raised the following corrective action request.

CAR #28: Section B.7.1 of the PDD says that moisture content (MC) and Ash Content (AC) will be measured through a representative sample and once. It is not clear how the PPs ensure a representative sample. Furthermore, the 'Indicative Simplified Baseline and Monitoring Methodology for Selected Small-Scale CDM Project Activity Categories' General Guidance (Ref.28) states that "Data elements that are generally constant and indirectly related to the emission reductions (e.g. Emission Factors, Calorific Values, System Efficiencies) should be measured or calculated at least once in an year, unless detailed specifications are provided as part of the indicated methodology. GWP_CH4 is also required to be monitored annually by the "Tool to determine methane emissions avoided from dumping of waste at a solid waste disposal site".

To resolve **CAR #28** the PP revised the monitoring plan to say that MC and AC will be measured annually. This is corrected in section B.7.1. of the PDD. GWP_{CH4} has also been moved to section B.7.1 and will be monitored annually by the PP (the current information is that a value of 21 is to be applied for the first commitment period of the Kyoto Protocol).

The DOE than carried out the following assessment:

1) The PDD version 3 stated that the moisture content will be measured through laboratory analysis using appropriate sample. As suggested by the study in ref.34, "UFRGS, Relatório Técnico N° 3 – Projeto: Utilização de gás natural na secagem de grãos de arroz" (portuguese for Federal University of the State of Rio Grande do Sul, 3rd Tecnical Report – Utilisation of natural gas in the drying of rice grains), 12% MC and 18.6% AC are typical values. The DOE therefore concluded that annual sampling for these two parameters, as indicated in section B.7.1 of the revised PDD, is sufficient for a fair representation of MC and AC of the biomass. GWP_CH4 was also placed in the monitoring plan and monitored annually as per "Tool to determine methane emissions avoided from dumping of waste at a solid waste disposal site"

2) As stated above, parameters MC, AC and GWP_CH4 are now on section B.7.1. as being monitored once a year.

CAR #28 was therefore closed out.

With regards to procedures, the DOE checked during site visit that there were procedures for the collection of electricity data (ref. 14) and rice husk data (Ref.13), and for the calculation of ERs (ref. 15). There were also procedures for the maintenance and calibration of rice balances and energy meters (refer to ref.11 'Balanca aferição manutenção' and ref. 12 'Procedimento de manutenção dos medidores').

Procedures needed to be updated since there were a few changes from the last crediting period to do with the change in methodologies, the way the PDD was written and requests from the EB during the last crediting period. Changes included the fact that there is no monitoring of energy exported to the grid anymore (only the total energy generated by the project activity is monitored) and the fact that the way rice husk data is determine changed. The following corrective action was therefore raised.

CAR #31: the procedures for data collection ('Manual de Arquivamento de Dados de Eletricidade R1', 'Fluxograma registro doctos arroz R1' and 'Procedimentos comunicação – CDM Project Management Planing') and maintenance and calibration ('Balanca aferição manutenção' and 'Procedimento de manutenção dos medidores') have to be re-written to reflect latest changes due to the changes in the way parameters are determined and what parameters are determined (i.e. changes to applicable methodologies and the new monitoring plan in the PDD). Furthermore a copy of the document "CAMIL Itaqui Biomass Electricity Generation Project", Version 2 of March 2006 (cited on page 53 – Section B.7.2 of the PDD version 1) and of the document "Monitoring Protocol" (cited in page 55 of the same section of the PDD) are required.

To resolve **CAR #31** the PP prepared a new "Monitoring Protocol" which combined data acquisition of all parameters related to both approved methodologies used in the project and maintenance procedures in one document to reflect changes to the monitoring plan. The PP also explained that the document 'CDM project management Planning, "CAMIL Itaqui Biomass Electricity Generation Project"' did not contain any additional information compared to the info already presented in the PDD under section B 7.2, therefore this latter document was removed from PDD version 2.

The DOE checked the documents provided by the PP (Monitoring Protocol and annexes – 1, 2 and 3 – refer to ref. 36) and found that information about data acquisition and maintenance of equipment relating to AMS-I.C and AMS-III.E are now found under one document and reflect the parameters of the new monitoring plan of the latest version of the PDD (version 4).

The copy of the document 'CDM project management Planning, "CAMIL Itaqui Biomass Electricity Generation Project" was not provided to the DOE but reference to the document was removed from the PDD with the explanation that this document did not contain any additional information to the PDD. The DOE checked that this document was not referenced in version 4 of the PDD and that the new Monitoring Protocol and its annexes were cited instead.

The DOE checked the new Monitoring Protocol and can confirm that it is a more transparent document than the ones used in the previous crediting period.

CAR #31 was closed out.

The DOE also noticed gaps in the procedures in the PDD itself. The following corrective action was raised to address this issue.

CAR #32: The PDD states that PTZ is responsible for the quality assurance and training. It is clear however that the visits to site only in case of trouble shooting or when the DOE raises corrective actions, is not enough to ensure the delivery of high quality data, good quality assurance and quality control for the monitoring process, as required in the 'Modalities and procedures for a clean development mechanism' (ref. 29), especially with regards to operational requirements.

To resolve **CAR #32** the PP answered that: "Since Itaqui is located far from PTZ, the number of site visits will be limited. However, we will change the organisational structure of quality management by appointment of a Quality Manager at CAMIL.

At the Monitoring Protocol the function of the Quality Manager is explained."

The position of Quality Manager was evidenced in Annex 1 of the Monitoring Protocol (ref.36) by the DOE.

Section B.7.2 of the PDD version 2 still had PTZ as responsible for quality assurance and training, and therefore it is required from PTZ that aspects that ensure high quality data, good quality assurance and quality control for the monitoring process, as required in the 'Modalities and procedures for a clean development mechanism' (Ref.29), especially with regards to operational requirements and the site, be well known.

It is clear that if Itaqui is distant from PTZ, a system of internal audit should be created in order to guarantee that information is passed from the new Quality Manager at CAMIL to PTZ before verification by the DOE is carried out.

FAR #35 was raised to address this issue so that this issue can be addressed by the PP in due course.

CAR #32 was therefore closed out.

The responsibilities of the PPs involved in the project are described in section B.7.2 of the PDD. It states that CAMIL operates the plant and will measure the required monitoring data related to the project (they are the project owners); PTZ is responsible for the interpretation of the monitoring data, preparation of the monitoring reports and quality assurance (they are the project managers); BioHeat International serves as the focal point for communication with the UNFCCC and support to PTZ.

During desk review the DOE noticed that the document 'Fluxograma registro doctos arroz' R1 (ref. 13 – related to data needed in AMS-III.E) shows the flow of the rice data information in CAMIL, but has neither management roles and responsibilities nor data collection roles and responsibilities described in it. The 'Manual de Arquivamento de Dados de Eletricidade R1' (Ref.14 – related to data needed for AMS-I.C.) has a clearer indication of management structure for the acquisition of energy generated data. The DOE then opened the following corrective action.

CAR #33: Operational and management structure (roles and responsibilities) that the project operator will implement in order to monitor emission reductions of the project activity should be described in section B.7.2 or in relevant procedures as described by the 'Guidelines for completing the simplified project design document (CDM-SSC-PDD)' (ref. 2).

To close out **CAR #33** the PP included the roles and responsibilities of the monitoring process at CAMIL in the new procedure called Monitoring Protocol (ref. 36) and respective annexes.

The roles and responsibilities explained in the PDD under the section 'roles and responsibilities' relate to the roles and responsibilities of each company or PPs.

CAR #33 was closed out.

Annex 4 of the PDD version 1 has information on the electricity measurement system and on the data used for the calculation of the baseline scenario.

There is however lack of information about features of the CDM activity related to the methodology AMS-III.E. The corrective action below was raised to address this.

CAR #34: Annex 4 of the PDD has not been filled in accordance with specifications in the 'Guidelines for completing the simplified project design document (CDM-SSC-PDD)' (i.e. information on monitoring equipment, what to do in case of monitoring problems). Considerations raised in CAR#31 and CAR#32 in section B.10.3 should also be taken into account when addressing this CAR.

The PP subsequently added information about equipment relating to methodology AMS.III.E to Annex 4 of the PDD and sent to the DOE the documents 'Declaração Transportadora de casca.JPG' (ref. 37) which is a statement by the company (SPEED Transportes Ltda.) responsible for transporting rice husks from Camil to the landfill, stating the volumetric capacity of the trucks used for the service providers. (21m³).

The document 'Cientec 1986 p144 Rice husk bulk density.pdf' (ref. 38) was also provided. This showed that the rice husk density had an average of 130kg/m³. The PP used the values of 142.86kg/m³ as density and 18m³ capacity in the baseline calculations. This is conservative since it produced values of Qremoved in the baseline 6.16% lower than it would have produced with the values of the references. This in turn produced a higher value for rice husks consumed in the baseline which in turn will produce a lower value for Wjx during the verifications. The PP states in the PDD version 4 that if a new type of truck is introduced for rice husk removal in future this will be measured. Both evidences were therefore checked by the DOE and found to be appropriate.

CAR #34 was closed out.

Apart from a few simplifications (i.e. the sole use of the flux balance for the measuring of biomass as opposed to flux balance and weighbridges used in the last crediting period) and the application of more strict calibration procedures, the monitoring plan has not changed from the previous crediting period so that the verifiability and feasibility of all GHG indicators have already been tested.

FAR #35 – CAR #32 was opened during the DOE's assessment of the renewal of the crediting period saying that: "although the PDD states that PTZ is responsible for the quality assurance and training. It is clear that the visits to site by PTZ only in case of trouble shooting or when the DOE raises corrective actions, is not enough to ensure the delivery of high quality data, good quality assurance and quality control for the monitoring process, as required in the 'Modalities and procedures for a clean development mechanism' (Ref.29), especially with regards to operational requirements."

It has been informed by the PP that frequent visits to CAMIL is not possible since the site is distant from PTZ office and that a new position of Quality Manager will be created at CAMIL to address the above. Nevertheless Section B.7.2 of the PDD version 2 still has PTZ as responsible for quality assurance and training. PTZ is therefore still required to know the aspects that ensure high quality data, good quality assurance and quality control for the monitoring process, especially with regards to operational requirements and the site.

It is clear that if Itaqui is distant from PTZ, a system of internal audit should be created in order to guarantee that information is passed from the new Quality Manager at CAMIL to PTZ before verification by the DOE is carried out.

4.6 Choice of the Crediting Period

The start of the crediting period is on 01/07/2008. This is the first day after the ending date of the previous crediting period.

The request for the renewal of the crediting period was done on December 18th 2007 by email (ref.51) and the expiration of the previous crediting period is on 30/06/2008. This is therefore 6 months before the date of expiration of the previous crediting period and is in accordance with the revised Procedures for Renewal of the Crediting Period for a Registered CDM Project Activity.

The project starting date is 01/04/2001 and the operational lifetime given is of 30 years. This operational lifetime was validated at the time of registration and it is not expected to change in the second crediting period, thus it is considered reasonable.

5. List of Persons Interviewed

Date	Name	Position	Short Description of Subject Discussed
08/07/08	Luiza R. Termignoni	PDD developer – PTZ Bioenergy Ltd.	PDD and parameters used in calculations
08/07/08	Martijn Bis	Consultant BTG Biomass Technology Group for BTG Bioheat	PDD and parameters used in calculations
08/07/08	Diego Silveira	Engineer – PTZ Bioenergy Ltd.	PDD and parameters used in calculations
10/07/08	Carlos Roberto M. Silva	Accountant for CAMIL	Data management
10/07/08	Jairo Xavier Barbosa	Manager for CAMIL	Rice processing and data aquisition
10/07/08	Alex Veppo	Staff at CAMIL's thermoelectric plant	Monitoring of Energy
10/07/08	João Antonio Campagner	Staff at CAMIL's Financial Department	Rice data stored at CAMIL's data management system Datasul EMS204

6. 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, Modalities of communication document, emission reduction calculation sheet etc.) :

/1/ CAMIL Itaqui Biomass Electricity Generation Project – Version 1 (01/07/2008)

CAMIL Itaqui Biomass Electricity Generation Project – Version 2 (30/03/2009)

CAMIL Itaqui Biomass Electricity Generation Project – Version 3 (08/07/2009)

CAMIL Itaqui Biomass Electricity Generation Project – Version 4 (15/09/2009)

/2/ Guidelines for Completing the Simplified Project Design Document (CDM-SSC-PDD) and the Form for Proposed New Small Scale Methodology (CDM-SSC-NM) Version 5 (14/09/2007) (last accessed 03/10/09)
http://cdm.unfccc.int/Reference/Guidclarif/pdd/PDD_guid02_v05.pdf

/3/ AMS.III.E. Avoidance of methane production from decay of biomass through controlled combustion, gasification or mechanical/thermal treatment.
http://cdm.unfccc.int/UserManagement/FileStorage/HXJBK40UFD5I6WYCL3EP8S7N1OGR2Q

/4/ AMS.I.C. Thermal energy for the user with or without electricity.
http://cdm.unfccc.int/UserManagement/FileStorage/CDMWF_AM_YL0327DQSKVFXYQREWRT3VNR58402G

/5/ Project 0231: CAMIL Itaqui Biomass Electricity Generation Project (last accessed on 05/10/2009)
http://cdm.unfccc.int/Projects/DB/TUEV-SUED1135876215.5/view

/6/ Appendix B of the Simplified Modalities and Procedures for Small-Scale CDM Project Activities
http://cdm.unfccc.int/methodologies/SSCmethodologies/approved.html

/7/ Procedures for Renewal of the crediting period of a registered CDM project activity
http://cdm.unfccc.int/Reference/Procedures/reg_proc04.pdf

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):

/8/ ANEEL Authorizing Resolution N°4 (10/01/2005)

Resolução Autorizativa N°4 (10/01/2005)

/9/ FEPAM Operational License N: 3270/2005-DL (05/07/2005)

FEPAM Licensa de Operação N:3270/2005-DL (05/07/2005)

/10/ Braskem wants five rice husk biomass plants in RS (02/09/2008) – last accessed 27th January 2009.

Braskem quer cinco usinas de biomassa no RS a partir da casca de arroz (02/09/2008)

http://www.jornalja.com.br/2008/09/02/braskem-quer-construir-cinco-usinas-de-biomassa-no-rs-a-partir-da-casca-do-arroz

/11/ Weighbridge verification and maintenance

Balanca aferição manutenção

/12/ Procedure for the maintenance of meters

Procedimento de manutenção dos medidores

/13/ Diagram of the registry of rice documents R1

Fluxograma registro doctos arroz R1

/14/ Manual of electricity data archiving R1

Manual de arquivamento de dados de eletricidade R1
/15/ Procedure for communication – CDM Project Management Planning
Procedimentos comunicação – CDM Project Management Planing
/16/ Manual for the maintenance of the thermoelectric
Procedimentos manutenção termoelétrica
/17/ F-CDM-SSCwg ver 01 SSC_174

/18/ Validation Report – CAMIL Itaqui Biomass Electricity Generation Project (last accessed 30/01/09)
http://cdm.unfccc.int/UserManagement/FileStorage/L0J8I9HCBJ0SQV7U1LKZVM1A4VQH8J
/19/ Area of disposal of Camil's rice husks

/20/ Operational License N°2884/2005-DL – FEPAM 13/06/2005
Licensa de Operação N°2884/2005-DL – FEPAM 13/06/2005
/21/ Ministry of Science and Technology (last accessed on 16/02/2009)
Ministério de Ciência e Tecnologia
http://www.mct.gov.br/index.php/content/view/74691.html
/22/ Industry maps 2002, 2006 and 2007 for PTZ –
Mapa industria 2002, 2006 e 2007 para PTZ
/23/ Datasul EMS204 printouts

/24/ Camil Invoices

/25/ Speed Invoices

/26/ Monthly Reports by Camil Alimentos S.A – Totals of electricity generated and exported
Camil Alimentos S.A – Reports of eletricidade do gerador e exportada.
/27/ Calculations PDD Camil Itaqui 2nd crediting period 01 July 08
Calculations PDD Camil Itaqui 2nd crediting period 26 March 09
Calculations PDD Camil Itaqui 2nd crediting period 08 July 09
Calculations PDD Camil Itaqui 2nd crediting period 22 September 09 – last version
/28/ Indicative simplified baseline and monitoring methodologies for selected small-scale CDM project activity categories – General Guidance.
http://cdm.unfccc.int/EB/041/eb41_repan20.pdf
/29/ Modalities and procedures for a clean development mechanism
http://unfccc.int/resource/docs/cop7/13a02.pdf#page=20
/30/ CL 4 – CALDEIRA BIOCHAMM

/31/ CL10 – Baseline boilers

/32/ ABNT NBR 10.004:2004
Brazilian Standards Association – Brazilian Standard 10.004:2004
http://www.aslaa.com.br/legislacoes/NBR%20n%2010004-2004.pdf (last accessed on 24/08/09).
/33/ Laudo Técnico de Classificação de Resíduo Sólido Indurstrial (03/02/2003) – CAMIL – Análise Cinza Casca de Arroz zip file
Technical Report of Classification of Industrial Solid Residues (03/02/2003) – CAMIL – Rice Husk Ash Analysis zip file
/34/ UFRGS, Relatório Técnico N° 3 – Projeto: Utilização de gás natural na secagem de grãos de arroz
Prof. Carlos Bergmann
Federal University of the State of Rio Grande do Sul, 3rd Tecnical Report – Utilisation of natural gas in the drying of rice grains
Prof. Carlos Bergmann
/35/ NA

/36/ Monitoring Protocol 18/03/09 and annexes.

/37/ Declaração Transportadora de casca
Statement Husk Transporters
/38/ Cientec 1986 p144 Rice husk bulk density

/39/ capacidade-cinza-cacamba by Speed Transporte Ltda
ash_truck_ capacity by Speed Transport Ltda

/40/ Camil Itaqui – Google coordinates check

/41/ Camil quarterly reports to FEPAM

/42/ Reltório Técnico 10.08.05

/43/ IPPC 1996 Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories Reference Manual (Volume 3)

/44/ Oak Ridge National Laboratory http://bioenergy.ornl.gov/papers/misc/energy_conv.html

/45/ Camil Industry maps 2000 –
Mapa industria 2000

/46/ UNFCCC website with details of Parties to the Kyoto Protocol
http://maindb.unfccc.int/public/country.pl?group=kyoto

/47/ Decision 1 / CMP.2
http://unfccc.int/resource/docs/2006/cmp2/eng/10a01.pdf#page=3

/48/ Tool to calculate the emission factor for an electricity system (version 1.1)
http://cdm.unfccc.int/Reference/tools/index.html (last accessed 13/10/09)

/49/ Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site (version 4)
http://cdm.unfccc.int/Reference/tools/index.html (last accessed 14/10/09)

/50/ Google maps – CAMIL area
http://maps.google.com/maps?hl=pt-BR&tab=wl

/51/ Notification UNFCCC receipt request renewal crediting period Camil Itaqui 19 Dec 2007

/52/ Annex 2 of MoC

/53/ Fwd Re 0231 - Change of address of project participant

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A.1 Annex 1: Local Assessment

This checklist is designed to provide confirmation of in-country data and information provided in the Project Design Document for Camil Itaqui Biomass Electricity Generation Project

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

Issue	**Findings**	**Source/Means of Verification**	**Further Action / Clarification / Information Required?**
Evidence of the notification of the intention to request a renewal of the crediting period of the registered CDM project activity and check it is within 9 to 6 months prior to the date of expiration of the current crediting period.	An email with the acknowledgement of the request for the renewal of the crediting period done on December 18th 2007 was evidenced. This is six months before the end of the previous crediting period.	Ref.51	No

Reference to Part of this Report Which may Lead to Misinterpretation is not Permissible.

Issue	Findings	Source/Means of Verification	Further Action / Clarification / Information Required?
Check that project equipments, capacity and boundaries remain the same	For methodology I.C. it includes the physical and geographical site of the renewable generation source and methodology III.E includes the physical and geographical site where treatment of biomass takes place. The equipments verified were: 1. One medium pressure boiler (Gerador de Vapor BGV 35,000) of 22bar with capacity for 35,000Kg/h of steam production at 350℃ – photo 2. One turbine (TGM Turbinas) being fed at 0.09 bar (this has a maximum installed capacity of 0,12 bar).- photo 3. One generator (WEG) with a maximum installed capacity of 4200KWe at 13,800V and 60Hz. This was checked against ANEEL license (ref.8) 4. The grid is now the Brazilian National Grid. 5. Flux balance – see photo 6. Electricity Meter – see photo	Site visit inspection Ref.8	No
Check ownership/license still applies	The operational license issued by the State Environmental Regulators to CAMIL Alimentos S/A on 5/07/05 were verified during site visit (see Ref.9). This is the license for the thermo electric plant.	Ref.9	No

Reference to Part of this Report Which may Lead to Misinterpretation is not Permissible.

Issue	Findings	Source/Means of Verification	Further Action / Clarification / Information Required?
Check for evidence of public funding	Evidences collected during site visit, for example the ANEEL Authorizing Resolution N4 of January 10th 2005 (from the Portuguese Resolução Autorizativa N°4 – 10/01/2005), Ref.8 and the Operational License N: 3270/2005-DL of July 5th 2005 (from the Portuguese FEPAM Licença de Operação N:3270/2005-DL – 05/07/2005), issued by the state environmental regulators FEPAM (see Ref.9), state CAMIL S/A as the entrepreneurs for the Thermoelectric plant. There was no evidence of public funding during site visit so the situation remains as per previous crediting period.	Ref.8 and Ref.9	No
Check that applicability criteria 1 (b), 2 (a), 7 and 8 of methodology AMS-III.E still applies to the project	The DOE visited the waste disposal site where CAMIL disposes of its excess husks. Applicability criteria confirmed (see also ref.19). It was also verified that the boiler uses only rice husks as fuel and thus, due to project activity, decay is prevented through controlled combustion. The project activity does not recover or combust methane. Nevertheless the location and characteristics of the disposal site in the baseline conditions are known in such a way as to allow the estimation of its methane emissions (see ref.19). The project activity does not involve the combustion, gasification or mechanical/thermal treatment of partially decayed waste mined (i.e. removed) from a solid waste disposal site	Site visit and ref.19	No
Check distance between CAMIL and landfill	The distance was checked in through the car's km and it is approximately 10km.	Site visit	No

Reference to Part of this Report Which may Lead to Misinterpretation is not Permissible.

Issue	Findings	Source/Means of Verification	Further Action / Clarification / Information Required?
Check calculation spreadsheets and evidences for parameters of AMS-III.E and AMS-I.C	Formula EF is wrong MC discounted – not required by methodology AMS-III.E OX used 0 should be 0.1 Estimation of CTy Ash – evidence missing	Site visit	CL17, CL18, CAR15 and CAR25

Reference to Part of this Report Which may Lead to Misinterpretation is not Permissible.

Annex 2: Validation Protocol

Table 1 PDD

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
A. General Description of Project Activity					
A.1. Project Title					
A.1.1. Does the used project title clearly enable to identify the unique CDM activity?	1/5	DR/Internet	Yes the project title "CAMIL Itaqui Biomass Electricity Generation Project" is clear and unique.	Yes	Yes
A.1.2. Are there an indication of a revision number and the date of the revision?	1	DR	Yes, the PDD mentions version number 1 and the date is 01 July 2008. The last version of the PDD is version 4 of September 15th 2009.	Yes	Yes
A.1.3. Is this in consistency with the time line of the project's history?	1	DR	Yes, this is an updated version of the PDD for the renewal of the crediting period.	Yes	Yes

* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
A.2. Description of the Project Activity					
A.2.1. Is the description delivering a transparent overview of the project activities?	1	DR/Site Visit	Purpose: The purpose of the project activity is to avoid methane emissions due to the decay of unutilized rice husks and to avoid carbon emissions related to grid connected electricity generations. Reduction of greenhouse gases: CAMIL is one of the biggest rice producing companies in Brazil. The main activity in the region where the project is located is rice production and processing. The rice mills generate huge amounts of biomass residues (mainly rice husks) which are disposed of in licensed areas. The CAMIL project consists in a biomass electricity unit with 4.2 Mwe of installed capacity using rice husks residues as fuel. CAMIL uses its own rice mill residues and thus reduces the amount of waste going to licensed areas and replaces energy from the grid with its own production using the rice husks. The PDD also clearly describes the contribution of the project to sustainable development on page 4.	Yes	Yes
A.2.2. Is all information provided in compliance with actual situation or planning?	1/8	DR/Site Visit	The production of rice husks and the disposal of the surplus were evidenced during site visit. The design capacity remains 4.2 MWe as evidence by Ref. 8, the authorizing resolution issued by ANEEL (Brazilian Electricity Regulatory Agency from the Portuguese Agência Nacional de Energia Elétrica) and site visit.	Yes	Yes

* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
A.2.3. Is all information provided consistent with details provided in further chapters of the PDD?			Yes	Yes	Yes
A.3. Project Participants					
A.3.1. Is the table required for the indication of project participants correctly applied?	1/5	DR/Internet	The LoAs for all the PPs shown in version 1 of the PDD from July 1st 2008, are shown in the UNFCCC website, Ref.5. However, the UNFCCC website shows Essent Energy Trading BV Switzerland as PP and this is not shown in the version 1 of the PDD from July 1st 2008. CL#1 Clarification is required as to why the UNFCCC website shows Essent Energy Trading BV Switzerland as PP and this is not shown in the version 1 of the PDD from July 1st 2008. The PP explained that Essent Energy Trading BV has Letters of Approvals of and holding accounts in three different countries: Germany, The Netherlands and Switzerland. Version 2 of the PDD is reflecting the necessary changes. The DOE checked the PDD Version 2 of the 30th of March 2009 and the name of the PP Essent Energy Trading BV Switzerland is shown. CL#1 was therefore closed out.	~~CL#1~~	Yes

* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
A.3.2. Is all information provided in consistency with details provided by further chapters of the PDD (in particular annex 1)?	1/5	DR/Internet	CAR#2 Annex 1 does not show the details of all Project Participants shown in section A.3 of the PDD. CAR#2 was subsequently closed out. For details see Annex 3 of this report. All information provided is in consistency with details provided by further chapters.	~~CAR#2~~	Yes
A.4. Technical Description of the Project Activity					
A.4.1. Does the information provided on the location of the project activity allow for a clear identification of the site(s)? Are the latitude and longitude of the site indicated (decimal points)	1	DR/I/Site Visit	The information provided on the location of the project is clear however the PDD does not show latitudes and longitudes. The new site where husks are stored (Borges de Medeiros, 2225) in Itaqui are also not mentioned. CAR#3 Latitudes and Longitudes of the project site are missing from the PDD. The new site where husks are stored (Borges de Medeiros, 2225) in Itaqui are also not mentioned. CAR#3 was subsequently closed out. For further details see Annex 3 of this report.	~~CAR#3~~	Yes
A.4.2. Do the project participants possess ownership or licenses which will allow the implementation of the project at that site / those sites?	9	DR	The operational license issued by the State Environmental Regulators to CAMIL Alimentos S/A were verified during site visit (see Ref.9).	Yes	Yes

* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
A.4.3. Is the category(ies) of the project activity correctly identified?	1/6	DR/Internet	The project activities fall under two Types and Categories of Appendix B of the simplified modalities and procedures for Small-Scale CDM Projects (Ref.6). The methodology AMS-I.C. 'Thermal energy for the user with or without electricity', Version 13, falls under Type I and Category C. This in turn falls under sectoral scope 1. The PPs used this methodology to substitute the previously used methodology AMS-I.D. 'Grid connected renewable electricity generation' Version 7, because combined heat and power co-generation systems are not eligible under the then new version of this methodology (Version 13). By the time the RCP validation was completed, version 14 of AMS-I.D was out. This version was also not applicable for combined heat and power co-generation systems. The methodology AMS-III.E 'Avoidance of methane production from decay of biomass through controlled combustion, gasification or mechanical/thermal treatment', Version 15.1, falls under Type III and Category E. This in turn falls under scope 13.	Yes	Yes
A.4.4. Does the project design engineering reflect current good practices?	1/9	DR and Site Visit	The technology is environmentally safe as demonstrated by the Operational License issued by the State Environmental Regulators (see Ref.9).	Yes	Yes

* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
A.4.5. Does the description of the technology to be applied provide sufficient and transparent input to evaluate its impact on the greenhouse gas balance and is the explanation how the project will reduce greenhouse gas emission transparent and suitable?	1	DR and Site Visit	The text describing the technology has not changed from the previous validation exercise. The description of the technology explains that reduction of the greenhouse gas emissions will happen by avoiding methane emissions from dumping of the rice husks and by using the husks to generate electricity with the use of: One medium pressure boiler (Gerador de Vapor BGV 35,000) of 22bar with capacity for 35,000Kg/h of steam production at 350℃ One turbine (TGM Turbinas) being fed at 0.09 bar (this has a maximum installed capacity of 0,12 bar). One generator (WEG) with a maximum installed capacity of 4200Kwe at 13,800V and 60Hz.	Yes	Yes
A.4.6. Is all information provided in compliance with actual situation or planning as available by the project participants?	1	DR and Site Visit	The above information (which is described in the PDD) was checked during site visit.	Yes	Yes
A.4.7. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	1	DR and Site Visit	The use of rice husks for the generation of energy is a technology that performs just as well as other technologies in terms of energy generation and is better than any commonly used technologies in the host country in the sense that it makes use of abundant local biomass which would otherwise be disposed of and cause methane emissions.	Yes	Yes

* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
A.4.8. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1/10	DR and Site Visit	It is not likely that the technology will be substituted within the project period. Ref.10 is an Electronic Newspaper with news of the project's technology still being sought in Brazil for new projects.	No	No
A.4.9. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	1	DR/I/Site Visit	This is a renewal of the credit period and as such the people working on it are well trained and the plant already operates as presumed.	No	No
A.4.10. Does the project make provisions for meeting training and maintenance needs?	1/11/12/13/14/15/16	DR/I/Site Visit	There are procedures for maintenance of: Weighbridges (Ref.11), Electricity Monitoring Equipments (Ref.12) and the thermoelectric – boiler, turbines and generators (Ref.16). There are procedures for the acquisition of electricity data (Ref.14) and rice husk data (Ref.13), and for the calculation of Ers (Ref.15). Training is carried out informally. The quality of these in relation to the PDD version 1 for the renewed crediting period will be discussed later in sections B9 and B.10.	Yes	Yes
A.4.11. Is a schedule available on the implementation of the project and are there any risks for delays?	1	DR/I/Site Visit	This is a renewal of the crediting period, therefore the project is already operational and despite the substitution of the Methodology AMS.I.D for the AMS.I.C, there are no major changes to the implementation of the project, and therefore risks for delays.	N/A	N/A

* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
A.4.12. Is the table required for the indication of projected emission reductions correctly applied?	1/2	DR	Yes the table required for the identification of projected emission reductions has been applied according to the 'Guidelines for completing the simplified project design document (CDM-SSC-PDD) and the form for proposed new small scale methodology (CDM-SSC-NM)', Version 5 (Ref.2).	Yes	Yes
A.5. Public Funding					
A.5.1. Does the information on public funding provided conform with the actual situation or planning as presented by the project participants?	1/8/9	DR/I/Site Visit	Evidences collected during site visit, for example the ANEEL Authorizing Resolution N4 of January 10th 2005 (from the Portuguese Resolução Autorizativa N°4 – 10/01/2005), Ref.8 and the Operational License N: 3270/2005-DL of July 5th 2005 (from the Portuguese FEPAM Licensa de Operação N:3270/2005-DL – 05/07/2005), issued by the state environmental regulators FEPAM (see Ref.9), state CAMIL S/A as the entrepreneurs for the Thermoelectric plant.	Yes	Yes
A.5.2. Is all information provided consist with details provided by further chapters of the PDD (in particular annex 2)?	1	DR	All the information provided is consistent with further chapters of the PDD in particular annex 2.	Yes	Yes
A.5.3. In case of public funding from Annex I Parties is it confirmed that such funding does not result in a diversion of official development assistance	1/8/9	DR/I/Site Visit	As seen in Item A.5.1 above, the situation is not changed from the previous validation and there is no indication of public funding to the project.	Yes	Yes

* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B. Baseline and Monitoring Methodology					
B.1. Choice and Applicability					
B.1.1. Is the baseline methodology previously approved by the CDM Methodology Panel?	1/6	Internet	During the renewal of the crediting period assessment (more specifically findings overview issuance), the DOE verified that section B.1. of the PDD version 1, the methodology AMS-I.C. 'Thermal energy for the user with or without electricity', Version 13 was being used. The methodology AMS-I.D. 'Grid connected renewable electricity generation' Version 7, used in the previous crediting period, was substituted by the one cited above because combined heat and power co-generation systems are not eligible under the new version of AM-I.D. The other methodology mentioned in section B.1. of the PDD version 1 was AMS-III.E 'Avoidance of methane production from decay of biomass through controlled combustion, gasification or mechanical/thermal treatment' Version 15.1. Both versions of the methodologies used were the latest versions according to the UNFCCC website (Ref.6) at the time findings were issued.	Yes	Yes

* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.1.2. Is the baseline methodology the one deemed most applicable for this project?	1/6/7	Internet	From the SSC methodologies of the appendix B of the 'Simplified modalities and procedures for small-scale clean development mechanism activities' (Ref.6), type I projects, only the methodology AMS-I.C. 'Thermal energy for the user with or without electricity' applies to the project which generates thermal energy for its own use and to the grid. Methodology AMS-I.D 'Grid connected renewable electricity generation' no longer applies to this project since it now excludes cogeneration systems under the category. AMS-III.E 'Avoidance of methane production from decay of biomass through controlled combustion, gasification or mechanical/thermal treatment', Version 15.1 was the latest approved baseline and monitoring methodology applied in the original CDM-PDD of the registered CDM project activity and thus follows the rules of the 'Procedures for renewal of the crediting period of a registered CDM Project Activity' Version 5 (EB46 Annex 11 – Ref.7).	Yes	Yes
B.1.3. Is the choice of the methodology correctly justified by the PDD and is the project in conformance with all applicability criteria of the applied methodology?	1/3/4/17/	DR/I/Site visit	Applicability criteria for methodology AMS-I.C: 3) Renewable energy technologies that supply users with thermal energy that displaces fossil fuels. Example includes energy derived from renewable biomass for water heating, space heating, or drying and other technologies that provide thermal energy that displaces fossil fuel. Biomass-based co-generation systems that produce heat and electricity	~~CL#4~~ ~~CL#5~~ ~~CL#6~~ ~~CL#7~~	Yes

* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			are included in this category. According to the first Validation Report all energy consumed by Camil was from the interconnected grid (see Ref.18). It was evidenced during site visit that the technology used in the project is still the combustion of rice husks to produce electrical energy for its own use and delivery to the grid. The PPs have consulted the SSC WG (see Ref.17) to clarify whether by using the methodology AMS-I.C they could claim CERs for the export of energy to the grid and the answer was positive. 4) Where thermal generation capacity is specified by the manufacturer, it shall be less than 45MW. CL#4 The PDD states that the nominal capacity of the plant is 4.2 Mwe plus 7.8 MWth, which is well below the above mentioned maximum output capacity. The capacity of the generator was verified to be 4.2Mwe, however it is not clear from site visit where the heat capacity was obtained from (evidence) and what transformation was done to come to the conclusion that the 45MW is not breached. CL #4 was later closed out and the DOE evidenced that the thermal generation capacity of the project is less than 45MW. For details of CL #4 refer to Annex 3 of this report.		

* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			Applicability criteria 3 and 4 of the methodology AMS-I.C does not apply to this project since the project uses only rice husks as energy source and there was no addition of renewable energy units to existing ones. With regards to the applicability criteria for the methodology AMS-III.E: 10) It was verified during site visit that the project comprises measures that avoid the production of methane from rice husks which would have otherwise been left to decay in a waste disposal site without methane recovery. Evidence of that is that the excess produced by Camil and not used to produce electricity is still being disposed of in that manner. 11) It was also verified that the boiler uses rice husks as fuel and thus, due to project activity, decay is prevented through controlled combustion. 12) No evidence that RDF/SB is produced on site was observed during visit. 13) It was verified during site visit that in the baseline scenario rice husks are stockpiled (see photography of the site used by Camil Ref.19 to dispose of excess rice husks not used to produce electricity). The adjustments to the 'Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site' were checked in		

* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			subsequent sections of this protocol. 14) According to the PDD version 1 for the second crediting period, the estimates of emission reductions in the second crediting period are of a maximum 22,299 tCO_2eq/year. This is less then 60Kt of CO_2. In the last version of the PDD this was 20,683 tCO_2eq/year. The correctness of this value will be checked in section B.6. 15) The environmental license of the landfill was checked and it prohibits the burning of solid residues of any nature in the area. The license also requires Camil to produce a quarterly report with information which includes the removal of rice husks from the area. This report was not evidenced during site visit. CL#5 Applicability number 6 of the methodology AMS-III.E requires the "tool to determine methane emissions avoided from dumping waste at a solid waste disposal site" to be adjusted if in the baseline there is usually a reduction in the amount of waste through regular removal for other applications. PPs are required to present to the DOE the quarterly reports requested by the environmental regulators (FEPAM) in its landfill operational license of the 13/05/05 (Ref.20), so that the DOE can check whether there has been removals of rice husks from the area during for the period covered by the license (4years). If there		

* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			have been removals the PPs are required to explain these removals. The DOE checked a sample of the reports (12 months out of a 4 year period - the period covered by the landfill operational license) to confirm that no removals had occurred. All the reports seen are included in this report (ref.41). No removals of waste from the solid waste disposal sites were evidenced. Furthermore, the landfill operational license itself (ref.20) also specifies that no open burning shall occur so the assessment team concluded that usually there is no reduction in the amount of waste through regular open burning nor removal for other applications. CL#5 was subsequently closed out. For more details of the closure of CL #5 refer to Annex 3 of this report. CL#6 Clarification is required about paragraph 18 of the landfill operational license by FEPAM (Ref.20) which states that 'the company will have to send, within 60 days, a technical proposal for minimizing the generation of residues destined to the licensed landfill area, considering studies of the utilization of rice husks as a source of energy. This study should present proposals, perspectives and chronograms forecasted by the company to make this reduction viable'. The PP provided clarification for the above		

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			and the DOE also sought clarification of the requirement above to the local environmental regulators. CL #6 was subsequently closed. For details of the closure of the clarification refer to Annex 3 of this report. 16) The project activity does not recover or combust methane. Nevertheless the location and characteristics of the disposal site in the baseline conditions are known in such a way as to allow the estimation of its methane emissions. 17) It was verified during site visit that the project activity does not involve the combustion, gasification or mechanical/thermal treatment of partially decayed waste mined (i.e. removed) from a solid waste disposal site. 18) During site visit it was seen that a combustion facility is used to generate electricity. This component of the project uses methodology AMS-I.C. version 13. With regards to applicability criteria numbers 10 to 14) There was no evidence of RDF/SB production or gasification during site visit. 15) In case residual waste from controlled combustion is delivered to a landfill, emissions from the residual waste shall be taken into account using the first order decay model (FOD) described in AMS-III.G. Section B.2. of the PDD versions 1 for the		

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			renewal of the crediting period states that "Although the ash generated is stored in landfills, it is defined as an inert material and according to table for DOCj of the IPCC2006 Guidelines for National Greenhouse Gas Inventories, the DOCj for inert materials is 0 which results in zero emissions related to ash." CL#7 Reference used to define ash as an inert material is required so that the DOE can validate the statement on version 1 of the PDD that ash is an inert material. CL #7 was subsequently closed out. For details refer to Annex 3 of this report.		
B.2. Project Boundary					
B.2.1. Are all emission sources and gasses related to the baseline scenario, project scenario and leakage clearly identified and described in a complete manner?	1/3/4	DR	CAR#8 the project's boundary needs to be further explained based on the guidance of the methodologies AMS-I.C and AMS-III.E. CAR#8 was subsequently closed. For details refer to Annex 3 of this report. All select sources in the project boundary match the ones required in the approved methodologies used.	~~CAR#8~~	Yes

* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.2.2. In case of grid connected electricity projects: Is the relevant grid correctly identified in accordance with EB guidance and the underlying methodology?	1	DR	CAR#9 The Brazilian Grid was used for calculations but has not been correctly named throughout the PDD. CAR#9 was subsequently closed out. For details see Annex 3 of this report. The relevant grid is correctly identified in accordance with EB guidance through out the PDD and calculations.	~~CAR#9~~	Yes
B.2.3. Are the project's spatial boundaries (geographical) and the project's system boundaries (components and facilities used to mitigate GHGs) clearly defined?	1/3/4	DR	Spatial boundaries and components are shown and explained in section B.3 of the PDD	Yes	Yes
B.3. Identification of the Baseline Scenario					
B.3.1. Does the PDD discuss the identification of the most likely baseline scenario? Does the PDD follow the steps to determine the baseline scenario required by the methodology and is the application of the methodology and the discussion and determination of the chosen baseline transparent?	1/2/3/4	DR	Neither of the methodologies AMS-I.C. and AMS-III.E call for the use of the "Tool for the demonstration and assessment of additionality" or the "Combined tool to identify the baseline scenario and demonstrate additionality". The baseline scenario indicated in the PDD version 1 for the renewal of the crediting period is the situation before implementation of the grid connected renewable electricity production facility and the disposal of waste in stockpiles where they were left to decay. According to paragraph 6 of the methodology AMS-I.C. for renewable energy technologies that displace technologies using fossil fuels, the simplified baseline is the fuel consumption of the technologies that would have been used in the	~~CL#10~~ ~~CAR#11~~ ~~CAR#12~~ ~~CAR#13~~	Yes

* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			absence of the project activity times the emission factor coefficient for the fossil fuel displaced. Paragraph 7 of the methodology states that cogeneration projects must chose between 5 options for baseline emission calculations depending on the technology that would have been used in the absence of project activity. The PPs chose option (e) Electricity is imported from the grid and/or produced in an onsite captive power plant (with a possibility of export to the grid); steam/heat is produced from renewable biomass (p.s. no emission reduction can accrue on account of heat generation). According to the first Validation Report all energy consumed by Camil was from the interconnected grid (see Ref.18) and Camil burnet 30 tonnes per day of rice husks in three old boilers. There was no mention in the previous Validation Report as to the use of the boilers. CL#10 Evidence is required that the three old boilers were used for steam and heat production in the baseline scenario, although no emission reduction can be accrued from heat generation, as to guarantee the baseline scenario chosen in the PDD version 1 for the renewal of the crediting period reflects the requirement of the methodology AMS-I.C. CL#10 was subsequently closed. For details see Annex 3 of this report. Paragraph 9 states that baseline emissions for electricity imported from the grid shall be		

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			calculated as the amount of electricity produced with the renewable energy technology multiplied by the CO2 emission factor of the grid and that this should be calculated according to procedures detailed in the AMS.I.D. CAR#11 Section B.4 of the PDD version 1 does not address in the text paragraph 9 of the methodology (baseline emissions for electricity that used to be imported from the grid and which is now produced by the renewable power unit). CAR#11 was subsequently closed out. For details of this refer to Annex 3 of this report. Paragraph 14 refers to how the baseline emissions from the production of electricity shall be calculated and states that heat generation from the project are not eligible. The PDD version 1 states that no emission reductions will be claimed for heat generation and because there was no captive power plant generation in the baseline the emission factor for the grid will be applied for electricity exported to the grid. The emission factor of the grid was calculated using 2007 values, which is correct. Nevertheless the vintage is not clearly defined in the PDD version 1. CAR#12 data vintages which have been used and which will be used for the calculation of the EF are not clearly specified in all sections of the PDD, neither the methodologies and/or tools which apply.		

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			CAR#12 was subsequently closed out. For details refer to Annex 3 of this report. The electricity generation of 2005, 2006 and 2007 of the project activity were used to estimate energy use in the baseline for the next crediting period. The data for 2007 was checked during the validation visit and it is correct (see electricity generation reports ref. 26). The values for the years of 2005 and 2006 were similar and because this will be a monitored parameter they are considered reasonable estimates of energy generated by the project activity. With regards to methodology AMS-III.E, the baseline emissions are the amount of methane that would have been emitted from the decay of the cumulative quantity of waste diverted or removed from the disposal site, to date, by the project activity, calculated as the methane generation potential using the "Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site". The version of the tool is not indicated in the PDD Version 1. CAR#13 The version of the "Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site" in the PDD version 1 needs to be updated. CAR#13 was subsequently closed out. For details refer to Annex 3. It was verified during site visit that the waste (rice husks) is stockpiled. The adjustment to the		

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			parameters k and MCF, as requested by the methodology in the case of stockpiling, were done in the PDD version 1. In determining the waste prevented from disposal the year of 2000 has been used as the control group as also requested by the methodology. The methodology also requires the biomass that will be taken away from the stockpiles to be taken into account. See CL#5, CL#6 and CL#7 section B.1.3. 6) about removed waste for other purposes and 15) about ashes		

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.3.2. Does the application consider all potential realistic and credible baseline scenarios in the discussion taking into account relevant national and/or sectoral policies, macro-economic trends and political aspirations??	1/2/3/4/5	DR	The only alternative baseline scenario discussed was the continuation of the situation before project activity. The methodology AMS-I.C lists 5 options for the baseline scenario. The PDD version 1 issued for the renewal of the crediting period reflects these options (registered PDD can be found in Ref.5). The PPs have correctly identified the option relevant to the situation described as the situation previous to the implementation of the project amongst the alternatives. Any issues with this choice have already being discussed in previous sections. The methodology AMS-III.E gives only one option to the alternative scenario: "the situation where, in the absence of the project activity, organic waste is left to decay within the project boundary and methane is emitted to the atmosphere". Any issues related to the applicability of this scenario have already been discussed in previous sections too.	Yes	Yes
B.3.3. Is the choice of the baseline compatible with the available data?	1/2/3/4/5	DR	The choice and exclusion of baseline scenarios have already been discussed above. All key assumptions have also been discussed and issues found in relation to information sources were indicated in sections B.1, B.2 and B.3.	Yes	Yes

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.3.4. Is conservativeness addressed in the way of identifying the baseline?	1/2/3/4 /5	DR	The choice and exclusion of baseline scenarios have already been discussed above. All key assumptions have also been discussed and issues found in relation to information sources were indicated in sections B.1, B.2 and B.3.	Yes	Yes
B.3.5. Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?	1/2/3/4 /5	DR	The most likely baseline scenarios have already been discussed above in the light of methodologies and conservative assumptions. All key assumptions have also been discussed and issues found in relation to information sources were indicated in sections B.1, B.2 and B.3.	Yes	Yes
B.4. Application of the Baseline Methodology					
B.4.1. Has the approved methodology been applied correctly for determining **baseline emissions**?	1/2/3/4	DR	The methodology AMS-I.C. states that the baseline emissions is the fuel consumption of the technologies that would have been used in the absence of the project activity times an emission coefficient. For electricity imported from the grid the baseline shall be calculated as the amount of electricity produced with the renewable energy technology (GWh) multiplied by the CO_2 emission factor of that grid. The emission factor for grid electricity shall be calculated as per procedures detailed in AMS-I.D. The emission factor for the displacement of electricity (the exceedent) should be calculated according to paragraph 11 of the methodology. Since electricity was never produced in the	~~CAR#14~~ ~~CAR#15~~ ~~CAR#16~~ ~~CL#17~~ ~~CL#18~~ ~~CAR#19~~	Yes

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			baseline (i.e. in captive power plants) the emission factor of the electricity exported will be the one for the grid. The formula used in the PDD is: Bey= Egy*Efy Egy= Energy generated by the project Efy = Emission factor of the grid as defined by the "Tool to calculate the emission factor for an electricity system". But at times it is reported as: Bey= ∑(Egj,y*Efj,y)/12 CAR#14 The Baseline emissions formula are sometimes described in the PDD as Bey= Egy*Efy and some times as Bey= ∑(Egj,y*Efj,y)/12. Revise the whole PDD for formula inconsistencies (not just this one) and use the formulae which best describe the procedures in the methodologies and tools so that the same procedure is used in the ex-ante estimates of emissions reduction and during the monitoring period. CAR#14 was subsequently closed out. For details see Annex 3 of this report. The formula presented in the PDD for the calculation of the emission factor is: Efj,y = (W_{OM} * EF_Omj,y)+(W_{BM}*EF_Bmy) CAR#15 The formula used to calculate the emission factor of the grid is different from the one given in the "Tool to calculate the emission		

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			factor for an electricity system" version 1.1. The difference in the formulas applied have resulted in a difference of + 2% in the Bey value calculated. CAR#15 was subsequently closed out. For details see Annex 3 of this report. The methodology AMS-III.E states that the baseline should be calculated as follows: Bey = $BE_{CH4,SWDS,y}$ Where $BE_{CH4,SWDS,y}$ is calculated as per "Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site" in tCO_2e. The version of the Tool has to be updated (issue was raised in CAR#13, section B.3.1). The formula used in the PDD is Bey= $BE_{CH4,SWDS,y}$ – Mdy,reg * GWP_CH_4 The diffrences in the formula were resolved in CAR#19 below and the formular was changed to Bey= $BE_{CH4,SWDS,y}$. The methodology asks that in determining the amount of waste prevented from disposal (Wjx) as input into formula 1 in the Tool, the percentage of the biomass that is combusted in the project activity and which would have been dumped in a stockpile in the baseline situation and also would have remained in the stockpile for a sufficient period of time to decay shall be determined. A quantitative analysis shall be carried out using one of 3 options described in the methodology AMS-III.E page 5, in order of		

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			priority. Factors like how much of the biomass used to be used as fuel should be analysed and quantified to show what percentage of the biomass would have remained in the stockpile. Restrictions for leaving the biomass in a stockpile indefinitely should also be taken into account. Both of the factors above should be quantified in Wj,x and adjusted accordingly, as the model in the Tool assumes that the waste would have remained at the disposal site for sufficient time to fully decay. The choice of year 2000 as the control group for the above analysis has not been properly justified in the PDD and restrictions for leaving the biomass in a stockpile have not been discussed in section B.6.1. CAR#16 The methodology AMS-III.E requires a quantitative analysis to be carried out using one of 3 options described in page 5, in order of priority. It also states that restrictions for leaving the biomass in a stockpile indefinitely should also be taken into account. The choice of year 2000 as the control group has not been properly justified in the PDD and there is no discussion of the existence or not of restrictions in leaving the biomass in stockpiles. CAR#16 was subsequently closed out. For details refer to Annex 3 of this document. MCF value (0.28) and k value (“for the relevant		

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			waste type must be the lower value from the range provided for the Boreal and Temperate Climate Zone as listed in Table 3.3 in Chapter 3, volume 5 of 2006 IPCC Guidelines for National Greenhouse Gas Inventories") are determined by the methodology too since waste in this case is disposed of in stockpiles. The value of 0.1 was chosen an this is the lower value for the wet range of the Boreal and Temperate Climate Zone of the Rapdly degrading waste of the table 3.3 in chapter 3 of valume 5 of 2006 IPCCC Guidelines for National Greenhouse Gas Inventories. The PDD explains that the determination of the parameter Wj,x is done in the following manner as to take account of the use of biomass used as fuel in the project before project was implemented (year 2000) and other conservative measures: Wj,x = Qbiomass * (1-MC) That indicates that the moisture content is being discounted when determining Wj,x. CL#17 The discounting of moisture content from the biomass is not called for in the methodology AMS-III.E or the "Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site". Clarification is required as to why this is done. The reference given in the PDD section B.6.2 can not be found in the web so reference has to be provided. This reference will also be used to confirm husk to rice ratio used in the determination of		

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			Qbiomass_total. CL#17 was subsequently closed out. For details refer to Annex 3 of this document. Qbiomass = Qbiomass_total – Qbiomass_baseline (year 2000) Where: Qbiomass total = the total amount of biomass consumed in the project activity in the year x (tonnes per year, wet basis) Qbiomass_baseline = biomass already consumed in the baseline situation (tonnes per year, wet basis). It is determined by data available from the year 2000 when Camil Itaqui biomass electricity project generation plant was not installed yet. Qbiomass_total = Qgeneratedx – Qremoved Where Qgenerated = HC * Rpwith-husks,x Where: Rpwith-husks,x = amount of rice with husks produced in the year x (tonnes per year) Qremoved = amount of rice husks removed by truck to landfill in year x (tonnes/year) HC = Rice Husk Content of husky rice (weight percentage %) Rpwith-husks,x is what is actually measured. This is then multiplied by the known value of the percentage husk in the rice with husks. This method was accepted by the EB during the previous validation and verification review in 2006 and will continue to be used in this		

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			crediting period. The amount of rice husks taken to the landfill are actually measured by lorries leaving the project site. This is discounted from the total amount generated to get the total used in by the project activity. Qbiomass_baseline has been determined in the same way but with data from 2000. Thus: Qbiomass_baseline = Qgenerated_baseline – Qremoved,baseline Where: Qgenerated,baseline = amount of rice husks produced in the baseline scenario (tonnes/year) Qremoved,baseline = amount of rice husks removed by lorries in the baseline scenario (tonnes/year). DOCj = 38% as food/dry waste. CL#18 The OX used is 0 with the justification that the solid waste disposal site is not covered with oxidizing material however the operational license of the landfill requires it to be subsequently covered with soil for subsequent planting of grasses. CL#18 was subsequently closed out. For details see Annex 3 of this document. CAR#19 Section B.6.1 states that the parameter f from the 'Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site' is zero. This has been checked during site visit. However, there are no discussion about why the Mdy,regy has been		

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			added to the formula in the methodology AMS-III.E. Furthermore neither of these parameters are included in section B.7.1 of the PDD. CAR#19 was subsequently closed out. For details see Annex 3 of this document.		
B.4.2. Has the approved methodology been applied correctly for determining **project emissions**?	1/2/3/4	DR/Site visit	With regards to the methodology AMS-I.C., there is no requirement to account for project emissions under this methodology. According to methodology AMS-III.E Eq (1) Pey = Pey,comb+ Pey, transp + Pey,power Where: Pey = project activity emissions in year "y" (tCO_2) Pey, comb = Emissions through combustion and gasification of non-biomass carbon of waste and RDF/SB in the year "y" (tCO_2) Pey, transp = Emissions through incremental transportation in the year "y" (tCO_2) Pey power = Emissions through electricity or diesel consumption in the year "y" (tCO_2) The PDD explains that Pey, comb = 0 because project only combusts rice husks. This has been confirmed during site visit. So the formula to be used should be: Pey = Pey, transp + Pey,power According to the methodology's Eq (3) Pey, transp = $(Qy/Cty)*DAFw*EF_{CO2} + (Qy,ash/Cty,ash)*DAFash*EF_{CO2} + (Qy,_{RDF/SB}/Cty,_{RDF/SB})*DAF_{RDF/SB}*EF_{CO2}$	~~CAR#20~~ ~~CL#21~~ ~~CAR#22~~	Yes

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			Where: Qy = Quantity of waste combusted in the year y (tonnes) Cty = Average truck capacity for waste transportation (tonnes/truck) DAFw = Average incremental distance for waste transportation (Km/truck) EFCO2 = CO2 emission factor from fuel use due to transportation (tCO2/Km) Qy,ash = Quantity of combustion residues produced in year y (tonnes) Cty, ash = Average truck capacity for residues transportation (tonnes/truck) DAF,ash = Average distance for residues transportation (KM/truck) Qy, RDF/SB = Quantity of RDF/SB produced in the year y (tonnes) Cty,RDF/SB = Average truck capacity for RDF/SB transportation (tonnes/truck) DAF RDF/SB = Aggregate average distance for RDF/SB transportation to the storage in the production site as well as to the end users site PDD Version 1, p29 states that only ash is transported as a result of the project activity and therefore the formula applied is: Pey, transp = (Qy,ash/Cty,ash)*DAFash*EF_{CO2} CAR#20 The PDD Version 1, states that only ash is transported as a result of the project		

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			activity, however it was mentioned by PPs during the site visit that there is a new site where husks are stored (Borges de Medeiros, 2225) at approximately 1Km from the site. The exclusion of these emissions from the project have to be justified in the PDD in sections B.3.1 – about project boundary sections (see CAR#8) – and B.6.1, due to requirements of the new version of the methodology AMS-III.E (paragraphs 17 (b) I, and 19 pages 3 and 4/10). CAR#20 was subsequently closed out. For details see Annex 3 of this document. CL#21 Pey, power was excluded from project emissions even though this is a requirement of the methodology AMS-III.E (see paragraph 17 I p.3/10). Clarification is required since during the last crediting period, the PDD required the PPs to monitor energy imported from the grid and the values for energy imported appear in past monitoring reports. CL#21 was subsequently closed. For details refer to Annex 3 of this report. The formula used in the PDD for project emission is therefore summarized as Pey=Pey,transp. The correctness of this is pending issues raised above. Section B.6.1 of the PDD also states that the amount of combustion residues produced is determined in the following way: Qy,ash = AC * Qbiomass Where		

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			AC = ash content in rice husks (18% weight) Qbiomass = quantity of biomass treated under the project activity (tonnes/year) Applying an ash to husk factor to Qbiomass gives an indirect measure of Qy,ash. However, reference to the value of 18% has to be provided to the DOE. CAR#22 reference to the ash to husk factor applied to find Qy,ash is missing from PDD. CAR#22 was subsequently closed out. For details refer to Annex 3 of the report.		
B.4.3. Has the approved methodology been applied correctly for determining **leakage**?	1/2/3/4	DR/Site visit	PDD version 1, page 23 states that "No leakage calculation is required, as no energy generating equipment is transferred from another activity and no energy generating equipment is transferred to another activity." The requirement in the methodology AMS-I.C version 13 is no different from the methodology used in the past crediting period (AMS-I.D version 7) and the situation of the project has also not changed since previous crediting period (the same energy generating equipment is used). PDD version 1, page 30 states that "The controlled combustion technology is not an equipment transferred from/to another activity. Therefore leakage do not need to be considered." Methodology AMS-III.E version 15.1 asks to	Yes	Yes

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			consider leakage if equipments are transferred from another activity or if the existing equipment is transferred to another activity. The project situation has not changed from previous validation (the boilers used are still the same). There was no transfer of equipments from or to the project.		
B.4.4. Where applicable, has the approved methodology been applied correctly for the **direct calculation of emission reductions**	1/2/3/4	DR/Site visit	Page 21 of the PDD version 1 has the following formula for the direct calculation of emission reductions due to production of electricity: ER_{IC} = Beel Where ER_{IC} is the Emission Reduction due to thermal energy for the user with or without electricity (tCO2eq) Beel is Baseline Emissions of electricity generation (tCO2eq) This is in accordance with methodology AMS-I.C. Page 24 of the PDD version 1 has the following formula for the direct calculation of emission reductions due to avoidance of methane production from biomass decay through controlled combustion. ER_{IIIE} = Bey – (Pey + $Leakage_y$) This is in accordance with methodology AMS-III.E. The formulas which feed into this one have already been discussed in sections B.4.1, B.4.2 and B.4.3.	Yes	Yes

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.4.5. Have all the methodological choices been explained, have they been properly justified and are they correct	1/2/3/4	DR/Site visit	All methodological choices have been thoroughly discussed in previous section of this form and corrective actions were raised when necessary.	Yes	Yes
B.4.6. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	1/2/3/4	DR/Site visit	All uncertainties in the calculations, data sources and assumptions have already been thoroughly discussed in previous sections of this form and corrective actions were raised when necessary.	Yes	Yes
B.5. Ex-ante Data and Parameters Used					
B.5.1. Are the data provided in compliance with the methodology?	1/2/3/4	DR/Site visit	AMS-I.C and AMS-III.E: CAR#23 Section B.6.2 of the PDD version 1 does not reflect the ex-ante parameters mentioned in the methodology AMS-I.C and the 'Tool to calculate the emission factor for an electricity system' or the requirements of the latest 'Guidelines for completing the simplified project design document (CDM-SSC-PDD)' which says that "This section shall include a compilation of the data and parameters NOT monitored but determined upfront so as to be available for validation. Data from monitoring (e.g. measurements after the implementation of the project activity) should not be included here but in the table in section B.7.1." All parameters must be revised to ensure they are placed under the relevant data sections (B.7.1 or B.6.2). Revise all parameters listed in section B.7.1 so that it complies with requirements of the methodologies AMS-I.C. and AMS-III.E, the 'Tool to calculate the emission factor for an	~~CAR#23~~	Yes

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			electricity system', the 'Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site' and the requirements of the latest 'Guidelines for completing the simplified project design document (CDM-SSC-PDD)'. CAR#23 was subsequently closed out. For details refer to Annex 3 of the report. All ex-ante parameters of the methodology AMS-III.E and AMS-I.C and respective tools have been included and are in compliance with methodologies.		

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.5.2. Is all the data derived from official data sources or replicable records and have these been correctly quoted?	1/2/3/4/21	DR/Site visit	The reference for the value for HC has been asked in CL#17 in section B.4.1. and checked. The value of 23% is correctly quoted. OX value has also been questioned in section B.4.1. CL#18 and has been changed from 0 to 0.1. It is now correct. The k value is 0.1 and is correctly quoted from the wet range of the Boreal and Temperate Climate Zone – Rapdly degrading waste of the table 3.3 in chapter 3 of valume 5 of 2006 IPCCC Guidelines for National Greenhouse Gas Inventories. MCF (0.28) was provided by methodology AMS-III.E. All other values and sources for: wOM, wBM, EF for the built margin (see Ref.21). Correctly quoted as 0.25, 0.75 and 0.0775 respectively. Qbiomass_baseline (which is Qgenerated_baseline – Qremoved_baseline) has been validated against ref. 45 (Camil Industry Maps which are spreadsheets used by Camil to map the production and volume of rice in all different stages of the production line every month and which have the values of Rpwith-husks baseline. This in turn is multiplied by HC gives Qgenerated_baseline), ref. 46 (internal report of rice husks removed from Camil) and ref.25 (invoices which feed into the internal report of rice husks removed) for Qremoved baseline. Model correction factor, F, DOCf, DOCj are provided by the “Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site”. Efdiesel,CO2 was checked against references provided in the PDD (ref.43 and ref.44) and come from official sources or replicable records.	Yes	Yes

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B.5.3. Is the vintage of the baseline data correct?	1/2/3/4	DR/Site visit	Vintages of the baseline have already been discussed in depth in sections B.4.1 and B.3.1 above.	Yes	Yes
B.6. Calculation of Emissions Reductions					
B.6.1. Has the approved methodology been applied correctly for determining **emission reductions**?	1/2/3/4	DR/Site visit	Baseline emission reductions for the methodology AMS-IC was correctly calculated using 2007 OM and BM (from the site of the Brazilian Ministry of Science and Technology following guidelines of the 'Tool to calculate the emission factor for an electricity system') and estimates of energy generated with Camil historical data for 2005, 2006 and 2007. The data for 2007 was checked during the validation visit and it is correct (see electricity generation reports ref. 26). The values for the years of 2005 and 2006 were similar and because this will be a monitored parameter they are considered reasonable estimates of energy generated by the project activity. Project emissions are zero for this same methodology. This is correct. Baseline emissions for the methodology AMS-III.E: all required steps in the methodology as well as the tool have been followed in the spreadsheet calculations. A few issues have been raised with the choice of certain parameters and assumptions (see section B.4.1) but have been resolved. The steps in the calculations of project emissions in the PDD and spreadsheets have followed methodology specifications.	Yes	Yes

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.6.2. Are the emission reduction calculations documented in a complete and transparent manner?	1/2/3/4	DR/Site visit	Section B.6.3 of the PDD documents each equation applied for the baseline methodology AMS-III.E and AMS-I.C correctly.	Yes	Yes
B.6.3. Have conservative assumptions been used to calculate emission reductions?	1/2/3/4	DR/Site visit	Assumptions in the calculations have already been discussed in depth in sections B.1.3, B.3.1, B.4.1, B.4.2, and B.4.3.	Yes	Yes
B.6.4. Is the projection based on provable input parameter?	1/2/3/4/21/22/23/24/25/26	DR/Site visit	With regards to input factors of methodology AMS-I.C: Egy values used were verified (see comments section B.3.1 and B.6.1). Parameter Efgrid_Omy, Efy, Bey are based on provable input parameters (see Ref.21 for Efs and Ref.26 for Egy). With regards to input factors of methodology AMS-III.E: Because the method of determining rice husk production (or Qgenerated) has changed during the last crediting period after a request for review and ultimately this affects the calculations of the Ers in the second crediting period, the values for Rpwith-husks,x (rice production with husks – which is the indirect measurement used to determine rice husks) for the first crediting period had to be verified again. The input parameters for historical Qgenerated were checked during site visit by sampling the years of 2002, 2006 and 2007 and crosschecking it with ref. 22 (Camil Industry Maps which are spreadsheets used by Camil to map the production and volume of rice in all different	~~CAR#24~~ ~~CAR#25~~	Yes

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			stages of the production line every month). The year of 2007 was also crosschecked against ref 23 and ref. 24. Ref. 23 contains reports downloaded straight from Camil's rice data management system (Datasul EMS 204) during site audit. Ref. 24 contains invoices which feed into this system. The values used to determine Qremoved were checked against ref.46 which is Camil's report on the rice husks removed by Speed. A sample of Speed invoices for the year of 2007 (ref.25) were in turn crosschecked with that. Values were therefore provable input parameters. All of these values feed into Qbiomass_total, Qbiomass,x and Wx respectively. The values from 1st of July 2006 to 30th June 2007 have been used as estimates for Wx for the next crediting period. Since this parameter will be monitored the values used are deemed reasonable. Qy,ash is also determined from Qbiomass_total so that the verification of Qgenerated was also important to determine this parameter. CAR#24 Although Qgenerated is seen in section B.7.1 and it is an integral part in the determination of the Ers, this parameter was not explained in sections B.4, B.6 and B.6.3. CAR#24 was subsequently closed out. For details refer to Annex 3 of this report. MC's reference was asked in section B.4.1. AC's reference was asked in section B.4.2.		

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			CAR#25 It was not evidenced how the value for Cty,ash was estimated. Furthermore, methodology AMS-III.E p.9 requires this parameter to be measured and monitored. It was also not mentioned in the PDD version 1 how this will be done. CAR#25 was subsequently closed. For details refer to Annex 3 of this report. GWP_CH4 is from 2006 IPCC Guidelines for National Greenhouse Gas Inventories (21). The parameter f used was 0. The value used has already been discussed in previous sections.		
B.6.5. Is the projection based on same procedures as used for later monitoring or acceptable alternative models?	1/2/3/4/21/22/23/24/25/26	DR/Site visit	Because this is a request for renewal of the crediting period all projections have been based on historical records, they are thus the procedures used for later monitoring.	Yes	Yes
B.6.6. Is the calculation of the emission reduction correct?	1/3/4/27	DR	The formulas in the spreadsheets were checked and they follow what the PDD version 1 says. The formulas have been extensively discussed in section B.4.	Yes	Yes
B.7. Emission Reductions					
B.7.1. Will the project result in fewer GHG emissions than the baseline scenario?	1/3/4/27	DR	According to the calculations which have been extensively checked against the methodologies AMS-III.E and AMS-I.C and the applicable tools, if the methane that would have been released to the atmosphere from the disposal of rice husks in stockpiles in the absence of the project activity will be reduced and the energy generated with the biomass will displace and reduce emissions from grid sources.	Yes	Yes

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.7.2. Is the form/table required for the indication of projected emission reductions correctly applied?	1/3/4/27	DR	The table has been applied according to the 'Guidelines for Completing the Simplified Project Design Document (CDM-SSC-PDD)' (Ref.2).	Yes	Yes
B.7.3. Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period?	1/3/4	DR/Site Visit	This is a request for renewal of the crediting period and therefore the project is already implemented.	Yes	Yes
B.8. Monitoring Methodology					
B.8.1. Does the monitoring methodology provide a consistent approach in the context of all parameter to be monitored and further information provided by the PDD? Are all parameters and data that is available at validation consistent with the approved methodology	1/2/3/4	DR	For category I.C: The parameters in section B.7.1 of the PDD version 4 are consistent with the information in the rest of the PDD. The parameters are also consistent with methodology. Egy estimates available at validation have already been discussed in sections B.6.4 and B.3.1. Category III.C: There is consistency with monitored parameters in the PDD. All of the input parameters used in the Ers calcultations have already been discussed extensively in section B.6.4. Therefore any input parameters available at validation and its consistency with methodology will have been discussed there.	Yes	Yes
B.8.2. Does the monitoring methodology apply consistently the choice of the option selected for monitoring both of project and baseline emissions?	1/2/3/4	DR	The PDD version 4 consistently applies the choice of options selected for monitoring both project and baseline emissions including monitoring plan presented in annex 4 of the PDD.	Yes	Yes

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B.9. Data and Parameters Monitored					
B.9.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the emission reductions within the project boundary during the crediting period?	1/2/3/4	DR/Site visit	AMS-C.I: With regards to the baseline, the monitoring plan provides for the collection and archiving of Egy, EF_OM,y, Efy. There is no requirement to account for project emissions under this methodology. These parameters together with the ones in section B.6.2 of the PDD version 4 are the necessary parameters for the estimation the emission reductions of methodology AMS-I.C. AMS-III.C: The monitoring plan provides for the necessary collection and archiving of all relevant data necessary for the estimation or measuring the emission reductions.	Yes	Yes
B.9.2. Are the choices of project GHG indicators reasonable and in conformance with the requirements set by the approved methodology applied?	1/3/4	DR	Indicators of methodology AMS-I.C: Egy, EF_OM are correctly chosen. CAR#26 The thermal energy does not come into the Ers calculations, however the methodology requires it to be measured. This parameter is not in section B.7.1. of version 1 of the PDD. CAR#26 was subsequently closed. For details refer to Annex 3 of this report. Indicators of the methodology AMS-III.E: The parameter Wx required by the tool is indirectly monitored. By weighing the rice with husks entering Camil's process (or Rpwith-	~~CAR#26~~	Yes

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			husks,x) and later applying a rice to husk factor from literature to this value, the amount of rice husks produced by Camil (or Q_generated) is monitored. The amount of rice husks taken away to the landfill (Q-removed,x) is also measured and this value is subtracted from the Q_generated to find out the value of the rice husks consumed by the project activity (or Qbiomass_total). The baseline is than taken from this value to generate Q_biomass. Wx is monitored by subtracting a moisture content value to Q-biomass,x. The measurement of this parameter using Rpwith-husks,x was already approved in the previous crediting period as well as the subtractions of Q-removed,x to find out the value of rice husks consumed by the project activity (Qbiomass_total). The use of the MC has already been raised. The subtraction of the baseline from Qbiomass_total is a requirement of the methodology. GWP_CH4 is required by the tool. F has already been discussed. Qy,ash (or the quantity of combustion residues produced in the project activity) is indirectly measured using the same principle of Wx. It applies an ash content factor, which is monitored (AC), to the Qbiomass_total (which is the total generated by the project activity before deductions of the baseline).		

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			Cty,ash is required to be monitored and it is found in section B.7.1 of the PDD version 4. The exclusion of rice husks transportation and electricity consumed by the project have already been extensively discussed in section B.4.2 and B.4.3. Choices of project GHG indicators in the PDD version 4 are found to be reasonable and in conformance with the requirements set by the approved methodology.		
B.9.3. Will it be possible to determine the specified project GHG indicators?	1/3/4	DR	The monitoring concept has not changed from the previous crediting period so the verifiability of all GHG indicators have already been tested.	Yes	Yes
B.9.4. Is the information given for each monitoring variable by the presented table sufficient to ensure the verification of a proper implementation of the monitoring plan?	1/3/4/28	DR/Site Visit	AMS-I.C: Egy will be monitored continuously by the electronic supervisory system. The EF of the grid will be monitored using data from the Brazilian Ministry of Science and Technology. AMS-III.E: Section B.7.1 states that Rpwith-husks are taken from “Rice production numbers of the Camil Itaqui rice processing plant”. This was seen during verifications in the previous crediting period. The value weighed by the flux balance is the one used to measure this parameter. This is not described in section B.7.1 of the PDD. CAR#27 Section B.7.1 of the PDD does not specify the type of equipment used to measure the value of Rpwith-husks.	~~CAR#27~~ ~~CAR#28~~	Yes

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			CAR#27 was subsequently closed out as the PP included in PDD version 3 the use of the flux balance to measure Rpwith-husks. CAR#28 Section B.7.1 of the PDD says that moisture content (MC) and Ash Content (AC) will be measured through a representative sample and once. It is not clear how the PPs ensure a representative sample. Furthermore, the 'Indicative Simplified Baseline and Monitoring Methodology for Selected Small-Scale CDM Project Activity Categories' General Guidance (Ref.28) states that "Data elements that are generally constant and indirectly related to the emission reductions (e.g. Emission Factors, Calorific Values, System Efficiencies) should be measured or calculated at least once in an year, unless detailed specifications are provided as part of the indicated methodology. GWP_CH4 is also required to be monitored annually by the "Tool to determine methane emissions avoided from dumping of waste at a solid waste disposal site". CAR#28 was subsequently closed. Details can be found in Annex 3 of this report.		
B.9.5. Is the information given for each monitoring variable by the presented table sufficient to ensure the delivery of high quality data free of potential for biases or intended or unintended changes in data records?	1/3/4/28	DR/Site Visit	CAR#29 Section B.7.1. of the PDD version 1, parameter Egy,j states that "According to the measurement equipment supplier, the equipment does not require periodically calibration; however, to guarantee that the equipment is calibrated, a calibration has been done in 2008 and the accuracy error found was below 1%".	~~CAR#29~~ ~~CAR#30~~	Yes

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			The 'Indicative Simplified Baseline and Monitoring Methodology for Selected Small-Scale CDM Project Activity Categories' General Guidance (Ref.28) states that "Measuring equipment should be certified to national or IEC standards and calibrated according to the national standards and reference points or IEC standards and recalibrated at appropriate intervals according to manufacturers specifications, but at least once in 3 years". CAR#29 was subsequently closed. For details refer to Annex 3 of this report. CAR#30 Since the flux-balance is an equipment used to measure a variable most directly related to the emission reductions (e.g. quantity of the fuel inputs) it should also be calibrated according to the 'Indicative Simplified Baseline and Monitoring Methodology for Selected Small-Scale CDM Project Activity Categories' General Guidance (Ref.28) CAR#30 was subsequently closed out. For details see Annex of this report. Other parameters have already been extensively discussed in previous sections.		
B.9.6. Is the monitoring approach in line with current good practice, i.e. will it deliver data in a reliable and reasonably acceptable accuracy?	1/3/4/28	DR/Site Visit	See finding in section B.9.6 above.	Yes	Yes
B.9.7. Are all formulae used to determine project emission clearly indicated and in compliance with the monitoring methodology.	1/3/4/28	DR/Site Visit	See findings in previous sections.	Yes	Yes

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.10. Quality Control (QC) and Quality Assurance (QA) Procedures					
B.10.1. Is the selection of data undergoing quality control and quality assurance procedures complete?	1/3/4	DR	The parameter Rpwith-husks does not have a QA and QC procedure. This is one of the most important (greatest weight data) in the determination of emission reductions. A CAR# has been raised above in section B.9.5, in order to address this issue. All the other relevant parameters are taken from official data sources or undergo quality control and quality assurance procedures. The adequacy of these, have already been discussed in previous sections (see section B.9.5 for the Egy parameter).	Yes	Yes
B.10.2. Is the belonging determination of uncertainty levels done correctly for each ID in a correct and reliable manner?	1/3/4	DR	See observations above in section B.10.1	Yes	Yes
B.10.3. Are quality control procedures and quality assurance procedures sufficiently described to ensure the delivery of high quality data?	1/3/4/11/12/13/14/15	DR/Site Visit	There are procedures for the acquisition of electricity data (Ref.14) and rice husk data (Ref.13), and for the calculation of Ers (Ref.15). There are also procedures for the maintenance and calibration of rice balances and energy meters (see Ref.11 'Balanca aferição manutenção' and Ref.12 'Procedimento de manutenção dos medidores' respectively). This will have to be updated since there were a few changes from the last crediting period to do with the change in methodologies, the way the PDD was written and requests from the EB during the last crediting period. Changes include the fact that there is no monitoring of energy exported to the grid anymore (only energy	~~CAR#31~~ ~~CAR#32~~	FAR#35

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
			generated by the project activity is monitored) and the fact that the way rice husk data is determine changed. CAR#31 the procedures for data acquisition ('Manual de Arquivamento de Dados de Eletricidade R1', 'Fluxograma registro doctos arroz R1' and 'Procedimentos comunicação – CDM Project Management Planing') and maintenance and calibration ('Balanca aferição manutenção' and 'Procedimento de manutenção dos medidores') have to be re-written to reflect latest changes due to the changes in the way parameters are determined and what parameters are determined (i.e. changes to applicable methodologies and the new monitoring plan in the PDD). Furthermore a copy of the document "CAMIL Itaqui Biomass Electricity Generation Project", Version 2 of March 2006 (cited on page 53 – Section B.7.2 of the PDD version 1) and of the document "Monitoring Protocol" (cited in page 55 of the same section of the PDD) are required. For the next crediting period this documentation should be produced in a more transparent way clearly stating the QA and QC procedures adopted. CAR#31 was subsequently closed out. For details see Annex 3 of this report. CAR#32 The PDD states that PTZ is responsible for the quality assurance and training. It is clear however that the visits to site only in case of trouble shooting or when the DOE raises corrective actions, is not enough to ensure the delivery of high quality data, good quality		

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			assurance and quality control for the monitoring process, as required in the 'Modalities and procedures for a clean development mechanism' (Ref.29), especially with regards to operational requirements. To resolve CAR#32 the PP answered that: "Since Itaqui is located far from PTZ, the number of site visits will be limited. However, we will change the organisational structure of quality management by appointment of a Quality Manager at CAMIL. At the Monitoring Protocol the function of the Quality Manager is explained." The position of Quality Manager was evidenced in Annex 1 of the Monitoring Protocol (ref.36) by the DOE. Section B.7.2 of the PDD version 2 still has PTZ as responsible for quality assurance and training, and therefore it is required from PTZ that aspects that ensure high quality data, good quality assurance and quality control for the monitoring process, as required in the 'Modalities and procedures for a clean development mechanism' (Ref.29), especially with regards to operational requirements and the site, be well known. It is clear that if Itaqui is distant from PTZ, a system of internal audit should be created in order to guarantee that information is passed from the new Quality Manager at CAMIL to PTZ before verification by the DOE is carried out.		

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			FAR#35 was opened to address this issue so that this issue can be addressed by the PP in due course. CAR#32 was therefore closed out. FAR #35 – CAR#32 was opened during the DOE's assessment of the renewal of the crediting period saying that: "although the PDD states that PTZ is responsible for the quality assurance and training. It is clear that the visits to site by PTZ only in case of trouble shooting or when the DOE raises corrective actions, is not enough to ensure the delivery of high quality data, good quality assurance and quality control for the monitoring process, as required in the 'Modalities and procedures for a clean development mechanism' (Ref.29), especially with regards to operational requirements." It has been informed by the PP that frequent visits to CAMIL is not possible since the site is distant from PTZ office and that a new position of Quality Manager will be created at CAMIL to address the above. Nevertheless Section B.7.2 of the PDD version 2 still has PTZ as responsible for quality assurance and training. PTZ is therefore still required to know the aspects that ensure high quality data, good quality assurance and quality control for the monitoring process, especially with regards to operational requirements and the site. It is clear that if Itaqui is distant from PTZ, a		

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			system of internal audit should be created in order to guarantee that information is passed from the new Quality Manager at CAMIL to PTZ before verification by the DOE is carried out.		
B.10.4. Is it ensured that data will be bound to national or internal reference standards?	1/3/4	DR/Site Visit	Yes see section B.9.5	Yes	Yes
B.10.5. Is it ensured that data provisions will be free of potential conflicts of interests resulting in a tendency of overestimating emission reductions?	1/3/4	DR/Site Visit	Yes see section B.9.5	Yes	Yes
B.11. Operational and Management Structure					
B.11.1. Is the authority and responsibility of project management clearly described?	1/2/3/4/11/12/13/14/15	DR/Site Visit	The responsibilities of the PPs involved in the project are described in section B.7.2 of the PDD. It states that CAMIL operates the plant and will measure the required monitoring data related to the project (they are the project owners); PTZ is responsible for the interpretation of the monitoring data, preparation of the monitoring reports and quality assurance (they are the project managers); BioHeat International serves as the focal point for communication with the UNFCCC and support to PTZ. AMS-III.E: The 'Fluxograma registro doctos arroz' R1 (ref.13) shows the flow of the rice data information in CAMIL, but has neither management roles and responsibilities nor data collection roles and responsibilities described in it. AMS-I.C: The 'Manual de Arquivamento de Dados de Eletricidade R1' (Ref.14) has a clearer	~~CAR#33~~	Yes

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			indication of management structure for the acquisition of energy generated data. CAR#33 Operational and management structure (roles and responsibilities) that the project operator will implement in order to monitor emission reductions of the project activity should be described in section B.7.2 or in relevant procedures as described by the 'Guidelines for completing the simplified project design document (CDM-SSC-PDD)' Ref.2. To close out CAR#33 the PP included the roles and responsibilities in the monitoring process at CAMIL in the new procedure called Monitoring Protocol (ref.36) and respective annexes. The roles and responsibilities explained in the PDD under the section 'roles and responsibilities' relate to the roles and responsibilities of each company or PPs. CAR#33 was closed out.		
B.11.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	1/3/4/11/12/13/14/15	DR/Site Visit	See CAR#33 section B.11.1 above.	Yes	Yes
B.11.3. Are procedures identified for training of monitoring personnel?	1/3/4	DR/Site Visit	In the previous crediting period there was only informal training given. Section B.7.2 of the PDD states that the responsibility of training lies with PTZ.	Yes	Yes

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.12. Monitoring Plan (Annex 4)					
B.12.1. Is the monitoring plan developed in a project specific manner clearly addressing the unique features of the CDM activity?	1/2/3/4	DR	Annex 4 of the PDD version 1 has information on the electricity measurement system and on the data used for the calculation of the baseline scenario. There is however lack of information about features of the CDM activity related to the methodology AMS-III.E. CAR#34 Annex 4 of the PDD has not been filled in accordance with specifications in the 'Guidelines for completing the simplified project design document (CDM-SSC-PDD)' (i.e. information on monitoring equipment, what to do in case of monitoring problems). Considerations raised in CAR#31 and CAR#32 in section B.10.3. should also be taken into account when addressing this CAR. CAR#34 was subsequently closed out. For details refer to Annex 3 of this report.	~~CAR#34~~	Yes
B.12.2. Does the monitoring plan completely describes all measures to be implemented for monitoring all parameter required, including measures to be implemented for ensuring data quality?	1/2/3/4	DR	Yes. See section B.12.1.	Yes	Yes
B.12.3. Does the monitoring plan provide information on monitoring equipment and respective positioning in order to safeguard a proper installation?	1/2/3/4	DR	See section B.12.1.	Yes	Yes
B.12.4. Are procedures identified for calibration of monitoring equipment?	1/2/3/4	DR	Yes but in section B.7.1 of the PDD.	Yes	Yes

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Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.12.5. Are procedures identified for maintenance of monitoring equipment and installations?	1/2/3/4	DR	Yes but in the Monitoring Protocol (ref.36 – Annex 2).	Yes	Yes
B.12.6. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	1/2/3/4	DR	Yes but in the Monitoring Protocol (ref.36) and section B.7.2 of the PDD.	Yes	Yes
B.12.7. Are procedures identified for dealing with possible monitoring data adjustments and missing data allowing redundant reconstruction of data in case of monitoring problems??	1/2/3/4	DR	For AMS-III.E: various departments in Camil control rice data. If the flux balance was not to work, the company would not have a problem to work out the data from other sources. With regards to AMS-I.C., if the energy generator meter stoped working, there would be no other way to measure electricity generated apart from the rice consumption data.	Yes	Yes
B.12.8. Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	1/2/3/4	DR	See FAR#35	FAR#35	FAR#35
B.12.9. Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?	1/2/3/4	DR	See FAR#35	FAR#35	FAR#35
B.13. Baseline Details					
B.13.1. Is there any indication of a date when determine the baseline?	1/2/3/4	DR	08/04/2008	Yes	Yes
B.13.2. Is this in consistency with the time line of the PDD history?	1/2/3/4	DR	Yes	Yes	Yes
B.13.3. Is all data required provided in a complete manner by annex 3 of the PDD?	1/2/3/4	DR	Yes	Yes	Yes

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***C.* Duration of the Project / Crediting Period**					
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	1/2/3/4 /5	DR	The project starting date is 01/04/2001 and the operational lifetime given is of 30 years. This operational lifetime was validated at the time of registration and it is not expected to change in the second crediting period, thus it is considered reasonable.	Yes	Yes
C.1.2. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2 renewals or fixed crediting period of max. 10 years)?	1/2/5	DR	The start of the crediting period is on 01/07/2008. This is the first day after the ending date of the previous crediting period.	Yes	Yes
C.1.3. Does the project's operational lifetime exceed the crediting period	1/2	DR	Yes	Yes	Yes

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References

Reference ID	Title / Description	Comments
1	CAMIL Itaqui Biomass Electricity Generation Project – Version 1 (01/07/2008) CAMIL Itaqui Biomass Electricity Generation Project – Version 2 (30/03/2009) CAMIL Itaqui Biomass Electricity Generation Project – Version 3 (08/07/2009) CAMIL Itaqui Biomass Electricity Generation Project – Version 4 (15/09/2009)	Updated PDD submitted to the DOE for the renewal of the crediting period of the CDM project activity.
2	Guidelines for Completing the Simplified Project Design Document (CDM-SSC-PDD) and the Form for Proposed New Small Scale Methodology (CDM-SSC-NM) Version 5 (14/09/2007) (last accessed 03/10/09) http://cdm.unfccc.int/Reference/Guidclarif/pdd/PDD_guid02_v05.pdf	Latest guidelines for completing SSC PDD
3	AMS.III.E. Avoidance of methane production from decay of biomass through controlled combustion, gasification or mechanical/thermal treatment. http://cdm.unfccc.int/UserManagement/FileStorage/HXJBK40UFD5I6WYCL3EP8S7N1OGR2Q	Project's baseline and monitoring methodology
4	AMS.I.C. Thermal energy for the user with or without electricity. http://cdm.unfccc.int/UserManagement/FileStorage/CDMWF_AM_YL0327DQSKVFXYQREWRT3VNR58402G	Project's new baseline and monitoring methodology
5	Project 0231: CAMIL Itaqui Biomass Electricity Generation Project (last accessed on 05/10/2009) http://cdm.unfccc.int/Projects/DB/TUEV-SUED1135876215.5/view	UNFCCC website with details of the registered CDM project activity including PPs, LoAs and Registered PDD.
6	Appendix B of the Simplified Modalities and Procedures for Small-Scale CDM Project Activities http://cdm.unfccc.int/methodologies/SSCmethodologies/approved.html	List of Small Scale CDM Methodologies.
7	Procedures for Renewal of the crediting period of a registered CDM project activity http://cdm.unfccc.int/Reference/Procedures/reg_proc04.pdf	Guidelines on the renewal of crediting period.
8	ANEEL Authorizing Resolution N°4 (10/01/2005) Resolução Autorizativa N°4 (10/01/2005)	Resolution by the energy regulators (ANEEL) authorising Camil to be an independent producer of electrical energy.
9	FEPAM Operational License N: 3270/2005-DL (05/07/2005)	Operational License by the State

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Reference ID	Title / Description	Comments
	FEPAM Licensa de Operação N:3270/2005-DL (05/07/2005)	Environmental Regulators
10	Braskem wants five rice husk biomass plants in RS (02/09/2008) – last accessed 27th January 2009. Braskem quer cinco usinas de biomassa no RS a partir da casca de arroz (02/09/2008) http://www.jornalja.com.br/2008/09/02/braskem-quer-construir-cinco-usinas-de-biomassa-no-rs-a-partir-da-casca-do-arroz	Electronic Newspaper with news of the project's technology still being sought in Brazil for new projects.
11	Weighbridge verification and maintenance Balanca aferição manutenção	Procedure for the calibration and maintenance of weighbridges.
12	Procedure for the maintenance of meters Procedimento de manutenção dos medidores	Procedure for the maintenance of electricity meters.
13	Diagram of the registry of rice documents R1 Fluxograma registro doctos arroz R1	Diagram showing flow of information of rice data inside Camil (rice husk data collection, processing and archiving) until it is sent to PTZ for Ers calculations.
14	Manual of electricity data archiving R1 Manual de arquivamento de dados de eletricidade R1	Procedure describing the monitoring, registration and archiving of electricity data in Camil Alimentos S.A.
15	Procedure for communication – CDM Project Management Planning Procedimentos comunicação – CDM Project Management Planing	Instructions of how to calculate Ers.
16	Manual for the maintenance of the thermoelectric Procedimentos manutenção termoelétrica	Procedure for the maintenance of Camil's thermoelectric.
17	F-CDM-SSCwg ver 01 SSC_174	Response from the SSC WG to the clarification form □ubmitted by PPs.
18	Validation Report – CAMIL Itaqui Biomass Electricity Generation Project (last accessed 30/01/09) http://cdm.unfccc.int/UserManagement/FileStorage/L0J8I9HCBJ0SQV7U1LKZVM1A4VQH8J	Validation Report for the first crediting period.
19	Area of disposal of Camil's rice husks	Photography of the authorized area used by Camil to dispose of rice

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Reference ID	Title / Description	Comments
		husks.
20	Operational License N°2884/2005-DL – FEPAM 13/06/2005 Licensa de Operação N°2884/2005-DL – FEPAM 13/06/2005	Environmental Regulators operational license for the rice husk landfill valid for 4 years from 13/06/05.
21	Ministry of Science and Technology (last accessed on 16/02/2009) Ministério de Ciência e Tecnologia http://www.mct.gov.br/index.php/content/view/74691.html	Site with the 2007 OM and BM values calculated by the Brazilian Ministry of Science and Technology
22	Industry maps 2002, 2006 and 2007 for PTZ – Mapa industria 2002, 2006 e 2007 para PTZ	Spreadsheets used by Camil to map the production and volume of rice in all different stages of the production line every month.
23	Datasul EMS204 printouts	Printouts of samples from the data management system used by Camil
24	Camil Invoices	Invoices issued by Camil regarding the purchase and moving of its product.
25	Speed Invoices	Invoices issued by Speed (the company contracted by Camil to transport rice husks to landfill).
26	Monthly Reports by Camil Alimentos S.A – Totals of electricity generated and exported Camil Alimentos S.A – Reports of eletricidade do gerador e exportada.	Monthly reports generated by the supervisory system with records of total energy generated daily and with the monthly totals for the total generated and exported to the grid.
27	Calculations PDD Camil Itaqui 2nd crediting period 01 July 08 Calculations PDD Camil Itaqui 2nd crediting period 26 March 09 Calculations PDD Camil Itaqui 2nd crediting period 08 July 09 Calculations PDD Camil Itaqui 2nd crediting period 22 September 09 – last version	Calculations of Ers for the second crediting period.
28	Indicative simplified baseline and monitoring methodologies for selected small-scale CDM project activity categories – General Guidance. http://cdm.unfccc.int/EB/041/eb41_repan20.pdf	EB41 Report – Annex 20
29	Modalities and procedures for a clean development mechanism http://unfccc.int/resource/docs/cop7/13a02.pdf#page=20	Modalities and procedures for a clean development mechanism as

* MoV = Means of Verification, DR= Document Review, I= Interview

Reference ID	Title / Description	Comments
		defined in Article 12 of the Kyoto Protocol (*COP decision 17/CP.7*)
30	CL 4 – CALDEIRA BIOCHAMM	Photograph of the plate with specifications of the boiler in CAMIL's project.
31	CL10 – Baseline boilers	Evidence of the existence of the baseline boilers.
32	ABNT NBR 10.004:2004 Brazilian Standards Association – Brazilian Standard 10.004:2004 http://www.aslaa.com.br/legislacoes/NBR%20n%2010004-2004.pdf (last accessed on 24/08/09).	First evidence provided by PP to show that ash is an inert material.
33	Laudo Técnico de Classificação de Resíduo Sólido Indurstrial (03/02/2003) – CAMIL – Análise Cinza Casca de Arroz zip file Technical Report of Classification of Industrial Solid Residues (03/02/2003) – CAMIL – Rice Husk Ash Analysis zip file	Evidence of ash from rice husk as inert material.
34	UFRGS, Relatório Técnico N° 3 – Projeto: Utilização de gás natural na secagem de grãos de arroz Prof. Carlos Bergmann Federal University of the State of Rio Grande do Sul, 3rd Tecnical Report – Utilisation of natural gas in the drying of rice grains Prof. Carlos Bergmann	Publication with the value of moisture of the rice husk.
35	NA	NA
36.	Monitoring Protocol 18/03/09 and annexes.	
37.	Declaração Transportadora de casca Statement Husk Transporters	Statement by the company that provides transport services to Camil with the volume capacity of the trucks.
38	Cientec 1986 p144 Rice husk bulk density	Rice husk density
39	capacidade-cinza-cacamba by Speed Transporte Ltda ash_truck_ capacity by Speed Transport Ltda	Report from Speed (the company that provides transport services to Camil) with average ash truck capacity of a sample tickets and its weights.
40	Camil Itaqui – Google coordinates check	Google Earth Picture used to check project coordinates

* MoV = Means of Verification, DR= Document Review, I= Interview

Reference ID	Title / Description	Comments
41	Camil quarterly reports to FEPAM	Sample of CAMIL's quarterly reports to FEPAM stating the status of the landfill site including details of removal of rice husks from the site.
42	Reltório Técnico 10.08.05	CAMIL Technical report of August 10th 2005 to FEPAM
43	IPPC 1996 Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories Reference Manual (Volume 3)	Reference for the parameters used in the calculation of the diesel EF.
44	Oak Ridge National Laboratory http://bioenergy.ornl.gov/papers/misc/energy_conv.html	Reference for one of the parameters used in the calculation of the diesel EF.
45	Camil Industry maps 2000 – Mapa industria 2000	Spreadsheets used by Camil to map the production and volume of rice in all different stages of the production line every month.
46	UNFCCC website with details of Parties to the Kyoto Protocol http://maindb.unfccc.int/public/country.pl?group=kyoto	UNFCCC website with details of Parties to the Kyoto Protocol
47	Decision 1 / CMP.2 http://unfccc.int/resource/docs/2006/cmp2/eng/10a01.pdf#page=3	Revision o definitions for small-scale CDM project activities referred to in paragraph 6(c) of decision 17/CP7
48	Tool to calculate the emission factor for an electricity system (version 1.1) http://cdm.unfccc.int/Reference/tools/index.html (last accessed 13/10/09)	Tool to calculate the emission factor for an electricity system (version 1.1)
49	Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site (version 4) http://cdm.unfccc.int/Reference/tools/index.html (last accessed 14/10/09)	Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site (version 4)
50	Google maps – CAMIL area http://maps.google.com/maps?hl=pt-BR&tab=wl	Google maps – used to check distance between site where husks are stored and the power plant in Camil.
51	Notification UNFCCC receipt request renewal crediting period Camil Itaqui 19 Dec 2008	Email by UNFCCC confirming receipt of request for renewal of the crediting period for the project Camil

* MoV = Means of Verification, DR= Document Review, I= Interview

Reference ID	Title / Description	Comments
		Itaqui Biomass Electricity Generation Project – Ref. No.0231.
52	Annex 2 of MoC	Change of contact details for Essent Energy Trading B.V.
53	Fwd Re 0231 - Change of address of project participant	Email by UNFCCC confirming change of contact detail for Essent Energy B.V.

* MoV = Means of Verification, DR= Document Review, I= Interview

A.3 Annex 3: Overview of Findings

Findings Overview

Findings from the renewal of the crediting period assessment of CAMIL Itaqui Biomass Electricity Generation Project.
Each Table below represents a finding from the validation assessment. The findings are numbered consecutively, approximately in the order that they have been identified and irrespective of the nature of the findings, for eg.: CAR #1, CAR #2, CL #3, FAR #4 etc.
Description of Table:

Type — Findings are either Corrective Action Requests (CARs), Clarification Requests (CLs), and Forward Action Request (FARs).
A corrective action request (CAR) is raised if one of the following occurs:

I. The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
II. The CDM requirements have not been met;
III. There is a risk that emission reductions cannot be monitored or calculated.

A clarification request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met
A forward action request (FAR) is raised during validation to highlight issues related to project implementation that require review during the first verification of the project activity. FARs shall not relate to the CDM requirements for renewal of crediting period.

Lead Assessor Comments — 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.

Please Note: This is an open list and more findings may be added as validation progresses. Responses to each Finding and relevant associated documentation should be recorded in this form by the Client and send back to the Lead Assessor in one submission to SGS.
SGS reserves the right to review the associated fees and timeline if:

- more than one response submission is received from the Client
- a finding (CL/CAR), raised by the Lead Assessor prior to Technical Review stage, is not closed within 30 days of notification to the Client by SGS.

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.

Findings Overview Summary

	CARs	CLs	FARs
Total Number raised	25	09	1

* MoV = Means of Verification, DR= Document Review, I= Interview

***Deadline for submission of Response by Client*:** closed

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CL	Number:	#1	Reference:	A.3.1
Lead Assessor Comment:					
Clarification is required as to why the UNFCCC website shows Essent Energy Trading BV Switzerland as PP and this is not shown in the version 1 of the PDD from July 1st 2008.					
Project Participant Response:				**Date:** *02/03/2009*	
Essent Energy Trading BV has Letters of Approvals of and holding accounts in three different countries: Germany, The Netherlands and Switzerland. Version 2 of the PDD is reflecting the necessary changes.					
Documentation Provided by Project Participant:					
Version 2 of the PDD of the 30th of March 2009					
Information Verified by Lead Assessor:					
The PDD Version 2 of the 30th of March 2009 was verified and the name of the PP Essent Energy Trading BV Switzerland is now shown.					
Reasoning for not Acceptance or Acceptance and Close Out:				**Date:** 23/04/2009	
The PDD Version 2 of the 30th of March 2009 was verified and the name of the PP Essent Energy Trading BV Switzerland is now shown. CL#1 was therefore closed out.					
Acceptance and Close out by Lead Assessor:				**Date:** 23/04/09	

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CAR	Number:	#2	Reference:	A.3.2
Lead Assessor Comment:					
Annex 1 of the PDD does not show the details of all Project Participants shown in section A.3 of the PDD.					
Project Participant Response:				**Date:** *03/03/2009*	
The details of all Project Participants are updated in section A.3 and in the Annex 1 of the PDD Version 2. *Essent Energy Trading BV has accounts in three different countries: Germany, The Netherlands and Switzerland. The letters of approval are directed to Essent Energy B.V. in The Netherlands and all the details of Essent Energy B.V. in The Netherlands are available in the section A.3 of the PDD.*					
Documentation Provided by Project Participant:					
Version 2 of the PDD of the 30th of March 2009 *Germany LoA* *http://cdm.unfccc.int/UserManagement/FileStorage/OLSBSOSXYVO6WNH12AP2AU7YOASF8H* *Swiss LoA* *http://cdm.unfccc.int/UserManagement/FileStorage/2791A9BZE5KN7ADKIQ3ZQQI1F5NDJQ*					
Information Verified by Lead Assessor:					
Version 2 of the PDD of the 30th of March 2009 and links provided above.					
Reasoning for not Acceptance or Acceptance and Close Out:				**Date:** 23/04/2009	
The DOE checked the LoAs and these are in fact addressed to Netherlands so that, the address for the Netherlands office of Essent Energy B.V. in Annex 1 is correct. CAR#2 was therefore closed out.					
Acceptance and Close out by Lead Assessor:				**Date:** 23/04/2009	

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CAR	Number:	#3	Reference:	A.4.1
Lead Assessor Comment:					
Latitudes and Longitudes of the project site are missing from the PDD. The new site where husks are stored (Borges de Medeiros, 2225) in Itaqui are also not mentioned.					
Project Participant Response:				**Date:** *02/03/2009*	

In the PDD Version 2, the information request can be found at page 5, item A.1.4.1.

Although, the landfill location has always been the same since the beginning of the project activity. The location at Borges de Medeiros, 2225 is not a landfill.

@@@ Updated Comment – 9/07/2009:

The location of Borges de Medeiros, 2225 refers to a store house used to keep temporally a certain amount of back-up rice husks for the Power Plant. This back-up amount of rice husks is transported by truck from the store house until the Power Plant. This amount of rice husks are stored in there for safe reasons, for example: when the rice mill stops, the rice husk generation stops; the amount of rice husks stored temporally in this store house prevents that the Power Plant also stops, providing rice husks under properly conditions (not extremely wet by the rain or degraded by environmental action).

The itinerary between the store house and CAMIL (where is located the Power Plant) don't present additional project emissions, once the store house is located 2 km far from CAMIL resulting in a total distance (CAMIL - Store House - CAMIL) equals to 4 km which is well below the distance of 12 km performed by the truck in the baseline scenario (from CAMIL up to the Landfill).

The store house location at Borges de Medeiros 2225 is presented on the updated version of the PDD.

Documentation Provided by Project Participant:	
Version 2 of the PDD of the 30th of March 2009	
Information Verified by Lead Assessor:	
Version 2 of the PDD of the 30th of March 2009 Verion 3 of the PDD July 8th 2009 Google Earth Map (Ref.40)	
Reasoning for not Acceptance or Acceptance and Close Out:	**Date:** 23/04/2009
The site mentioned above in this CAR disrespect a site where the rice husks are stored away from CAMIL rice processing area, before it is combusted. Methodology AMS III-E, paragraph 16 (d) states that "The project boundary are the physical, geographical sites: … (d) And in the itineraries between them, where the transportation of wastes and combustion residues and/or residues of gasification and mechanical/thermal treatment process occurs." CAR#3 remains opened. 24.08.09 - The DOE checked that the latitudes and longitudes of the project site were in the PDD version 3 (08/07/09). The geographical coordinates were crosschecked with Google Earth map (Ref. 40) and confer. Furthermore, the DOE also checked that the Borges de Medeiros site was added to the PDD version 3. CAR#3 is closed out.	
Acceptance and Close out by Lead Assessor:	**Date:** 24/08/09

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CL	Number:	#4	Reference:	B.1.3
Lead Assessor Comment:					
The PDD states that the nominal capacity of the plant is 4.2 MWe plus 7.8 MWth, which is well below the above mentioned maximum output capacity. The capacity of the generator was verified to be 4.2MWe, however it is not clear from site visit where the heat capacity was obtained from (evidence) and what transformation was done to come to the conclusion that the 45MW is not breached.					
Project Participant Response:				**Date:** *03/03/2009*	

The boiler generates steam at the condition of 35 t/h at 22 bar and 350ºC, which results in 30.5MWth. The enthalpy of the steam at 22 bar and 350ºC is 3,135kJ/kg and 35 t/h results in 30.5Mwth when converting from kJ to MW. Part of this steam (around 74%) goes to the turbine to run the generator, with the capacity of 4.2MW. The rest of the steam, around 26% or 7.8 MWth is sent to the Camil industrial process. *The steam conditions can be proved through the boiler and turbine plates.* *This explanation has been added as a footnote to the PDD version 2 section B2.* ***@@@ Updated Comment – 9/07/2009:*** ***PDD version 2 was updated on page 3 with the following information:*** **"The thermal capacity of the plant <u>designed for process heat</u> is 7.8 MWth. <u>The overall thermal generation capacity of the plant is 30.35 MWth.</u>"**
Documentation Provided by Project Participant:
Photos of the turbine and boiler plates are provided.
Information Verified by Lead Assessor:
Photos of the boiler plate were verified (Ref.30 of the AR6)

Reasoning for not Acceptance or Acceptance and Close Out:	**Date:** 23/04/2009
The plate (ref. 30) with the specifications of the boiler used in the project state that the calorific capacity is of 26,100,000Kcal/h. This represents 30.35 MW/h according to the software Convert. The PDD version 2 page 3 however states that the thermal capacity of the plant is 7.8MWth. This has to be made clearer in the PDD. CL#4 remains opened. 24.08.09 – The DOE has checked page 3 the PDD version 3 (08/07/09) and the above point has been clarified. CL#4 is therefore closed out.	
Acceptance and Close out by Lead Assessor:	**Date:** 24/08/09

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CL	Number:	#5	Reference:	B.1.3

Lead Assessor Comment:	
Applicability number 6 of the methodology AMS-III.E requires the "tool to determine methane emissions avoided from dumping waste at a solid waste disposal site" to be adjusted if in the baseline there is <u>usually</u> a reduction in the amount of waste through regular removal for other applications. PPs are required to present to the DOE the quarterly reports requested by the environmental regulators (FEPAM) in its operational license of the 13/05/05 (Ref.20), so that the DOE can check whether there has been removals of rice husks from the area for the period covered by the license (4years). If there have been removals the PPs are required to explain these removals.	
Project Participant Response:	**Date:** *27/03/2009*
A sample of 3 of the quartely reports is provided.	
Documentation Provided by Project Participant:	
The reports are dated at: *Sample 1(4 pgs) – May 16th 2006* *Sample 2(4 pgs) – May 21st 2008* *Sample 3(4 pgs) – Feb 10th 2009*	
Information Verified by Lead Assessor:	
The contents of the above documents provided by the PP and a further sample that was requested later (year 2005).	
Reasoning for not Acceptance or Acceptance and Close Out:	**Date:** 23/04/2009

Each of the reports above and a further report from 2005, which was subsequently asked in order to get a more representative sample, refer to a period of 3 months so that a total sample of 12 months of 4 years (the period covered by the license) was checked to confirm that no removals had occured. All the reports are included in this report under ref.41 (named Camil quarterly reports to FEPAM). No removals of waste from the solid waste disposal sites were evidenced. Furthermore, the landfill operational license (ref.20) specifies that no open burning shall occur the assessment team concluded that usually there is no reduction in the amount of waste through regular open burning nor removal for other applications. CL#5 was therefore closed out.
Acceptance and Close out by Lead Assessor: **Date:** 23/04/2009

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CL	Number:	#6	Reference:	B.1.3
Lead Assessor Comment:					
Clarification is required about paragraph 18 of the landfill operational license by FEPAM (Ref.20) which states that 'the company will have to send, within 60 days, a technical proposal for minimizing the generation of residues destined to the licensed landfill area, considering studies of the utilization of rice husks as a source of energy. This study should present proposals, perspectives and chronograms forecasted by the company to make this reduction viable'.					
Project Participant Response:				**Date:** *27/03/2009*	
It is provided a copy of the letter sent to FEPAM with the technical proposal for minimizing the generation of the residues. The letter is dated on August 15th of 2005.					
Documentation Provided by Project Participant:					
A scanned copy of the letter is provided (6 pgs letter).					
Information Verified by Lead Assessor:					
The document provided (Ref 42 Relatório Técnico 10.08.05), further interviews with Project Participants and FEPAM.					
Reasoning for not Acceptance or Acceptance and Close Out:				**Date:** 23/04/2009	
In the interview with FEPAM the DOE verified that any industrial activity is required by law to have a waste management plan but this law does not provide guidelines to the specifics of what should be done to reduce waste generation (i.e. use of husks as substrate). The choice of the management plan is carried out by the company. The license reflects requirements of the waste management plan proposed by CAMIL at the time of requesting the preliminary license (which is a pre-requisite for the installation license and the operational license) so the request for a technical proposal in the license stems from the management choice indicated by CAMIL to the regulators and not by specifics of the legislation. CL#6 was closed out.					
Acceptance and Close out by Lead Assessor:				**Date:** 23/04/2009	

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CL	Number:	#7	Reference:	B.1.3
Lead Assessor Comment:					
Reference used to define ash as an inert material is required so that the DOE can validate the statement on version 01 of the PDD that ash is an inert material.					
Project Participant Response:				**Date:** *10/03/2009*	
According to the Landfill Licence, the residues (rice husks and ash) are classified as Industrial Solid Residues Class II – which according to NBR 10004 are non dangerous residues. *Ash is classified as a residue Class II B – what, according to NBR 10004 are inert materials.* ***@@@ Updated Comment – 9/07/2009:*** ***According to the CAMIL rice husk ash analysis, page 4, this residue is classified as inert.***					
Documentation Provided by Project Participant:					

Copy of page 5 of NBR 10004. ***@@@ Updated Comment – 9/07/2009:*** ***CAMIL rice husk ash analysis.***
Information Verified by Lead Assessor:
Copey of page 5 of NBR 10004. CAMIL - Analise Cinza Casca Arroz
Reasoning for not Acceptance or Acceptance and Close Out: — **Date:** 23/04/2009
Section 4.2.2.2 of the reference NBR 10004 states that inert residues are "any residues that, when sampled in a representative way,…,and submitted to a dynamic and static contact with distilled and deionised water, in room temperature, …, will not have any of its constituents solubilised to concentrations superior to the levels of potable water, except for aspect, collor, turbidity, hardness and flavour…" It is still not clear how the PP tested that the ash from rice husks has such characteristics or where the PP can see that ash is classified as a residue Class II B. CAR#7 remains opened. 24.08.09 – The DOE examined the technical report sent by the PP with results of the tests carried out with the ash of the rice husks (Ref.33) and its classification according to NBR 10,004 (Ref.32). The report states that the ash from the rice husks is inert and solubility values reported are all below the limits set in NBR 10,004. CL#7 is therefore closed out.
Acceptance and Close out by Lead Assessor: — **Date:** 24/08/2009

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CAR	Number:	#8	Reference:	B.2.1
Lead Assessor Comment:					
The project's boundary needs to be further explained based on the guidance of the methodologies AMS-I.C and AMS-III.E.					
Project Participant Response: — **Date:** *06/03/2009*					
The project boundary is better explained in the pdd Version 2.					
Documentation Provided by Project Participant:					
Version 2 of the PDD of the 30th of March 2009					
Information Verified by Lead Assessor:					
Version 2 of the PDD of the 30th of March 2009 was checked for the explanation of the project boundary.					
Reasoning for not Acceptance or Acceptance and Close Out: — **Date:** 23/04/2009					
The description of the project boundary in section B.3. of the PDD version 2 now clearly describes the project boundary. CAR#8 was therefore closed out.					
Acceptance and Close out by Lead Assessor: — **Date:** 23/04/2009					

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CAR	Number:	#9	Reference:	B.2.2
Lead Assessor Comment:					
The Brazilian Grid was used for calculations but has not been correctly named throughout the PDD.					
Project Participant Response: — **Date:** *09/03/2009*					
It has been corrected and the Brazilian Grid is named correctly in Version 2 of the PDD. ***@@@ Updated Comment – 9/07/2009:*** ***10 June 2009: the correct grid is the 'Brazilian National Interconnected System (SIN)'. The mistake on page 24 has been corrected, and clear reference has been made to the grid throughout the PDD.***					
Documentation Provided by Project Participant:					
Version 2 of the PDD of the 30th of March 2009					
Information Verified by Lead Assessor:					

Version 2 of the PDD of the 30th of March 2009 Version 3 of the PDD of July 8th 2009.	
Reasoning for not Acceptance or Acceptance and Close Out:	**Date:** 23/04/2009
Page 24 of the PDD Version 2 states that the relevant electric power system is the 'Brazilian south submarket'. Clear reference to the project electricity system should be done throughout the PDD, following the definition given in the 'Tool to calculate the emission factor for an electricity system' and used by the Ministry of Science and Technology of Brazil. CAR#9 remains opened. 24.08.09 – The DOE has checked the changes in the PDD version 3. The relevant electric power system in page 23 of the PDD and throughout. CAR#9 was therefore closed out.	
Acceptance and Close out by Lead Assessor:	**Date:** 24/08/09

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CL	Number:	#10	Reference:	B.3.1
Lead Assessor Comment:					
Evidence is required that the three old boilers were used for steam and heat production in the baseline scenario, although no emission reduction can be accrued from heat generation, as to guarantee the baseline scenario chosen in the PDD version 1 for the renewal of the crediting period reflects the requirement of the methodology AMS-I.C.					
Project Participant Response:			**Date:** *27/03/2009*		
Camil Alimentos S.A. is a rice mill that also extracts oil from rice. This process needs steam to operate and the only way that a rice mill generates steam is through boilers. In the baseline year, year 2000, Camil was already extracting oil, what can be evidence that the old boilers were under use at the time. *The two boilers were purchased in 1986 what can be proved through the documents provided.*					
Documentation Provided by Project Participant:					
It is provided the opening terms for the two boilers; Navarra and Senio brands. *Besides the opening terms, photos of the boilers are also provided.*					
Information Verified by Lead Assessor:					
The opening terms of two baseline boilers - Navarra and Senio brands – Ref.31 of the AR6.					
Reasoning for not Acceptance or Acceptance and Close Out:			**Date:** 23/04/2009		
The opening terms of two of the baseline boilers (ref.31) were presented to the DOE and the address of installation and dates were checked. These together with the explanation of the PP above are considered sufficient evidence that boilers were generating steam and heat in the baseline year. CL#10 was therefore closed out.					
Acceptance and Close out by Lead Assessor:			**Date:** 23/04/2009		

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CAR	Number:	#11	Reference:	B.3.1
Lead Assessor Comment:					
Section B.4 of the PDD version 1 does not address in the text paragraph 9 of the methodology AMS-I.C.					
Project Participant Response:			**Date:** *06/03/2009*		

The Camil power plant does not import electricity from the grid to run the power plant equipments. It is the rice mill that imports electricity from the grid when the power plant is not generating enough energy. Considering this, the baseline emissions for electricity imported from the grid is not applied to the Camil power plant project. *These comments are part of the Version 2 of the PDD.* ***@@@ Updated Comment – 9/07/2009:*** ***10 June 2009: the project boundary in page 12 has been corrected and excludes the Rice Mill.***
Documentation Provided by Project Participant:
Version 2 of the PDD of the 30th of March 2009 *Version 3 of the PDD of the 8th of July 2009*
Information Verified by Lead Assessor:
Version 2 of the PDD of the 30th of March 2009 Version 3 of the PDD of the 8th of July 2009

Reasoning for not Acceptance or Acceptance and Close Out:	**Date:** 23/04/2009
From the comments above it is now understood that the energy utilised in the Rice Mill is from the grid and that this is not in the project boundary. Nevertheless, this raises further questions since it is in contradiction with the project boundary in page 12 of version 2 of the PDD, where the Rice Mill is included. CAR#11 remains opened. 27/08/09 – The DOE has checked that the project boundary has been corrected in page 12 of the PDD version 3. The boundary now clearly shows that the Rice Mill is not included in the project activity. CAR#11 was therefore closed out.	
Acceptance and Close out by Lead Assessor:	**Date:** 27/08/09

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CAR	Number:	#12	Reference:	B.3.1
Lead Assessor Comment:					
Neither data vintages which have been used and which will be used for the calculation of the EF, nor the methodologies and/or tools which apply are clearly specified in all sections of the PDD.					
Project Participant Response:			**Date:** *11/03/2009*		
The EF has been calculated by the Brazilian Science and Technology Ministry, who has followed the "Tool to calculate the emission factor for an electricity system". According to the EB, if an official source provides information or a value, it is preferred to use this information instead of calculating the value. ***@@@ Updated Comment – 9/07/2009:*** **Remark 10 June 2009: Clear reference has been made to the sections of the tool which it applies. Furthermore the data vintages used have been referred to in a clearer way throughout the PDD. For EFgrid,BM,y reference is made to the year 2008 to reflect the latest information available.** **@@ Updated comment 21 sept 2009** **The year 2007 has been used as reference year for OM and BM calculations.**					
Documentation Provided by Project Participant:					
PDD Version 4 and Spreadsheet calculations dated 22/09/09					
Information Verified by Lead Assessor:					
The above reply. PDD Version 4 and Spreadsheet calculations dated 22/09/09					
Reasoning for not Acceptance or Acceptance and Close Out:			**Date:** 23/04/2009		

Although the Brazilian Ministry for Science and Technology provides the values to be used the PDD must clearly explain, with the PP's own words, the data vintages used and make clear reference to the sections of the tool which it applies. CAR#12 remains opened. 27/08/09 – The data vintages for the OM and BM have been changed to 2008, however this was not requested by the DOE. The date of the version 1 of the PDD (which can be considered the time of the submission of the request for renewal of the crediting period to the DOE) is July 2008. Page 13 of the "Tool to calculate the emission factor for an electricity system" states that "For the second crediting period, the build margin emission factor should be updated based on the most recent information available on units already built at the time of the submission of the request for renewal of the crediting period to the DOE." Furthermore, page 4 of the "Tool" states that "For the dispatch data analysis OM, use the year in which the project activity displaces grid electricity and update the emission factor annually during the monitoring period" which makes this a ex-post option and therefore only one year should be used for calculations (see ex-post option page 4 of the "Tool"). The tools and steps which apply are now clearly specified in all sections of the PDD. CAR#12 remains opened. 30/09/09 – The OM and BM EFs for 2007 were used in the PDD version 4 and the revised spreadsheet calculations dated 22/09/09. This is in accordance with the above and thus the "Tool to calculate the emission factor for an electricity system". CAR#12 was therefore closed out.
Acceptance and Close out by Lead Assessor: **Date:** 30/09/09

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CAR	Number:	#13	Reference:	B.3.1
Lead Assessor Comment:					
The version of the "Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site" in the PDD version 1 needs to be updated.					
Project Participant Response:				**Date:** *06/03/2009*	
Version 04 of the "Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site" is used in the PDD Version 2.					
Documentation Provided by Project Participant:					
Version 2 of the PDD of the 30th of March 2009					
Information Verified by Lead Assessor:					
Version 2 of the PDD of the 30th of March 2009					
Reasoning for not Acceptance or Acceptance and Close Out:				**Date:** 23/04/2009	
The latest version of the tool is used in PDD version 2. CAR#13 was closed out.					
Acceptance and Close out by Lead Assessor:				**Date:** 23/04/2009	

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CAR	Number:	#14	Reference:	B.4.1
Lead Assessor Comment:					
The Baseline emissions formula are sometimes described in the PDD as BEy= EGy*EFy and some times as BEy= ∑(Egj,y*Efj,y)/12. Revise the whole PDD for formula inconsistencies (not just this one) and use the formulae which best describe the procedures in the methodologies and tools so that the same procedure is used in the ex-ante estimates of emissions reduction and during the monitoring period.					
Project Participant Response:				**Date:** *09/03/2009*	

The correct formulae to describe the baseline emission according to the methodology AMS I-C is BEy= ∑(EGj,m*EFj,m). It has been changed in the Version 2 of the PDD. ***@@@ Updated Comment – 9/07/2009:*** **Remark 10 June 2009: the baseline emissions formula have been updated following exactly the formulae of AMS IC and the 'tool to calculate the emissions factor for an electricity sytem', AMS IIIE and other relevant tools.** **@@ Updated comment 21 Sept 2009.** **The last inconsistencies have been removed.**
Documentation Provided by Project Participant:
Version 2 of the PDD of the 30th of March 2009 Version 4 of the PDD of the 15th of September 2009
Information Verified by Lead Assessor:
Formulas in Version 2 of the PDD of the 30th of March 2009 And Version 4 of the PDD of the 15th of September 2009

Reasoning for not Acceptance or Acceptance and Close Out:	**Date:** 01/05/2009
There are still inconsistencies between formulas and description of parameters (see for example page 14 and 15 of the PDD version 2). CAR#14 remains opened. 30/08/09 – The PP introduced the parameter EGy as being the parameter EGpj,y in the formula for calculating the OM (see page 24 and 37). The site of the Brazilian MCT already works out the OM factor(same as for BM) and therefore there is no need for further calculations of this parameter by the PP. CAR#14 remains opened. 30/09/09 – Version 4 of the PDD was reviewed and the DOE confirmed that all formulas including the baseline emissions formula of the methodology AMS-I.C. are now correct. CAR#14 is closed out.	
Acceptance and Close out by Lead Assessor:	**Date:** 30/09/09

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CAR	Number:	#15	Reference:	B.4.1
Lead Assessor Comment:					
The formula used to calculate the emission factor of the grid is different from the one given in the "Tool to calculate the emission factor for an electricity system" version 1.1. The difference in the formulas applied have resulted in a difference of + 2% in the Bey value calculated.					
Project Participant Response:				**Date:** *06/03/2009*	

According to the tool, the baseline emissions are calculated as follows:

BEy=EGy*EFy

EFy= Wom*EF_MOj,y+EF_BMy (step 6)

For the calculation of EF_OMj,y and EF_BMy we used emission factors provided by the Brazilian Government.

The EF used is provided by the Brazilian Science and Technology Ministry (an official source), which calculated the EF according to the "Tool to calculate the emission factor for an electricity system".

@@@ Updated Comment – 9/07/2009:

Remark 10 June 2009: the baseline emissions formula and calculations have been updated following <u>exactly</u> the formulae of AMS IC and the 'tool to calculate the emissions factor for an electricity sytem'.

@@ Updated comment 21 Sept 2009
The OM factor (EFgrid, OM,y) and BM factor (EFgrid,BM,y) were not recalculated but taken from the web Brazilian MCT site. Changes in PDD were made to make this very clear. The MCT website presents monthly data of OM. The average of the monthly OMs of 2007 were taken to calculate the yearly OM of 2007.

Documentation Provided by Project Participant:

Version 2 of the PDD of the 30th of March 2009
Version 4 of the PDD of the 15th of September 2009 and Spreadsheet calculations dated 22/09/09.

Information Verified by Lead Assessor:

Formulas in Version 2 of the PDD of the 30th March 2009
PDD Version 4 and Spreadsheet calculations dated 22/09/09

Reasoning for not Acceptance or Acceptance and Close Out:	**Date:** 01/05/2009

The formula in step 6 of the "Tool to calculate the emission factor for an electricity system" is:

$EF_{grid,CM,y} = EF_{grid,OM,y} \times W_{OM} + EF_{grid,BM,y} \times W_{BM}$

If the formulas are not <u>exactly</u> as they are shown in the tools or methodologies, the reasons for changes and underlying assumptions have to be explained in the PDD for transparency purposes. CAR#15 remains opened.

30/08/09 – both parameters EFgrid,OM,y and EFgrid,BM,y are given in the Brazilian MCT web site. There is no need to recalculate the OM.

CAR# 15 remains opened.

30/09/09 – The PP revised the Spreadsheet calculations dated 22/09/09 and the DOE verified that it now uses the formulas as per "Tool to calculate the emission factor for an electricity system". The PDD was also checked by the DOE and found to be revised by the PP accordingly. CAR#15 was therefore closed out.

Acceptance and Close out by Lead Assessor:	**Date:** 30/09/09

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CAR	Number:	#16	Reference:	B.4.1

Lead Assessor Comment:

The methodology AMS-III.E requires a quantitative analysis to be carried out using one of 3 options described in page 5, in order of priority. It also states that restrictions for leaving the biomass in a stockpile indefinitely should also be taken into account. The choice of year 2000 as the control group has not been properly justified in the PDD and there is no discussion of the existence or not of restrictions in leaving the biomass in stockpiles.

Project Participant Response:	**Date:** *11/03/2009*

On page 15 of the PDD, Version 2, it is possible to verify the explanation of this CAR.

Although, paragraph 22 refers to projects that the biomass stock pills are part of the baseline scenario.

In the case of Camil project, the baseline scenario is the situation described in paragraph 21 of the methodology III-E v15.1, where in the absence of the project activity, organic waste matter is left for decay within the project boundary and methane is emitted to the atmosphere.

@@@ Updated Comment – 9/07/2009:

Remark 10 June 2009:
The explanation why option 1 was not chosen has been included in the PDD.

Documentation Provided by Project Participant:	
Version 2 of the PDD of the 30th of March 2009	
Information Verified by Lead Assessor:	
The explanation in Version 2 of the PDD of the 30th March 2009. The operational license by FEPAM (Ref.20).	
Reasoning for not Acceptance or Acceptance and Close Out:	**Date:** 01/05/2009
The Operational License by FEPAM was verified and this has no restrictions on leaving the biomass in the landfill area. An explanation with regards to the option of quantitative analysis carried out as required by the Methodology AMS-III.E was added to the PDD version 2. Year 2000 was chosen as the baseline scenario since this was the year before the implementation of the power plant and the most similar scenario that would had happened if the power plant had not been built. The DOE agrees that year 2000 would represent the most recent data on waste disposal practices, before the implementation of the power plant, and thus the most accurate baseline scenario. However there was no explanation in the PDD version 2 as to why option 1 (project specific waste disposal data from at least 3 years prior to the implementation of the project activity) was not chosen. CAR#16 remains opened until this reasoning is added to the PDD. 30/08/09 - The reasoning for not choosing option 1 was added to the PDD version 3. The reason was that data on waste disposal practices from at least 3 years prior to the implementation of the project activity did not exist. The DOE accepted the explanation as reasonable and since it had already agreed in the appropriateness of year 2000 CAR #16 was closed out.	
Acceptance and Close out by Lead Assessor:	**Date:** 30/08/09

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CL	Number:	#17	Reference:	B.4.1
Lead Assessor Comment:					
The discounting of moisture content from the biomass is not called for in the methodology AMS-III.E or the "Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site". Clarification is required as to why this is done. The reference given in the PDD section B.6.2 can not be found in the web so reference has to be provided. This reference will also be used to confirm husk to rice ratio used in the determination of Qbiomass_total.					
Project Participant Response:				**Date:** *12/03/2009*	

Once it is not called the discounting the moisture content of the biomass, it will be removed from the PDD and the calculations. The PDD version 2 and the latest version of the calculation shall reflect the necessary changes.

A copy of the pages of the reference to proof the rice to husk ratio is being sent to SGS.

@@@ Updated Comment – 9/07/2009:

Remark 10 June 2009:
The discounting of moisture content discounting has been included again, and the correct dry waste value of DOCj of 38% is applied.

The moisture content of rice husks is 12%, which is very dry, also called 'air dry'. The "Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site", does not indicate whether with DOCj (% 'dry waste') 'air dry' or 'oven dry' is meant. However, as to be conservative, discounting of the moisture content is applied.

Documentation Provided by Project Participant:

The document "UFRGS, Relatório Técnico N°3 – Projeto: Utilização de gás natural na secagem de grãos de arroz - written by Prof. Carlos BergmannPublication" shows the husk to rice husks factor.

This document is provided to SGS but can also be found on the web.

Information Verified by Lead Assessor:

Formulas in Version 2 of the PDD of the 30th of March 2009
Calculations PDD Camil Itaqui 2nd cred per 26 mar 09

Reasoning for not Acceptance or Acceptance and Close Out:	**Date:** 01/05/2009

The DOE requested the PP to explain why the moisture content of the biomass was discounted in the initial calculations. The PP did not explain that in its response above but excluded this parameter from calculations. A clarification of the above is still needed in the light of the PP's choice of the dry waste value (38%) as opposed to the wet waste value (15%) for the parameter DOCj (Fraction of degradable organic carbon (by weight) in the calculations of the baseline emissions. CL#17 remains opened.

The DOE checked Ref. 34 for the moisture content value of 12%. That is indeed very dry even if the "tool" means oven dry, and agrees that by discounting the 12% moisture content in rice husks the PP is being conservative since it is applying the correct dry waste DOCj value of 38%.

The husk to rice ratio used in the determination of Qbiomass_total was also confirmed as 23%.

CL# 17 was therefore closed out.

Acceptance and Close out by Lead Assessor:	**Date:** 31/08/09

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CL	Number:	#18	Reference:	B.4.1

Lead Assessor Comment:

The OX used is 0 with the justification that the solid waste disposal site is not covered with oxidizing material however the operational license of the landfill requires it to be subsequently covered with soil for subsequent planting of grasses.

Project Participant Response:	**Date:** *12/03/2009*

We will change the oxidation factor to 0.1, for managed solid waste disposal sites that are covered with oxidizing material such as soil or compost.

The landfill is covered and it can be verify in the quarterly report provided to clarify the CL 6 raised.

It is provided a copy of the letter sent to FEPAM with the technical proposal for minimizing the generation of the residues where the proof the landfill has been covered. The letter is dated on August 15th of 2005.

Documentation Provided by Project Participant:	
A scanned copy of the letter is provided (6 pgs letter).	
Information Verified by Lead Assessor:	
Formulas in Version 2 of the PDD of the 30th of March 2009 Calculations PDD Camil Itaqui 2nd cred per 26 mar 09	
Reasoning for not Acceptance or Acceptance and Close Out:	**Date:** 01/05/2009
The PP has changed the oxidation factor to 0.1 in version 2 of the PDD and version 2 of the ER calculations. CL#18 is closed out.	
Acceptance and Close out by Lead Assessor:	**Date:** 01/05/2009

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CAR	Number:	#19	Reference:	B.4.1
Lead Assessor Comment:					
Section B.6.1 states that the parameter f from the 'Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site' is zero. This has been checked during site visit. However, there are no discussion about why the Mdy,regy has been added to the formula in the methodology AMS-III.E. Furthermore neither of these parameters are included in section B.7.1.					
Project Participant Response:				**Date:** *12/03/2009*	
Indeed it is not necessary to add Mdy,regy to the formula in the methodology AMS III.E. We will remove it from the PDD version 2.					
Documentation Provided by Project Participant:					
Information Verified by Lead Assessor:					
Formulas in Version 2 of the PDD of the 30th March 2009					
Reasoning for not Acceptance or Acceptance and Close Out:				**Date:** 01/05/2009	
Formulas in Version 2 of the PDD were changed and parameter f (Fraction of methane captured at the SWDS and flared, from dumping waste at a solid waste disposal site) was added to section B.7.1 of the PDD. CAR#19 was closed out.					
Acceptance and Close out by Lead Assessor:				**Date:** 01/05/2009	

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CAR	Number:	#20	Reference:	B.4.2
Lead Assessor Comment:					
The PDD Version 1, states that only ash is transported as a result of the project activity, however it was mentioned by PPs during the site visit that there is a new site where husks are stored (Borges de Medeiros, 2225) at approximately 1Km from the site. The exclusion of these emissions from the project have to be justified in the PDD in sections B.3 – about project boundary sections (see CAR#8) – and B.6.1, due to requirements of the new version of the methodology AMS-III.E (paragraphs 17 (b) I, and 19 pages 3 and 4/10).					
Project Participant Response:				**Date:** *12/03/2009*	
The landfill where the rice husks are stored has been always located at the same address: Sesmaria Rocha, primeiro distrito do município de Itaqui. The site at Borges de Medeiros, 2225 is a place where they keep for one or two days the rice husks when the feeding system of the boiler is full. It is not a landfill where the residues are left for decay. *The distance between the Camil address at Rua Afonso Escobar, 1193 and Av. Borges de Medeiros,2225 is around 1 Km or one block and the emissions related have not been considered in the project once the distance is small and once the period the rice husks are left is really short.*					
Documentation Provided by Project Participant:					
Information Verified by Lead Assessor:					

The above explanation.	
Reasoning for not Acceptance or Acceptance and Close Out:	**Date:** 01/05/2009
The DOE re-examined the text in the methodology AMS-III.E which states that project activity emissions consist of: "Incremental distances between the collection points to the project site as compared to the beseline disposal site". The distance the rice husks travelled to the baseline disposal site is approximately 10 Km and the distance to and from the storage place of the rice husks before it is combusted is approximately 1.3Km so that the DOE concludes that there is no incremental distance travelled when these are compared. CAR#20 was closed out.	
Acceptance and Close out by Lead Assessor:	**Date:** 01/05/2009

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CL	Number:	#21	Reference:	B.4.2
Lead Assessor Comment:					
PEy, power was excluded from project emissions even though this is a requirement of the methodology AMS-III.E (see paragraph 17 I p.3/10). Clarification is required since during the last crediting period, the PDD required the PPs to monitor energy imported from the grid and the values for energy imported appear in past monitoring reports.					
Project Participant Response:			**Date:** *12/03/2009*		
PEy, power was excluded because 'all electricity needed to run the rice husk power plant is produced by the same power plant'. In case electricity would be imported, this would be reduced from the total electricity produced as measured under AMS-IC. Therefore it is not necessary to include PEy under AMS IIIE. See also our response under CAR #11 *During the first crediting, the energy imported from the grid was used only as a double-check on the electricity measured by the electronic supervisory system. This double-check was however a very complex, time consuming and not required by the methodology. In the second crediting period, as required by AMS-IC, periodic calibrations will be used to guarantee that the electricity measured by the electronic supervisory system is measured correctly. See also our response under CAR # 29.*					
Documentation Provided by Project Participant:					
Information Verified by Lead Assessor:					
The above information and PDD version 2.					
Reasoning for not Acceptance or Acceptance and Close Out:			**Date:** 01/05/2009		
Closure of CL#21 is pending answer to CAR#11. 31/08/09 – CAR#11 was closed because it became understood from PP's answers that energy utilised in the Rice Mill is from the grid and that this is not in the project boundary. The DOE checked that the project boundary had been corrected in page 12 of version 3 of the PDD. The boundary now clearly shows that the Rice Mill is not included in the project activity. Furthermore the PP explained that during the first crediting, the energy imported from the grid to the rice mill was monitored and used only as a double-check on the electricity measured by the electronic supervisory system but that this QA/QC procedure was time consuming and unnecessary given that it is not requested by methodologies AMS-I.C or AMS-III.E, and that energy meters will be calibrated. Page 30 of the PDD version 3 explains states that "All the electricity needed to run the rice husk power plant is produced by the same power plant. So the use of electricity is renewable and the emission through electricity or diesel consumption is zero." CL# 21 was closed out given that the DOE checked that in past verifications the energy imported was not discounted it was (as the PP informed) only used as a double check that the meter was operating correctly.					
Acceptance and Close out by Lead Assessor:			**Date:** 31/08/09		

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CAR	Number:	#22	Reference:	B.4.2

Lead Assessor Comment:	
Reference to the ash to husk factor applied to find Qy,ash is missing from PDD.	
Project Participant Response:	**Date:** *12/03/2009*
The 'ash to husk factor' is the same as the 'ash content of the biomass', referred to as AC, which is available in the PDD, for instance in section B 6.2 and B6.4. A literature reference is also given.	
Documentation Provided by Project Participant:	
The document "UFRGS, Relatório Técnico N°3 – Projeto: Utilização de gás natural na secagem de grãos de arroz - written by Prof. Carlos BergmannPublication" shows the ash content of the biomass.. *This document is provided to SGS but can also be found on the web.* ***@@@ Updated Comment – 9/07/2009:*** **Remark 8 July 2009 The document has been provided to SGS.**	
Information Verified by Lead Assessor:	
The above answer. Version 4 of the PDD of the 15th of September 2009 and Spreadsheet calculations dated 22/09/09.	
Reasoning for not Acceptance or Acceptance and Close Out:	**Date:** 01/05/2009
Neither the above document nor the link to it were provided to SGS. CAR#22 remains opened. 31/08/09 – The above reference was provided to the DOE (Ref.34) and the value for the ash to husk factor was confirmed to be 18.6%. The correct value has been used on spreadsheets however the PDD states a value of 18% for ex-ante calculations. CAR# 22 remains opened. 30/09/09 – The PP revised the PDD to version 4 and the DOE verified that the value used for ex-ante calculations in section B.7.1 of the PDD now reads 18.6% which is the correct value. CAR#22 is therefore closed out.	
Acceptance and Close out by Lead Assessor:	**Date:** 30/09/09

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CAR	Number:	#23	Reference:	B.5.1
Lead Assessor Comment:					
Section B.6.2 of the PDD version 1 does not reflect the ex-ante parameters mentioned in the methodology AMS-I.C and the 'Tool to calculate the emission factor for an electricity system' or the requirements of the latest 'Guidelines for completing the simplified project design document (CDM-SSC-PDD)' which says that "This section shall include a compilation of the data and parameters NOT monitored but determined upfront so as to be available for validation. Data from monitoring (e.g. measurements after the implementation of the project activity) should not be included here but in the table in section B.7.1." All parameters must be revised to ensure they are placed under the relevant data sections (B.7.1 or B.6.2). Revise all parameters listed in section B.7.1 so that it complies with requirements of the methodologies AMS-I.C. and AMS-III.E, the 'Tool to calculate the emission factor for an electricity system', the 'Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site' and the requirements of the latest 'Guidelines for completing the simplified project design document (CDM-SSC-PDD)'.					
Project Participant Response:			**Date:** *12/03/2009*		

We have made revisions in part B.6.2 and B.7.1.

Related to AMS-III.E a number of parameters monitored in the first crediting period, have been used as input to the ex ante emission reduction calculation presented in section 6.3. Therefore some of the monitored data available from the first crediting period, appears in section B 6.2 as 'data and parameters that are available at validation'.

@@@ Updated Comment – 9/07/2009:

Remark 10 June 2009. All data that is monitored is moved to section 7.1, and not covered in section 6.2 anymore. All parameters listed in section 7.1 have been revised such they comply with the requirements of the AMS IC, AMS IIIE, the the 'Tool to calculate the emission factor for an electricity system', the 'Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site' and the requirements of the latest 'Guidelines for completing the simplified project design document (CDM-SSC-PDD)'.

@@ Updated comment 21 Sept 2009
The parameters $RP_{with\ husks,\ baseline}$, $CT_{rice\ husk,\ baseline}$ and $NI_{rice\ husk,\ baseline}$ are parameters describing the baseline situation in 2000 in absence of the project activity. These parameters are determined at validation and will not be further monitored. Therefore they should be placed in section B 6.3, not in B 7.1.

Documentation Provided by Project Participant:

Version 2 of the PDD of the 30th of March 2009

Information Verified by Lead Assessor:

Sections B.6.2 and B.7.1of PDD version 2 were verified.

Reasoning for not Acceptance or Acceptance and Close Out:	**Date:** 06/05/2009

The parameters applied in the calculation of expected emission reductions in section B.6.3 are not to appear in section B.6.2 if these will be monitored. The monitored parameters are to be presented in section B.7.1. All parameters in sections B.6.2 and B.7.1 should be revised to comply with Guidelines already cited above. CAR#23 remains opened.

31/08/09 – Parameter NIrice husk is a monitored parameter according to section B.7.1 in the PDD version 3. This parameter is also seen in section B.6.2. of the PDD. Therefore, sections B.7.1 and B.6.2 seem to still need revising.

CAR#23 remains opened.

02/10/09 – The PP revised all parameters listed in section B.7.1 and section B.6.2 in the PDD version 4. The DOE verified that these sections now comply with requirements of the methodologies AMS-I.C. and AMS-III.E, the 'Tool to calculate the emission factor for an electricity system', the 'Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site' and the requirements of the latest 'Guidelines for completing the simplified project design document (CDM-SSC-PDD)'.

CAR #23 is therefore closed.

Acceptance and Close out by Lead Assessor:	**Date:** 02/10/09

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CAR	Number:	#24	Reference:	B.6.4

Lead Assessor Comment:

Although Qgenerated is seen in section B.7.1 and it is an integral part in the determination of the ERs, this parameter was not explained in sections B.4, B.6 and B.6.3.

Project Participant Response:	**Date:** *12/03/2009*

*Qgenerated equals HC * RP with husks in section B.4. To make it more clear, we added the line Qgenerated = HC * RP and other adjustments at the appropriate locations in sections B.4, B.6 and B. 6.3 of the PDD version 2.*
Documentation Provided by Project Participant:
Version 2 of the PDD of the 30th of March 2009 *[Note to PP: Please provide evidence to the Response above, clearly reference the documentation and indicate documentation name/version and date here- for soft copies, exact names of electronic files and if applicable, active links to the web page; reference to the section(s) and text within the documentation including page number(s) should be provided for easy reference and transparency]*
Information Verified by Lead Assessor:
Sections B.4, B.6 and B.6.3 of the PDD version 2 of the 30th of March 2009.
Reasoning for not Acceptance or Acceptance and Close Out: — **Date:** 06/05/2009
The explanation of how to calculate Qgenerated has now been added to sections B.4, B.6 and B.6.3 of the PDD version 2 making the explanation of calculations more transparent to the reader. CAR#24 was closed out.
Acceptance and Close out by Lead Assessor: — **Date:** 06/05/2009

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CAR	Number:	#25	Reference:	B.6.4

Lead Assessor Comment:
It was not evidenced how the value for CTy,ash was estimated. Furthermore, methodology AMS-III.E p.9 requires this parameter to be measured and monitored. It was also not mentioned in the PDD version 1 how this will be done.
Project Participant Response: — **Date:** *12/03/2009*
The PDD page 29 section B6.1 and B 6.3 explains that the truck capacity will be measured once a standard truck with a fixed volume will be used. We will include the measurement and monitoring of CTy,ash in B.7.1 'data and paramters monitored' and indicate how this will be done. *It is used a representative sample (from the average of 10 samples) of the truck capacity carrying ash. The average found is 7,661 kg per truck.*
Documentation Provided by Project Participant:
The representative sample was develop by the truck company and can be verified at the document " Capacidade Cinza Caçamba", that is provided to SGS. Comment 8 July 2009: the document 'Capacidade Cinza Caçamba' has been provided to SGS.
Information Verified by Lead Assessor:
Sections B.6.1, B.6.3 and B.7.1 of Version 2 of the PDD of the 30th March 2009 "Capacidade_cinza-caçamba" by Speed transportation Ltda (ref.39)
Reasoning for not Acceptance or Acceptance and Close Out: — **Date:** 08/05/2009

The document cited above "Capacidade Cinza Caçamba" was not provided to the DOE. Evidence should be provided so that the DOE can establish if the value applied for the estimates are reasonable. Section B.7.1 of Version 2 of the PDD was checked and this parameter is now reflected there. Paragraph 12 b) of the 'Indicative Simplified Baseline and Monitoring Methodology for Selected Small-Scale CDM Project Activity Categories' General Guidance (Ref.28) states that "Data elements that are generally constant and indirectly related to the emission reductions (e.g. Emission factors, Calorific Value, System Efficiencies) should be measured or calculated at least once in an year, unless detailed specifications are provided as part of the indicated methodology". This guidance should be taking into account for this parameter and reflected in sections B.6.1, B.6.3 and B.7.1 of the PDD. CAR#25 remains opened. 31/08/09 – PDD version 3 was verified and the parameter CTy, ash now shows as being monitored once a year in sections B.6.1, B.6.3 and B.7.1. The document "Capacidade_cinza-caçamba" by Speed transportation Ltda (ref.39) was provided to evidence the value of the trucks' ash carrying capacity. The DOE verified that the value is 7.66 t/truck. CAR# 25 was therefore closed.
Acceptance and Close out by Lead Assessor: **Date:** 31/08/09

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CAR	Number:	#26	Reference:	B.9.2
Lead Assessor Comment:					
The thermal energy does not come into the ERs calculations, however the methodology requires it to be measured. This parameter is not in section B.7.1. of version 1 of the PDD					
Project Participant Response: **Date:** *12/03/2009*					
AMS-I.C point 18.(b) requires metering the thermal and electric energy generated for co-generation projects. However, the data from measuring the thermal energy will not be used for any purpose, since, very conservatively, the project does not claim any emission reductions from thermal processes. Measuring the thermal energy does therefore neither increase nor decrease the accuracy and reliability of the monitored data and emission reductions. *If there is a need is to prove that indeed also thermal energy is generated in the project activity, it is sufficient to explain the CAMIL rice production process, which has an inevitable demand of thermal energy. Camil Alimentos S.A. is a rice mill that dries rice and produces parboiled rice. These processes need hot gases or steam to operate and the only way that a rice mill generates steam or hot gases is through boilers providing thermal energy.* *Please note that CAMIL presently does not measure its thermal energy, and measuring the thermal energy would lead to high (unnecessary) costs* *@@@ Updated Comment – 9/07/2009:* *The thermal energy monitoring procedures were implemented in the PDD updated version.* *@@ Updated comment 21 September 2009* *The specific fuel consumption related to the electricity generation, in tonnes rice husk/MWh is presented in the calculations, sheet 'Electricity data IC, cell D98'. As discussed on 17 Sept 2009 by phone, it is not necessary to calculate the specific fuel consumption related to thermal energy. It is observed that the measurement of thermal energy is only done because required by AMS IIIE, but has no function in the emission reduction calculation.*					
Documentation Provided by Project Participant:					
Information Verified by Lead Assessor:					
The above answer, Calculations PDD Camil Itaqui 2nd cred per 26 Mar 09.excel, Version 2 of the PDD of the 30th March 2009 and AMS-I.C.					
Reasoning for not Acceptance or Acceptance and Close Out: **Date:** 09/05/2009					

Paragraph 7.(e) of the methodology states "Electricity is imported from the grid and/or produced in an on-site captive power plant (with a possibility of export to the grid); steam/heat is produced from renewable biomass". This means that the methodology does allow for the use of biomass in the baseline scenario for baseline calculations, and because the project uses renewable biomass for the generation of heat too, there is no ERs on that account. The methodology also requires in paragraph 18. (b) "Metering the thermal and electrical energy generated for co-generation projects. 31/08/09 – The PDD version 3 was revised and the parameters required to calculate the thermal energy generated, that is, boiler outlet steam flow, temperature and pressure, are now in section B.7.1 and will be monitored. Considering that the project only utilises biomass (rice husks) the specific fuel consumption was calculated ex-ante for electricity based on this fuel only. A value of 2.37t/MWh was found. However, considering that there is no fossil fuel consumption, the DOE concludes that steps of the paragraphs 21 to 23 are not applicable. CAR #26 was closed out.
Acceptance and Close out by Lead Assessor: **Date:** 30/09/09

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CAR	Number:	#27	Reference:	B.9.4
Lead Assessor Comment:					
Section B.7.1 of the PDD does not specify the type of equipment used to measure the value of RPwith-husks.					
Project Participant Response:			**Date:** *12/03/2009*		
The RPwith husks are measured as the difference between the truck full with rice and the truck empty. The measuring system used before and after the truck is empty, is a regular truck balance type/brand Ferrando with electronic arm Muller of 80 tonnes.. ***@@@ Updated Comment – 9/07/2009:*** ***The amount of RPwith-husks processed is measured in a flux balance which will be calibrated according to Brazilian standards at least once in 3 years.***					
Documentation Provided by Project Participant:					
Information Verified by Lead Assessor:					
The above answer and PDD version 3.					
Reasoning for not Acceptance or Acceptance and Close Out:			**Date:** 13/05/2009		
The closure of CAR#27 is pending the closure of CAR#30 below. 31/08/09 – The DOE verified that section B.7.1 of the PDD version 3 now states that the flux balance will be used to measure RPwith-husks. CAR# 30 below was closed out. CAR# 27 is therefore closed out.					
Acceptance and Close out by Lead Assessor:			**Date:** 31/08/09		

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CAR	Number:	#28	Reference:	B.9.4
Lead Assessor Comment:					

Section B.7.1 of the PDD says that moisture content (MC) and Ash Content (AC) will be measured through a representative sample and once. It is not clear how the PPs ensure a representative sample. Furthermore, the 'Indicative Simplified Baseline and Monitoring Methodology for Selected Small-Scale CDM Project Activity Categories' General Guidance (Ref.28) states that "Data elements that are generally constant and indirectly related to the emission reductions (e.g. Emission Factors, Calorific Values, System Efficiencies) should be measured or calculated at least once in an year, unless detailed specifications are provided as part of the indicated methodology. GWP_CH4 is also required to be monitored annually by the "Tool to determine methane emissions avoided from dumping of waste at a solid waste disposal site".	
Project Participant Response:	**Date:** *12/03/2009*
Because of the findings of CAR #17, discounting moisture content of biomass is not necessary, and therefore will not be monitored. *The ash content will be measured by an authorized laboratory once in a year.* ***@@@ Updated Comment – 9/07/2009:*** **1) As to be conservative, the moisture content will be discounted and therefore monitored, once a year.** **2) OK** **3) MC and AC will be measured annually. This is corrected in section B.7.1. of the PDD. GWP_{CH4} has also been moved to section 7.1 and will be monitored annually.** ***The updated version of the PDD states that the Moisture content and Ash content will be determined yearly through lab analysis <u>using an appropriate sample as requested by the laboratory</u>.***	
Documentation Provided by Project Participant:	
Information Verified by Lead Assessor:	
The explanation above and PDD Version 2.	
Reasoning for not Acceptance or Acceptance and Close Out:	**Date:** 09/05/2009
1) The issue about MC is pending closure of CAR#17. 2) The representativeness of the samples can be evaluated at verification. 3) Section B.7.1 of the PDD still does not indicate that the parameters will be monitored once a year. CAR#28 remains opened because of items 1 and 3 above. 31/08/09 – 3) The discounting of the MC was accepted and CAR# 17 was closed out. This parameter is therefore part of the monitoring plan. 4) The PDD version 3 now reads that the moisture content will be measured through laboratory analysis using <u>appropriate</u> sample. As suggested by the study in ref.34, "UFRGS, Relatório Técnico N° 3 – Projeto: Utilização de gás natural na secagem de grãos de arroz" (portuguese for Federal University of the State of Rio Grande do Sul, 3rd Tecnical Report – Utilisation of natural gas in the drying of rice grains) 12% MC and 18.6% AC are typical values. The DOE therefore concludes that annual sampling for these two parameters, as now indicated in section B.7.1 of the PDD, is sufficient for a fair representation of MC and AC of the biomass. GWP_CH4 is also being monitored annually as per "Tool to determine methane emissions avoided from dumping of waste at a solid waste disposal site" 5) As stated above, parameters MC, AC and GWP_CH4 are now on section B.7.1. as being monitored once a year. CAR#28 was therefore closed.	
Acceptance and Close out by Lead Assessor:	**Date:** 31/08/09

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CAR	Number:	#29	Reference:	B.9.5
Lead Assessor Comment:					

Section B.7.1. of the PDD version 1, parameter EGy,j states that "According to the measurement equipment supplier, the equipment does not require periodically calibration; however, to guarantee that the equipment is calibrated, a calibration has been done in 2008 and the accuracy error found was below 1%". The 'Indicative Simplified Baseline and Monitoring Methodology for Selected Small-Scale CDM Project Activity Categories' General Guidance (Ref.28) states that "Measuring equipment should be certified to national or IEC standards and calibrated according to the national standards and reference points or IEC standards and recalibrated at appropriate intervals according to manufacturers specifications, but at least once in 3 years".	
Project Participant Response:	**Date:** *12/03/2009*
Although according to the manufacturer periodic calibration is not necessary, recalibration of the measuring system for parameter Egy,j once in the three years, will be introduced, conform 'Indicative Simplified Baseline and Monitoring Methodology for Selected Small-Scale CDM Project Activity Categories' General Guidance'. Changes will be reflected in PDD version 2. ***@@@ Updated Comment – 9/07/2009:*** **Remark 10 June 2009. The description has been changed: the equipment will be certified and calibrated. The sentence "A calibration has been done in 2008 and the accuracy error found was below 1%. As to be conservative, this amount will be deducted from the amount of MWh generated." has been removed since it was not correct.** **@@ Updated comment 21 September 2009** **The equipment will be calibrated according to national standards. This has been added in section 7.1 of the PDD.**	
Documentation Provided by Project Participant:	
Version 2 of the PDD of the 30th of March 2009	
Information Verified by Lead Assessor:	
Section B.7.1 of Version 2 of the PDD from the 30th March 2009	
Reasoning for not Acceptance or Acceptance and Close Out:	**Date:** 09/05/2009

The PP has added to section B.7.1 of the PDD version 2 that the equipment will be calibrated according to national standards and recalibrated at least once in 3 years as required by the 'Indicative Simplified Baseline and Monitoring Methodology for Selected Small-Scale CDM Project Activity Categories' General Guidance.
If national standards are chosen this must certified and calibrated according to national standards and reference points. This must be included in section B.7.1 too.
The sentence "A calibration has been done in 2008 and the accuracy error found was below 1%. As to be conservative, this amount will be deducted from the amount of MWh generated." is not necessary in the QA/QC procedure. QA/QC procedures are designed to check on errors for methods which are in routine use and indicate whether associated data is fit for purpose. Furthermore, this procedure was not used in the calculations of the new crediting period.
CAR#29 remains opened.

31/08/09 – The DOE checked version 3 of the PDD and it now states that the "measuring equipment will be certified and calibrated by the equipment supplier and recalibrated at least once in 3 years".

The sentence "A calibration has been done in 2008 and the accuracy error found was below 1%. As to be conservative, this amount will be deducted from the amount of MWh generated." was correctly removed from section B.7.1 of the PDD.

The statement that the equipment will be calibrated according to national standards and recalibrated at least once in 3 years as required by the 'Indicative Simplified Baseline and Monitoring Methodology for Selected Small-Scale CDM Project Activity Categories' General Guidance added to section B.7.1 of the PDD version 2 was removed in version 3 of the PDD.

The PP must indicate what standard calibration it will use according to paragraph 5 of the "Indicative Simplified Baseline and Monitoring Methodology for Selected Small-Scale CDM Project Activity Categories" General Guidance.

CAR #29 remains opened.

30/09/09 – Section B.7.1 of the PDD version 4 has been changed to show that electricity meter will be calibrated to National Standards.

CAR #29 was therefore closed out.

Acceptance and Close out by Lead Assessor:	**Date:** 30/09/09

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CAR	Number:	#30	Reference:	B.9.5

Lead Assessor Comment:

Since the flux-balance is an equipment used to measure a variable most directly related to the emission reductions (e.g. quantity of the fuel inputs) it should also be calibrated according to the 'Indicative Simplified Baseline and Monitoring Methodology for Selected Small-Scale CDM Project Activity Categories' General Guidance (Ref.28)

Project Participant Response:	**Date:** *12/03/2009*

The flux-balance is used in Camil to measure the amount of rice without husks produced. This information is useless for the project once the amount of husks produced is the result of the multiplication between the amount of RPwith husks times the rice with husks to husks factor.

Once the flux-balance is not used for the CDM project, its calibration presents no reasonable meaning.

@@@ Updated Comment – 9/07/2009:

The amount of RPwith-husks processed is measured in a flux balance which will be calibrated according to Brazilian standards at least once in 3 years.

Documentation Provided by Project Participant:

Information Verified by Lead Assessor:

The information above.

Reasoning for not Acceptance or Acceptance and Close Out:	**Date:** 09/05/2009
This information has to be double checked and evidenced, since it was informed by the administrative manager that the flux balance measured the Rice with husks going to 'beneficiamento' (this figure can be found in the industry map of each month). Furthermore, in p.57 of the PDD version 1 from July 1st 2008, the following information was given "A fix balance periodically calibrates the electronic flux balance. The amount of rice registered in the flux balance also is checked by the industry inventory made in the end of each month". CAR#30 remains opened. 31/08/09 – The DOE checked section B.7.1 of the PDD version 3 and it now states that "the flux balance will be calibrated according to the Brazilian standards at least once in 3 years". CAR# 30 was therefore closed out.	
Acceptance and Close out by Lead Assessor:	**Date:** 31/08/09

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CAR	Number:	#31	Reference:	B.10.3
Lead Assessor Comment:					
The procedures for data acquisition ('Manual de Arquivamento de Dados de Eletricidade R1', 'Fluxograma registro doctos arroz R1' and 'Procedimentos comunicação - CDM Project Management Planing') and maintenance and calibration ('Balanca aferição manutenção' and 'Procedimento de manutenção dos medidores') have to be re-written to reflect latest changes due to the changes in the way parameters are determined and what parameters are determined (i.e. changes to applicable methodologies and the new monitoring plan in the PDD). Furthermore a copy of the document "CAMIL Itaqui Biomass Electricity Generation Project", Version 2 of March 2006 (cited on page 53 – Section B.7.2 of the PDD version 1) and of the document "Monitoring Protocol" (cited in page 55 of the same section of the PDD) are required. For the next crediting period this documentation should be produced in a more transparent way clearly stating the QA and QC procedures adopted.					
Project Participant Response:				**Date:** *26/03/2009*	
The "Monitoring Protocol" was prepared to explain better the procedures that Camil will need to follow to guarantee that the necessary data for the future verifications will be available. This document now refers to other documents as attachments to it. Some of the documents presented in a first moment to SGS will no longer exist and the new document is being provided. *All documents were revised to reflect recent changes, and in the PDD the term 'Monitoring Protocol' will be explained better.* *The document 'CDM project management Planning, "CAMIL Itaqui Biomass Electricity Generation Project"' does not contain any additional information compared to the info already presented in the PDD under B 7.2. Therefore we will remove reference to it in PDD version 2.* ***@@@ Updated Comment – 9/07/2009:*** **1. The operational and management structure is now included. The position of Local CDM quality manager is the same as the 'Camil CDM project manager', both will be called 'Camil CDM Quality Manager' in the PDD and Monitoring protocol.** **2. A Portuguese translation has been made and will be distributed to the monitoring personnel.** **3. OK. We changed it.** **4. Correct, of course the data source is the 'electronic supervisory system', which emits data reports on EGy, which are copied into the Excel Sheet "Geração de Eletricidade" / CAMIL. This has been clarified in the monitoring protocol.** **5. The roles and responsibilities about collection of rice data have been included in the monitoring protocol** **6. We will make improvements on this part.**					
Documentation Provided by Project Participant:					

The Monitoring Protocol and its ANNEX are provided. *The document 'CDM project management Planning, "CAMIL Itaqui Biomass Electricity Generation Project"' will be presented to show that it does not contain additional to the updated PDD.*
Information Verified by Lead Assessor:
Version 2 of the PDD of the 30th March 2009 and the Monitoring Protocol and respective annexes.
Reasoning for not Acceptance or Acceptance and Close Out: — **Date:** 13/05/2009
Monitoring Protocol: 1) There is no clear operational and management structure (who reports to who) and the newly created position of Quality Manager is not included in the 'Functions Description'. 2) The document is in English. Since this document is used by the monitoring personnel to report all project information needed in the calculation of ERs, this should also be available in Portuguese and of access to monitoring personnel. 3) Reports from the PP to FEPAM do not need to be verified during periodic verifications. 4) In the section 'Monitoring Data and Its Sources, the description of the data source for electricity reads "Excel sheet "Geração de Eletricidade". From the audit, this is understood as the way data is reported to PTZ and not the data source. 5)There is no reference of roles and responsibilities about collection of rice data. 6) Monitoring data related to methane methodology could be more complete and linked to parameters in the PDD. The document 'CDM project management Planning, "CAMIL Itaqui Biomass Electricity Generation Project" was not provided, however it is not needed since it has been removed from the PDD version 2. CAR#31 remains opened for reasons 1 to 5 above. 31/08/09 – 1) The operational and management structure (who reports to who) was added to the Monitoring Protocol (Ref. 36a) making the information and flow of data much more transparent. 2) The Portuguese version of the Monitoring Protocol (Ref.36b) was provided to the DOE. 3) The information that the reports sent to FEPAM needed to be verified during periodic verifications was removed from the Monitoring Protocol (Ref.36). This is correct since by checking Operational Licenses the DOE will know that all environmental requirements are being met. 4) The Monitoring Protocol has been checked and the source of data has been clarified to say "data reports emitted by the power plant supervisory system, which are copied into the Excel Sheet "Geração de Eletricidade" / CAMIL". These makes the trail of the data more transparent to the reader. 5) The DOE verified that roles and responsibilities about collection of rice data were introduced to the Monitoring Protocol (Ref.36). 6) Monitoring data related to methodology was checked in the Monitoring Protocol and it is now more complete with parameters linked to PDD parameters. All procedures relating to AMS-I.C and AMS-III.E are now found under one document and substitu the ones described above. CAR# 31 was closed out.
Acceptance and Close out by Lead Assessor: — **Date:** 31/08/09

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CAR	Number:	#32	Reference:	B.10.3
Lead Assessor Comment:					
The PDD states that PTZ is responsible for the quality assurance and training. It is clear however that the visits to site only in case of trouble shooting or when the DOE raises corrective actions, is not enough to ensure the delivery of high quality data, good quality assurance and quality control for the monitoring process, as required in the 'Modalities and procedures for a clean development mechanism' (Ref.29), especially with regards to operational requirements.					

Project Participant Response:	**Date:** *12/03/2009*
Since Itaqui is located far from PTZ, the number of site visits will be limited. However, we will change the organisational structure of quality management by appointment of a Quality Manager at CAMIL. *At the Monitoring Protocol the function of the Quality Manager is explained.*	
Documentation Provided by Project Participant:	
Information Verified by Lead Assessor:	
The information above and the Monitoring Protocol and its respective annexes provided by the PP.	
Reasoning for not Acceptance or Acceptance and Close Out:	**Date:** 13/05/2009
The position of Quality Manager was evidenced in Annex 1 of the Monitoring Protocol (ref.36). Section B.7.2 of the PDD version 2 still has PTZ as responsible for quality assurance and training, and therefore it is required from PTZ that aspects that ensure high quality data, good quality assurance and quality control for the monitoring process, as required in the 'Modalities and procedures for a clean development mechanism' (Ref.29), especially with regards to operational requirements and the site, be well known. It is clear that if Itaqui is distant from PTZ, a system of internal audit should be created in order to guarantee that information is passed from the new Quality Manager at CAMIL to PTZ before verification by the DOE is carried out. FAR#35 was opened to address this issue. CAR#32 was closed out.	
Acceptance and Close out by Lead Assessor:	**Date:** 13/05/2009

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CAR	Number:	33	Reference:	B.11.1
Lead Assessor Comment:					
Operational and management structure (roles and responsibilities) that the project operator will implement in order to monitor emission reductions and any leakage effects generated by the project activity should be described in section B.7.2 or in relevant procedures as described by the 'Guidelines for completing the simplified project design document (CDM-SSC-PDD)' Ref.2.					
Project Participant Response:				**Date:** *12/03/2009*	
The document 'CDM project management Planning, "CAMIL Itaqui Biomass Electricity Generation Project"' does not contain any additional information than already presented in the PDD. Therefore we will remove reference to it. *Furthermore, the roles and responsibilities are already indicated in the PDD version 1: a division of roles and responsibilities can be under the heading 'Roles and Responsibilities', The details on how these responsibilities are carried out and which procedures will be followed are further explained under the headings 'data processing & quality management', 'Communication' and 'troubleshooting'. We will add some sentences to make the structure of this paragraph clearer.*					
Documentation Provided by Project Participant:					
Information Verified by Lead Assessor:					
The above answer, PDD version 2 and Monitoring Protocol with respective annexes.					
Reasoning for not Acceptance or Acceptance and Close Out:				**Date:** 13/05/2009	
The roles and responsibilities explained in the PDD under the section 'roles and responsibilities' relate to the roles and responsibilities of each company or PPs. The roles and responsibilities in the monitoring process at CAMIL are now described in the Monitoring Protocol (ref.36) and respective annexes (see CAR#31 above). CAR#33 was closed out.					
Acceptance and Close out by Lead Assessor:				**Date:** 13/05/2009	

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	CAR	Number:	#34	Reference:	B.12.1

Lead Assessor Comment:

Annex 4 of the PDD has not been filled in accordance with specifications in the 'Guidelines for completing the simplified project design document (CDM-SSC-PDD)' (i.e. information on monitoring equipment, what to do in case of monitoring problems). Considerations raised in CAR#31 and CAR#32 in section B.10.3. should also be taken into account when addressing this CAR.

Project Participant Response: **Date:** *12/03/2009*

We suppose reference is made to CAR #31and CAR#32.

We will transfer information from the separate documents mentioned in CAR #31 to Annex 4, as far as it does not concern company sensitive information, and will rearrange the section 7.2 and Annex 4, in order to present the issues on monitoring, trouble shooting, quality management in a clearer way.

@@@ Updated Comment – 9/07/2009:

The monitoring equipment related to AMS III.E is presented and specified in Annex 4 of PDD updated version.

@@ Comment 22 Sept 2009
A declaration of the rice husk tranport company 'Speed Transport Ltda' has been provided to prove the volumetric truck capacity which is 21 m3.

A rice husk density $d_{rice\ husk}$ of 0.14286 tonnes/m^3 was used in the baseline calculation, which is based on practical data available at Camil Itaqui, namely the fact that a 21 m3 truck can carry about 3000 kg of rice husks, 3000 kg / 21 m3 = 142.86 kg/m3 or 0.14286 tonnes/m3. The estimation of husk density is realistic but however not based on formal literature.

The Cientic publication 'Relatorio final do projecto de perquisa aproveiamento energetico da casca de arroz, Agosto/86', p 144, provides evidence that the bulk density of rice husks is 130 kg/m3. The used value of 142.86 kg/m3 provided by Camil is about 10% higher than the literature value of 130 kg/m3. The use of a higher value is conservative because the amount of removed rice husks (Qremoved) will be higher and consequently, the total amount of biomass consumed in the project activity in the year x (Qbiomass_total,x) will be lower, and therefore the baseline emissions estimation will be lower.

Therefore, it is possible to use the earlier mentioned husk density of 142.86 kg/m3. Moreover, during monitoring, the husk density will be measured yearly.

Documentation Provided by Project Participant:

@@ 22 Sept 2009
The document 'Declaração Transportadora de casca.JPG' is provided as proof of the volumetric capacity of the truck.
The document 'Cientec 1986 p144 Rice husk bulk density.pdf' provides evidence of the husk density.

Information Verified by Lead Assessor:

Version 2 of the PDD of the 30th March 2009
The document 'Declaração Transportadora de casca.JPG' provided as proof of the volumetric capacity of the truck.
The document 'Cientec 1986 p144 Rice husk bulk density.pdf' provided as evidence of the husk density.

Reasoning for not Acceptance or Acceptance and Close Out: **Date:** 09/05/2009

Annex 4 of the PDD version 1 has information on the monitoring equipment relating to methodology AMS.I.C but not for equipment relating to methodology AMS.III.E.
CAR#34 remains opened.
31/08/09 – Information about equipment relating to methodology AMS.III.E was added to Annex 4 of the PDD. The DOE however has not received evidence of the volumetric capacity or the husk density now explained in the PDD. This is still required.
CAR#34 remains opened.
30/09/09 – The DOE received the documents 'Declaração Transportadora de casca.JPG' (Ref.37) which is a statement by the company (SPEED Transportes Ltda.) responsible for transporting rice husks from Camil to the landfill, stating the volumetric capacity of the trucks used for the service provided (21m3).
The document 'Cientec 1986 p144 Rice husk bulk density.pdf' (Ref.38) was also provided. This showed that the rice husk density had an average of 130Kg/m3.
The PP used the values of 142.86Kg/m3 as density and 18m3 capacity in the baseline calculations. This is conservative since it produced a values of Qremoved in the baseline 6.16% lower than it would have produced with the values of the references. This in turn produced a higher value for rice husks consumed in the baseline which in turn will produce a lower value for Wjx during the verifications.
The PP states in the PDD version 4 that if a new type of truck is introduced for rice husk removal in future this will be measured.
Both evidences were therefore checked by the DOE and found to be appropriate.
CAR #34 was closed out.

Acceptance and Close out by Lead Assessor:	**Date:** 30/09/09

Date:	24/02/2009		Raised by:	Talita Beck and Fabian Goncalves	
Type:	FAR	Number:	#35	Reference:	B.12.1

Lead Assessor Comment:

CAR#32 was opened during the DOE's assessment of the renewal of the crediting period saying that: "although the PDD states that PTZ is responsible for the quality assurance and training. It is clear that the visits to site by PTZ only in case of trouble shooting or when the DOE raises corrective actions, is not enough to ensure the delivery of high quality data, good quality assurance and quality control for the monitoring process, as required in the 'Modalities and procedures for a clean development mechanism' (Ref.29), especially with regards to operational requirements."

It has been informed by the PP that frequent visits to CAMIL is not possible since the site is distant from PTZ office and that a new position of Quality Manager will be created at CAMIL to address the above. Nevertheless Section B.7.2 of the PDD version 2 still has PTZ as responsible for quality assurance and training. PTZ is therefore still required to know the aspects that ensure high quality data, good quality assurance and quality control for the monitoring process, especially with regards to operational requirements and the site.

It is clear that if Itaqui is distant from PTZ, a system of internal audit should be created in order to guarantee that information is passed from the new Quality Manager at CAMIL to PTZ before verification by the DOE is carried out.

Project Participant Response:	**Date:** *12/06/2009*

The CAMIL CDM quality manager will be responsible for the preparation of high quality monitoring data and for the provision of instructions to CAMIL operators to perform data collection.

The project manager of PTZ is responsible for interpretation of monitoring data and preparation of the monitoring reports. As an internal audit procedure, PTZ checks all monitoring data delivered by the Camil CDM quality manager, and keeps contact with the Camil CDM quality manager on a regular base to discuss the monitoring process and quality measures.

The PDD section B.7.2 will be changed in order to reflect this division of responsibilities better, and to clarify the internal auditing procedures.

@@ comment 21 sept 2009
We will implement the internal audit method before verification by the DOE.

A.4 Annex 4: Team Members Statements of Competency

Statement of Competence

Name: Beck, Talita SGS Affiliate: SGS Brazil

Status

-	Lead Assessor	x	-	Expert	x
-	Assessor	x	-	Financial Expert	
-	Local Assessor	x	-	Technical Reviewer	

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)
Sub scope(s):
2. Energy Distribution
Sub scope(s):
3. Energy Demand
Sub scope(s):
4. Manufacturing
Sub scope(s):
5. Chemical Industry
Sub scope(s):
6. Construction
Sub scope(s):
7. Transport
Sub scope(s):
8. Mining/Mineral Production
Sub scope(s):
9. Metal Production
Sub scope(s):
10. Fugitive Emissions from Fuels (solid, oil and gas)
Sub scope(s):
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride
Sub scope(s):
12. Solvent Use
Sub scope(s):
13. Waste Handling and Disposal x
Sub scope(s): Wastewater and sludge treatment
14. Afforestation and Reforestation
Sub scope(s):
15. Agriculture
Sub scope(s):

Approved Member of Staff by: Siddharth Yadav Date: 06/11/2009

* MoV = Means of Verification, DR= Document Review, I= Interview

Statement of Competence

Name: Goncalves, Fabian. SGS Affiliate: SGS Brazil

Status

-	Lead Assessor	x	-	Expert	
-	Assessor	x	-	Financial Expert	
-	Local Assessor	x	-	Technical Reviewer	

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)
Sub scope(s):
2. Energy Distribution
Sub scope(s):
3. Energy Demand
Sub scope(s):
4. Manufacturing
Sub scope(s):
5. Chemical Industry
Sub scope(s):
6. Construction
Sub scope(s):
7. Transport
Sub scope(s):
8. Mining/Mineral Production
Sub scope(s):
9. Metal Production
Sub scope(s):
10. Fugitive Emissions from Fuels (solid, oil and gas)
Sub scope(s):
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride
Sub scope(s):
12. Solvent Use
Sub scope(s):
13. Waste Handling and Disposal
Sub scope(s):
14. Afforestation and Reforestation
Sub scope(s):
15. Agriculture
Sub scope(s):

Approved Member of Staff by: Siddharth Yadav Date: 25/10/2009