

UK AR6 CDM Validation Report Issue 5 (VVM Version 1) CDM.VAL2663

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VALIDATION REPORT

Zeroemissions do Brasil Ltda

São Fernando Biomass Cogeneration Project

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Date of Issue:	Project Number:
22/10/2009	CDM.VAL2663
Project Title:	
São Fernando Biomass Cogeneration Project	
Organisation:	Client:
SGS United Kingdom Limited	Zeroemissions do Brasil Ltda.
Publication of PDD for Stakeholders Consultation	
Commenting Period:	Published on 24 April 2009 until 23 May 2009
First PDD Version and Date:	Version 01, dated 31 March 2009
Final PDD Version and Date:	Version 02, dated 24 August 2009

Summary:

Zeroemissions do Brasil Ltda. has commissioned SGS to perform the validation of the project: São Fernando Biomass Cogeneration Project.

Methodology Used: ACM0006

Version and Date: version 09 dated 31st July 2009

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 applicable CDM requirements.

The report is based on the assessment of the project design document undertaken through stakeholder consultations, application of standard auditing techniques including but not limited to document reviews, follow up actions (e.g site visit, telephone or e-mail interviews) and also the review of the applicable approved methodology and underlying formulae and calculations.

The report and the annexed validation describes a total of twelve (12) findings which include:

- 8 Corrective Action Requests (CARs);
- 3 Clarification Requests (CLs);
- 1 Forward Action Requests (FARs); and
- 🛛 Will be recommended to the CDM Executive Board with a request for registration OR
- Is not recommended for registration because a Negative Validation Opinion is issued. The validation report shall be sent to the CDM Executive Board

Subject:				
CDM Validation			Document Distribution	
Validation Team:				
Fabian Goncalves – L	ead Assessor, Expe	ert	No Distribution (without	
Leandro Silva – Asse	ssor, Lead Assesso	r (Trainee)		
Thaís Carvalho – Loc	al Assessor (until 2 ⁿ	^d September 2009)	permission from the Client or	
Technical Review:	Traiı	nee Technical Reviewer:	responsible organisational unit)	
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Abbreviations

ANEEL	Brazilian Electricity Regulatory Agency (in Portuguese "Agência Nacional de Energia Elétrica")
CAR	Corrective action request
CCEE	Commerce Chamber of Electric Energy
CDM	Clean development mechanism
CER	Certified emission reduction
CL	Clarification request
COP / MOP	Convention of the Parties / Meeting of the Parties
DOE	Designated operational entity
DNA	Designated national authority
EB	CDM Executive Board
ER	Emission Reduction
FAR	Forward action request
GHG	Greenhouse gas(es)
IPCC	Intergovernmental Panel on Climate Change
LoA	Letter of Approval
PDD	Project Design Document
PP	Project Participant
UNFCCC	United Nations Framework Convention on Climate Change



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1. Validation Opinion

SGS United Kingdom Ltd has been contracted by Zeroemissions do Brasil Ltda. to perform a validation of the project: São Fernando Biomass Cogeneration Project in Brazil.

The Validation was performed in accordance with the UNFCCC criteria for the Clean Development Mechanism (CDM), Validation and Verification Manual (VVM), version 1 and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The main purpose of the project activity is to increase the quantity of power generation using the sugarcane bagasse generated and to export the resulting extra power to the Brazilian grid, the National Interconnected System of Brazil (SIN).

The CDM project activity foresees the operation of a new sugarcane bagasse fired cogeneration unit at the sugar and ethanol mill Usina São Fernando, located in the municipality of Dourados, in the Brazilian state of Mato Grosso do Sul. The cogeneration unit will be built during the next five years and will achieve a top capacity generation of 128 MW, through the installation of three turbo-generators and two boilers, but due to the absence of more bagasse available for firing and the limitations on the capacity of the boilers for heat generation the project activity will only be able to achieve a maximum power capacity of 114 MW per year.

By the installation of three turbo-generators and two boilers for cogeneration, the project activity will result in reductions of greenhouse gas (GHG) 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, CDM criteria and all relevant host country criteria. The project correctly applies methodology ACM0006 version 09. 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 685,494 t of CO2e over a 7 year crediting period during 01/01/2010 to 31/12/2016, averaging 97,928 t of CO2e annually. The emission reduction forecast has been checked and it is deemed likely that the stated amount is achieved given the underlying assumptions do not change.

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

Signed on Behalf of the Validation Body by Authorized Signatory

Signature:

Name:

Date:



2. Introduction

2.1 Objective

Zeroemissions do Brasil Ltda. has commissioned SGS to perform the validation of the project: São Fernando Biomass Cogeneration Project with regard to the relevant requirements for Clean Development Mechanism (CDM) project activities. The purpose of a validation is to have an independent third party assess the project design. In particular, the project's baseline, the monitoring plan (MP) and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reduction (CER). UNFCCC criteria refer to the Kyoto Protocol criteria and the CDM rules and modalities and related decisions by the COP/MOP and the CDM Executive Board.

2.2 Scope

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

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

2.3 GHG Project Description

The Report summarizes the results of the validation process of the project "São Fernando Biomass Cogeneration Project" performed on the basis of the UNFCCC criteria.

The CDM project activity foresees the operation of a new sugarcane bagasse fired cogeneration unit at the sugar and ethanol mill Usina São Fernando, located in the municipality of Dourados, in the Brazilian state of Mato Grosso do Sul. The cogeneration unit will be built during the next five years and will achieve a top capacity generation of 128 MW, through the installation of three turbo-generators and two boilers, but due to the absence of more bagasse available for firing and the limitations on the capacity of the boilers for heat generation the project activity will only be able to achieve a maximum power capacity of 114 MW per year. The main purpose of the project activity is to export the resulting extra power to the Brazilian grid, the National Interconnected System of Brazil (SIN) replacing partially the fossil fuel consumption.

2.4 The Names and Roles of the Validation Team Members

Name	Role	Affiliate
Fabian Goncalves	Lead Assessor, Expert	SGS Brazil
Leandro Silva	Assessor, Lead Assessor (Trainee)	SGS Brazil
Thais Carvalho (until 02/09/2009)	Local Assessor	SGS Brazil



3. Methodology

3.1 Review of CDM-PDD and Additional Documentation

The validation is performed primarily as a document review of the publicly available project document version 01 dated 31st March 2009 and the subsequent version 02, dated 24th August 2009 (final version). The assessment is performed by trained assessors using the validation checklist attached as Annex 2, table 2.

A site visit was carried out on $27^{th} - 28^{th}$ April 2009. The project developers were interviewed by the Lead Assessor and Local Assessor to confirm and provide the evidences and documents, which are summarized in this report (Annex 1).

3.2 Use of the Validation Protocol

The validation protocol used for the assessment is designed in accordance with the Validation and Verification Manual (VVM), version 1 dated 28 November 2008. 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 (reporting).

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.1 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 a 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 registration.

CARs and CLs 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 Approval

According to Resolution N^o 1 /22/ "For the purposes of obtaining approval for project activities under the Clean Development Mechanism, project proponents shall submit to the Executive Secretariat of the Interministerial Commission on Global Climate Change, in electronic and printed format.... the project activity validation report prepared by the Designated Operational Entity authorized to operate in the country.... in Portuguese".

The LoA for Brazil is currently pending DNA approval process in accordance with Resolution Nº 1 /22/.

4.2 Participation Requirements

Brazil is listed as the host Party. Brazil ratified the Kyoto Protocol on 23rd August 2002, (<u>http://unfccc.int/files/essential_background/kyoto_protocol/application/pdf/kpstats.pdf</u>).

There is no Annex I Party involved at this time of the project activity.

4.3 Project Design Document including Project Description

The project title "São Fernando Biomass Cogeneration Project" clearly identifies the project as a unique CDM Activity and its PDD version 01 /1/ was completed on 31st March 2009 with a consistent timeline.

The project consists of a new sugarcane bagasse fired cogeneration unit at the São Fernando mill. The total installed capacity generation is 128MW. The technology of the project will use biomass as fuel in a high pressure boiler and high pressure steam will be generated and expanded in the back pressure turbine, generation power and steam.

It is expected that the project activity will help Brazil to fulfil its goals of promoting sustainable development. The contributions of the project activity for this were described in the PDD /1/, and comprises, among others: environmental benefits (reducing fossil fuel generation and project developed by the environmental program of the company); social and economical benefits.

The project is being implemented and has the license for it /13a-c, 15/. From the energy plan /5/ it is possible to verify that the energy generation will increase in the next 5 years, as described in the PDD /1/.

The Party involved in the project activity is Brazil that ratified the Kyoto Protocol and so far no Annex 1 Party is participating in the project activity.

The Project Participants are São Fernando Álcool e Açúcar Ltda. and Zeroemissions do Brasil Ltda. All project participants are private entities and did not receive any public funding.

The project category is correctly identified sectoral scope 1: Energy Industries (Renewable Source).

CAR#06 was raised because the seconds of the geographical coordinates presented in the PDD (version 1) /1/ were not according to the document provided during the site visit (ANEEL technical spreadsheet) /13c/, which stated the following: Latitude: 22°18' 53" S / Longitude: 54°55' 57" W.

To close out **CAR#06** the PP revised the PDD (version 2) /1/ and applied the geographical coordinates stated in the Reference 13c.

The revised documentation /1, 13c/ was verified by the assessment team and cross-checked through the website <u>www.rdtec.com.br</u> to assure the accuracy of data. **CAR#06** was closed out (see Annex A.3).

The technologies to be applied by the project activity follows the common technology of its sector, the steam-Rankine cycle, and are not likely to be substituted /8/ /14/.



4.4 Applicability of selected methodology to the project activity

The methodology applied in the project activity is the ACM0006 v.09: "Consolidated baseline methodology for grid-connected electricity generation from biomass residues" /2/ and the project activity complies with the methodology applicability criteria which is under the following conditions:

No other biomass types than biomass residues, as defined in the Methodology ACM0006 version 09, page 2, are used in the project plant and these biomass residues are the predominant fuel used in the project plant (some fossil fuels may be co-fired);

The PP stated that the unique fuel used in the project plant is a biomass residue consisting of sugarcane bagasse. The bagasse used in the São Fernando Cogeneration Plant comes from the production of alcohol and sugar carried in the same facility where the project is located.

Verified the boiler technical sheet /14b/ that the equipment is projected to operate using sugar cane bagasse as fuel and the estimative of the amount of bagasse generated by the facility during its crop seasons of operation /16, 18b/ are according to the amount necessary to generate the electricity.

For projects that use biomass residues from a production process (e.g. production of sugar or wood panel boards), the implementation of the project shall not result in an increase of the processing capacity of raw input (e.g. sugar, rice, logs, etc.) or in other substantial changes (e.g. product change) in this process;

The PP states that the sugar and ethanol plant will not increase their current sugarcane processing capacity because of the CDM project, but rather due to the recent increase the production and the demand for sugar and ethanol. Second CONAB (reliable publication font in the field), the sugarcane production in the Brazilian Central-South region in 2008 will reach the 502 million tones, which means an increase of 15.34% compared with 2007 /23/.

The DOE could confirm the statement above through the reference provided by the PP /23/ and also the publication of the Bioenergy Productors Union (UDOP) website, which forecasts the alcohol production will increase 122% from 2008/09 to 2017/18 (<u>http://www.udop.com.br/index.php?cod=1058349&item=noticias</u>).

The biomass residues used by the project facility should not be stored for more than a year.

The PP stated that the percentage of the bagasse used per year in the cogeneration plant is almost the total production of bagasse and it is stored from the end of the harvest season, approximately in November, until the beginning of the following harvest season, approximately in April, which means for less than a year.

The DOE was informed through interviews that the bagasse will not be stored for more than one year. PP will store some bagasse from one crop season to another for a period of approximately 4-5 months to start up the boilers.

No significant energy quantities, except from transportation or mechanical treatment of the biomass residues, are required to prepare the biomass residues for fuel combustion, i.e. projects that process the biomass residues prior to combustion (e.g. esterification of waste oils).

The biomass residue for fuel combustion, the bagasse of sugarcane, is a (by-) product of a mechanical operation after sugarcane's reception and there is no transportation of the bagasse.

During site visit, it was possible to observe that the São Fernando mill will produce bagasse internally which will be transported to its cogeneration facility through electrical and/or mechanical conveyor belts which will operate using electricity and/or steam generated in the biomass residue cogeneration facility, hence there will not be fossil fuel consumption within the project boundary or fossil fuel consumption attributable to the project activity.

4.5 Project Boundary

The description of the sources and gases included in the baseline and project activity are in accordance with the requirements of the methodology. There will be no unexpected emissions resulting from the project



activity. A diagram indicating the physical delineation of the project activity with its equipments, flow of mass and energy was included in the PDD.

The main source in the baseline scenario is the CO2 emission from the grid electricity generation. The Brazilian interconnected grid is applicable to the project activity and its emission factor is calculated by the Brazilian DNA. Information is publicly available at: www.mct.gov.br/index.php/content/view/74689.html.

4.6 Baseline Selection and Additionality

CAR#11 was raised to address that according to the Combined Tool, in cases where one or more alternatives are not available options to project participants, a different procedure than the one provided here would be required to demonstrate additionality and identify the baseline scenario. In this case the proposed project activity includes grid-connected power projects (where an alternative might be electricity produced by other facilities not under the control of project participants). Project participants can continue to use, if desired, the additionality tool, and provide their own methods to develop and/or assess baseline scenario.

The following information was provided in the PDD (version 2) /1/: "One of the alternative scenarios to the project activity is the construction of a new cogeneration plant with less efficient equipments. This plant, with the same installed capacity, would fire the same type and quantity of biomass residues as in the project plant, but with a lower power generation. In this case, the difference between the power generated by the project plant and the power generated by the less efficient plant would be generated by other facilities that are currently connected to the grid and are not under the control of the project participants."

Considering the possible scenario the project are able to use the "Tool for the demonstration and assessment of additionality according to the latest approved version of the Combined Tool.

To close out **CAR#11**, PDD was revised and the Tool for the demonstration and assessment of additionality, version 5.2 was used to access the additionality of the project activity.

The project applied correctly the methodology and the additionality Tool. The identification of the baseline scenario follows the requirements of the methodology ACM0006, version 09 /2/.

For **power** generation, the alternatives P4 and P5 are considered realistic and credible;

For **heat** generation, the alternative H2 is considered realistic and credible;

For the use of **biomass**, the alternative B4 is considered realistic and credible

In conclusion, the scenario #4 of the methodology is identified as the baseline scenario: The project activity involves the installation of a new biomass residue fired power plant at a site where no power was generated prior to the implementation of the project activity.

In the absence of the project activity, a new biomass residue fired power plant (in the following referred to as "reference plant") would be installed instead of the project activity at the same site and with the same thermal firing capacity but with a lower efficiency of electricity generation as the project plant (e.g. by using a low-pressure boiler instead of a high-pressure boiler).

The same type and quantity of biomass residues as in the project plant would be used in the reference plant (B4). Consequently, the power generated by the project plant would in the absence of the project activity be generated (a) in the reference plant (P5) and – since power generation is larger in the project plant than in the reference plant – (b) partly in power plants in the grid (P4).

In case of cogeneration projects, the following conditions apply: The reference plant would also be a cogeneration plant; the heat generated by the project plant would in the absence of the project activity be generated in the reference plant (H2).

4.6.1 Additionality

The demonstration of the additionality was done by the PP through the application of the:

- Baseline methodology approved and consolidated ACM0006 - version 09 /2/: "Consolidated baseline methodology for grid-connected electricity generation from biomass residues".



- "Tool for the demonstration and assessment of additionality"; version 05.2 /2b/.
- "Tool to calculate the emission factor for an electricity system"; version 01.1 /2c/.

The application of the methodology and tools cited above were cross-checked with the information described in the PDD v.2 /1/ and the documentation provided is authentic. See further discussion in the section 4.6.3.

4.6.2 Prior Consideration of the Clean Development Mechanism

The project starting date is according to the required by EB 41. The starting date of 12/11/2007 corresponds to the date of the purchase of the first turbine /8a/.

CAR#03 was raised to address that the CDM consideration should be presented according to EB 41, annex 49/ EB 48, Annex 61. With the information provided in the PDD version 1 it is not possible to confirm that real actions was taken to implement the project activity considering the CDM.

To close the finding, additional information was added in the PDD version 2 and evidence was provided by the PP. The DOE verified the documents related to the CDM consideration:

-31/01/2007: Grupo Bertin discussed to verify the possibilities of the carbon credits benefits for the São Fernando project located in Dourados /12d/.

-06/09/2007: Minutes of the Grupo Bertin's Board meeting specific for the São Fernando mill /12a/, considering the project be developed under CDM and the pending of to find a consultant for the CDM project.

-October 2007: first proposal from ZeroEmissions to Sao Fernando project /12b/

-12/11/2007: Starting date of the project activity /8a/

-March 2008: revised proposal from ZeroEmissions to Sao Fernando project. /12bi/

-August 2008: revised proposal from ZeroEmissions to Sao Fernando project. /12bii/

-26/11/2008: Contract between Zero Emissions and Usina São Fernando Açúcar e Álcool Ltda /12c/

-05/02/2009, 13/04/2009: proposals from SGS

-13/04/2009: Signed contract with the DOE SGS

-24/04/2009: PDD published for Global stakeholder consultation

Through the evidences provided by PP, the DOE concluded that the CDM consideration was presented according to EB 48 Annex 61 and the **CAR#03** was closed out. The CDM consideration is also in accordance with EB49 Annex 22.

4.6.3 Identification of alternatives

The Tool for the demonstration and assessment of additionality, version 5.2 is correctly applied in the PDD version 2 and it will be discussed below the Step 1: Identification of alternatives to the project activity consistent with current laws and regulations.

In the **Sub-step 1a: Define alternatives to the project activity** of the "Tool for the demonstration and assessment of additionality"; version 05.2, the following 2 alternatives were presented in the PDD as available to the project activity:

- the project activity not undertaking as a CDM project activity;
- the scenario #4 of the methodology ACM0006, version 09: the construction of a cogeneration plant, fired with the same type and quantity of biomass residues, but with a power generation efficiency (less efficient boilers and turbines). This plant would not have enough capacity for generating energy in order to cover its own needs and should import a part of energy from the grid. In this case the difference between the power generated by the project plant and the less efficient plant would be generated by other facilities that are connected to the grid and are not under control of the project participant.



In the **Sub-step 1b: Consistency with mandatory laws and regulations**, the PP did not present information about how the requirements of mandatory laws in Brazil were checked and **CL#07** was raised to address this issue in the PDD version 01 /1/.

It was added to the PDD version 02 /1/, information about how the requirements of mandatory laws in Brazil were checked. The PP provided the Construction License and the protocol of the Operating License of the project activity /15/. Also, the Brazilian Electricity Energy Agency (ANEEL) authorized and established the PP as an independent power producer who can sell electricity to the interconnected grid /13a, b, c/.

The CL#07 was closed out based on the evidences mentioned above (see Annex A.3 for details).

4.6.4 Investment analysis

During our work for the São Fernando Project we utilized the information presented by the client, which consist in an excel worksheet containing the calculus, the premises and all the information related to the investment analysis contained in the PDD. We have performed financial analysis in order to conclude if such project is financially and economically feasible or unfeasible. Also, we have analyzed if such project follows or not the Tool for the demonstration and assessment of additionality and the Guidance on the Assessment of Investment Analysis.

The Tool for the demonstration and assessment of additionality, version 5.2 is correctly applied in the PDD version 2 and it will be discussed below the **Step 2: Investment analysis**.

In the **Sub-step 2a: Determine appropriate analysis method** of the "Tool for the demonstration and assessment of additionality" /2b/ version 05.2, the investment analysis method chosen by PP was the option III, benchmark analysis.

In the **Sub-step 2b**: **Option III. Benchmark analysis**, the financial indicator used is the project Internal Return of Rate (IRR). In the first version of the PDD the project IRR was compared with SELIC (Basic Interest Rate). **CL#01** was raised to address PP that the SELIC from the last eight months (August 2008 – March 2009) was used for the comparison and the last value of 12.66% was adopted in the analysis. The period is not in accordance with PDD chronology, which presents the proposed starting date of 12/11/2007. According to the Guidance on the Assessment of Investment Analysis the input values used in the investment analysis should be valid and applicable at the time of the investment decision taken by the project participant and not information available at an earlier or later point.

To close out **CL#01**, the PP calculated the Weight Average Cost of Capital – WACC used by the Group Bertin (15.82%) for the period of the starting date of the project activity) /11/. The SELIC rate was excluded from the benchmark analysis and the **CL#01** was closed out.

In the *Sub-step 2c: Calculation and comparison of financial indicators*, the appropriate analysis method utilized by the client was the "Option III – Apply Benchmark Analysis", where such analysis is based on the IRR (Internal Return Rate). The premises of the analysis was based on the electricity sales revenue, operating and maintenance costs, insurance, amortization of the equipments, re-investments based on depreciation, general administrative and financial expenditures. Also, the client has considered 21 years as a lifetime of the project which ranges from 2008 to 2028 /9/.

The investments were estimated in BRL 78,264 thousands during 2008, BRL 2,565 thousands in 2009 and BRL 62,613 thousands in 2012 and BRL 5,635 thousands in 2013 respectively totaling BRL 149,077 thousands. Such investments include the equipments (three turbo-generators and two boilers), etc. The operational costs were estimated in approximately 10.6% (in the average) of the net revenues and are composed mainly by labor and maintenance.

The company has already signed a 15 year Power Purchase Agreement (PPA) starting at 2010, with a fix price of 156 BRL/MWh. The PPA of São Fernando plant has been signed with the Brazilian Government, through an energy public tender on August 2008, so there is no possibility of variation of the electricity price for the following 15 years. For the electricity price on 2009, since the company did not have any PPA in the moment of the financial analysis, it has been assumed a value of 120 BRL/MWh, which is the price of the proposal of purchase from the free market that the company has.



In the *Sub-step 2d: Sensitivity analysis (only applicable to Options II and III)*, the sensitivity analysis presented in PDD version 1 does not follow the requirements of the Combined Tool. The initial investment cost that constitute more than 20% of total project cost and energy that represents the main revenue were not analyzed in the sensitivity. With the result of the sensitivity analysis it is not possible to conclude that project is not financially attractive since in some items the IRR pass the project IRR. The **CAR#02** was raised.

After considering, from the client inputs, the IRR – Internal Rate of Return is approximately 10.63% reaching the NPV – Net Present Value of about (BRL 35.9 million) – negative when utilizing the benchmark rate of 15.82%. The costs of the project activity were demonstrated by the PP through evidences / 8a / 14a / 14c / which was cross-checked with the loan contract and cash flow evidences / 10a / 10b /. The sensitivity analysis has been made by altering the parameters that are considered as likely to fluctuate over time. These are the following ones: Investments, Plant and Equipment, Operation Costs, General & Administrative Expenses, Energy Output.

Taking into account the above items and the fact the PP applied the *"Tool for the demonstration and assessment of additionality"*; version 05.2, the DOE concludes the project is unfeasible. **CAR#02** was closed.

4.6.5 Barrier analysis

Barrier Analysis was not applied as option of the "Tool for demonstration and assessment of additionality" (version 05.2) to demonstrate additionality.

4.6.6 Common practice analysis

The Tool for the demonstration and assessment of additionality, version 5.2 is correctly applied in the PDD version 2 and it will be discussed below the **STEP 4**: Common practice analysis.

In the **Sub-step 4a:** Analyze other activities similar to the proposed project activity of the PDD version 01 /1/ there was no conclusion about the analysis related to the efficiency of the project activity, so the **CL#08** was raised.

The PP added in the section B.5 of the PDD, that the generation and exportation of electricity to the grid is recent in the sugar mill sector, legally allowed since 2000 and so the industries use low pressure, low efficiency units for self-supply.

According to ANEEL, the Brazilian installed capacity for electricity generation is 70% based on hydropower plants and only 3.53% (www.aneel.gov.br/aplicacoes/capacidadebrasil/OperacaoCapacidadeBrasil.asp) relies on sugarcane biomass. The share of fossil fuel is 8%, and the foresee is the increase to 18% until 2030 (www.mme.gov.br/mme/menu/todas_publicacoes.html). The National Supply Company (CONAB) states in its 2008 Report /17a/ that more than 89% of the energy produced by sugar and alcohol companies are for self-consumption and the efficiency of them are very low, mainly in the State of Mato Grosso do Sul (69.4KW/ton). The National Agroenergy Plan 2006-2011, developed by the Ministry of Agriculture, (www.agricultura.gov.br/portal/page?_pageid=33,2864458&_dad=portal&_schema=portal), foresees for 2020 a decreasing participation of the sugarcane bagasse cogeneration in the composition of the national grid and an increase of the gas generation.

In the **Sub-step 4b: Discuss any similar Options that are occurring**, the PP discussed that a data from the Brazilian Ministry of Agriculture, there were currently 413 registered sugarcane units registered in Brazil and 270 of them generate electricity, according to the National Electricity Agency (ANEEL), and according to a recent sectoral report of the CONAB /17a/ in cooperation with the Ministry of Agriculture, none of the sugar and alcohol production plants located in the state of Mato Grosso do Sul currently exports electricity to the national grid and the efficiency of generation per ton of this state is the lowest amongs all other Brazilian states (69.4 KWh per ton of bagasse consumed, which means 2.68% efficiency, considering the NCV of the bagasse used in the project plant).

According to the project participants data, when São Fernando achieves its top generation capacity the plant will generate around 468 KWh per ton of bagasse consumed, which means 18.07% of efficiency.



The DOE did not identify any similar plant in the state of Mato Grosso do Sul, where the project is located, so the project activity is not a common practice.

After the addition, in the section B.5 of the PDD v.02, of the information summarized above it was cross-checked with the sources of data and the **CL#08** was closed out.

4.7 Application of Baseline Methodology and Calculation of Emission Factors

4.7.1 Application of the Baseline Methodology

Baseline Emission

Based in the methodology applied, page 48, the baseline emissions due to uncontrolled burning or decay of the biomass residues are zero ($BE_{biomass,y} = 0$), since the biomass residues would not decay or be burnt in the absence of the project activity.

Project Emission

The formulae to calculate the project emissions is expressed below:

$$PE_{y} = PET_{y} + PEFF_{y} + PE_{ECy} + GWP_{CH4} \cdot (PE_{Biomass, CH4, y} + PE_{ww, CH4, y})$$

 $PET_y = CO_2$ emissions during the year y due to transport of the biomass residues to the project plant (tCO₂/yr).

 $PEFF_y = CO_2$ emissions during the year y due to fossil fuels co-fired by the generation facility or other fossil fuel consumption at the project site that is attributable to the project activity (tCO₂/yr).

 $PE_{EC,y} = CO_2$ emissions during the year y due to electricity consumption at the project site that is attributable to the project activity (tCO₂/yr).

GWP_{CH4} = Global Warming Potential for methane valid for the relevant commitment period.

 $PE_{BiomassCH4, y} = CH_4$ emissions from the combustion of biomass residues during the year y (tCH₄/yr).

 $PE_{ww,CH4,y} = CH_4$ emissions from wastewater generated from the treatment of biomass residues in year y (tCH₄/yr).

It was verified that there will be no emissions from:

- transportation of biomass residues ($PET_y = 0$);
- electricity consumption of fossils fuels during the project activities ($PEFF_y = 0$);
- electricity demand of the projected plant will be satisfied with the bagasse electricity generation (PE_{EC,v} = 0);
- combustion of biomass residues (PE Biomass, CH4, y = 0); and
- wastewater generated from the treatment of biomass (PE $_{WW, CH4, y} = 0$).

The desk review allowed the assessment team to conclude that project emissions are not applicable to the project activity.

Leakage Emission

Leakage is not applicable to the project activity because, as states in the methodology ACM0006 v.09 page 52, "the main potential leakage is an increase in emissions from fossil fuel combustion or other sources due to the diversion of biomass residues from other uses to the project plant as a result of the project activity" and this project activity does not combust fossil fuel and either apply biomass residues which would not be used for the same purpose.



Direct Calculation of Emission

 $ER_{y} = ER_{heat, y} + ER_{electricity, y} + BE_{biomass, y} - PE_{y} - L_{y}$

 $ER_y = Emissions$ reductions of the project activity during the year y (tCO₂/yr).

 $ER_{electricity,y} = Emission reductions due to displacement of electricity during the year y (tCO₂/yr).$

 $ER_{heat,y}$ = Emission reductions due to displacement of heat during the year y (tCO₂/yr)

 $BE_{biomass,y}$ = Baseline emissions due to natural decay or burning of anthropogenic sources of biomass residues during the year *y* (tCO₂e/yr).

 $PE_y = Project$ emissions during the year y (tCO₂/yr).

 L_y = Leakage emissions during the year y (tCO₂/yr).

 $ER_{heat,y} = 0$ (because the thermal efficiency in the project plant is similar compared with the thermal efficiency of the reference plant considered in the baseline scenario)

BE_{biomass,y} =0 (see section B.5.1)

PE $_{y}$ =0 (see section B.5.2)

 $L_y = 0$ (see section B.5.3)

So, **ER**_y = **ER** _{electricity, y}

 $ER_{electricity,y} = EG_{y} \cdot EF_{electricity,y}$

 EG_y = Net quantity of increased electricity generation as a result of the project activity (incremental to baseline generation) during the year *y* (MWh).

 $EF_{electricity,y} = CO_2$ emission factor for the electricity displaced due to the project activity during the year y (tCO₂/MWh).

$$EG_{y} = EG_{project \ plant, y} - \mathcal{E}_{el, other \ plant(s)} \cdot \frac{1}{3.6} \sum BF_{k, y} NCV_{k}$$

 $EG_{project plant,y} = Net quantity of electricity generated in the project plant during the year y (MWh).$

 $\boldsymbol{\varepsilon}_{el, other plant(s)}$ = Average net energy efficiency of electricity generation in (the) other power plant(s) that would use the biomass residues fired in the project plant in the absence of the project activity (MWh_{el}/MWh_{biomass}).

 $BF_{k,y}$ = Quantity of biomass residue type k combusted in the project plant during the year y (tons of dry matter or litre).

 NCV_k = Net calorific value of the biomass residue type k (GJ/ton of dry matter or GJ/litre).

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

 $\mathbf{EF}_{grid,BM,y}$ = Build margin CO₂ emission factor in year y (tCO₂/MWh).

 $EF_{grid,OM,y}$ = Operating margin CO₂ emission factor in year y (tCO₂/MWh).

 w_{OM} = Weighting of operating margin emissions factor (%).

 w_{BM} = Weighting of build margin emissions factor (%).



4.7.2 Ex-ante Data and Parameters Used

The ex-ante parameters listed in the PDD are in compliance with methodology. The parameter "Average net energy efficiency of electricity in the reference plant that would be constructed in the absence of the project activity" was calculated based on a National Report about the Profile of the Alcohol Sector in the year 2008 (CONAB - National Company of Supply, from the Portuguese *Compahia Nacional de Abastecimento*) /17a/.

The data was correctly applied and in a conservative manner and the assessment team conclude that there will be no fixed data/parameter which will have influence in the ERs during the crediting period.

4.7.3 Calculation of Emission Reductions

The ER's are clearly calculated and expressed in the PDD version 01 /1/ following the scenario #4 of the ACM0006 v.08 and could be reproduced, as clearly demonstrated in the spreadsheet /16/.

The data used to calculate the emissions was based on official /17a/ or local data and the monitored parameters will replace them later for the ERs calculation.

In the PDD version 01 /1/, section B.6.2, the PP presented parameters used to calculate the emission factor (EFgrid) and they shall be presented in the section B.7.1 of the PDD version 01 /1/, monitored parameters. **CAR#04** was raised.

As the parameters used to calculate the emission factor from the grid were excluded from the section B.6.2 and included in the section B.7.1 of the PDD version 02 /1/. Also the source of the EF_{OM} and EF_{BM} and the calculation of the EF_{CM} were done correctly. **CAR#04** was closed out.

4.7.4 Emission Reductions

It was possible to verify the PP correctly applied the table of ERs in the section B.6.4 of the PDD v.01 /1/. The projection starts on 1^{st} January 2010 as well the starting date of the first crediting period (7 years).

4.8 Application of Monitoring Methodology and Monitoring Plan

CAR#09 was raised to address PP that the evidences for the reference plant and the data/parameters used in the calculation needs to be provided. For more detailed information, please see section B.10.1 and B.11.1 of the Table 2 of the Annex 2 of this report.

- **EG**_{project plant,y}: Net quantity of electricity generated in the project plant during the year y;
- **EF**_{grid,y}: CO₂ emission factor for grid electricity during the year y;
- $EF_{BM,grid,y}$: CO₂ build margin emission factor for grid electricity during the year y;
- $EF_{OM,grid,y}$: CO₂ operating margin emission factor for grid electricity during the year y;
- **BF**_{K,y}: Quantity of biomass residue type k combusted in the project plant during the year y;
- Moisture content of the biomass residues ;
- **NCV**_{κ} : Net Calorific Value of biomass residue type *k*;

The monitored parameters presented in the PDD version 2, including their monitoring frequency and QA/QC procedures, are in accordance with the methodology applied by the PP and evidences of them were given when necessary, so the **CAR#09** was closed out.

As the project is not implemented yet, it was requested to the PP to provide, before the first verification, the procedures implemented to guarantee that the project will follow the required by the methodology in order to assure the delivery of high quality data, including procedures for calibration of the equipments, day-to-day records handling, data storage, internal audits of GHG project, project performance reviews before data is submitted for verification, dealing with possible monitoring data adjustments and missing data allowing redundant reconstruction of data in case of monitoring problems. **FAR#10** was raised.

Refering to the **FAR #10**, São Fernando plant has to organise the staff training in the appropriate monitoring, measurement and reporting techniques. About the company's chart of responsibility for the CDM project activity, it was presented in the section B.7.2 of the PDD version 2 and explained during the site visit as:

- The General Manager of Usina São Fernando is the responsible for the project activity;
- Zeroemissions is responsible for the Quality Assurance;
- Technical department é responsible for management/ data collection (laboratory is responsible for the measurements of the moisture content and net calorific value of the bagasse);
- Financial department is responsible for the verification/invoices collection;
- The responsible for the cogeneration unit of the plant will be the person in charge for organising the staff training.

Even tough some information related to the Forward Action Request was provided by the PP, a monitoring procedure containing all the required information was not presented and so the **FAR#10** will remain outstanding until the first verification of emission reductions.

4.9 Duration of the Project Activity and Crediting Period

The PP stated in the section C.1 of the PDD version 01, that the operational lifetime of the project activity is 20 years, which was the technical lifetime of the steam turbine /8b/ and the DOE considered it as valid and conservative due to the fact the "Tool to determine the remaining lifetime of equipment" version 01 /2d/ released in the EB50 Annex 15, states a default value for technical lifetime of 25 years for this kind of equipment.

The operational lifetime exceeds the first crediting period, which is a "Renewable" crediting period (7 years).

Section C.1.1 of the PDD version 1 is not complete as required by the PDD guidelines, CAR#5 was raised. The starting date of the project activity was considered the purchase of the turbine /8a/, dated 12/11/2007, and the starting date of the crediting period was set as 01/01/2010 or the registration date, whichever is later. CAR#5 was closed out.

4.10 Environmental Impacts

In Brazil for any project to get started and eventually become operational, the project must obtain three environmental licenses from the states environmental agency and each one can not be obtained before the previous license:

- LAP, Preliminary Environmental License
- LAI, Environmental Installation License
- LAO, Environmental Operational License.

The environmental aspects of the project activity were analyzed by the Environmental Agencies when it issued the licenses. The DOE verified the installation license n^o 129/2008 /15/, issued by IMASUL (State Environmental Institute) on 22/12/2008 and the protocol sent to the environmental agency in order to get the Operation License /15/ that will be issued by IMASUL before the project activity starts to operate.

4.11 Local Stakeholder Comments

The following stakeholders were correctly contacted. Verified the ARs /20b/ :

-Dourados City Council

- -Dourados Municipal Chamber
- -Public Ministry of the State of Mato Grosso do Sul
- -Environmental Secretary (SEMAC)



-Public Federal Ministry (Procuradoria MS)

-Union of the Sugar and Alcohol Industry of the State of Mato Grosso do Sul

-Institute of Environment of Mato Grosso do Sul (IMASUL)

-UDOP – Bioenergy Producers Association

-UNICA – Sugarcane Industry Association

-CTC – Sugarcane Technology Centre

-Brazilian Forum of NGOs and Social Movements for Environment and Development - FBOMS

Regarding the local stakeholders consultation, resolution number 7 of the Brazilian DNA dated 5th March 2008, establishes that the PP shall "*II* – *inform the specific electronic address for the web site where copies can be obtained, in Portuguese, of the last available version of the project design document in question, as well as the description of the project activity's contribution under the Clean Development Mechanism towards sustainable development, as per Annex III of Resolution no. 1 of this Commission, guaranteeing this site will remain accessible at least until conclusion of the project activity registration process by the CDM Executive Board'. It was verified that this requirement was not meet due to the fact the PDD was not available in the local language (Portuguese).*

The Sugarcane Technology Centre (CTC) was the only local stakeholder who commented the consultation asking for more information about CDM projects developed by companies associated to the institution /20c/. The PP sent an email to CTC /20c/ with the PDD in Portuguese /20/ and the **CAR#12** was closed out.



5. Comments by Parties, Stakeholders and NGOs

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

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

The Project Design Document for this project was made available on the SGS website <u>http://cdm.unfccc.int/Projects/Validation/DB/V549C1M9B82HX89AI081SPZSD545X8/view.html</u> and was open for comments from 24 April 2009 until 23 May 2009. Comments were invited through the UNFCCC CDM homepage

5.2 Compilation of all comments received

Comment Number	Date Received	Submitter	Comment
1	12/05/2009	Suleiman Hassuan (CTC-Cane Technology Center)	Asking for more information about this and other projects of the same kind implemented by mills in Brasil

5.3 Explanation of how comments have been taken into account

There was not a necessity to take the comment into account.



6. List of Persons Interviewed

Date	Name	Position	Description of Subject Discussed
	Thalita P. V. Bôas	Electrical Engineer	Project data
27/04/2009	Otávio Gonçalves Pereira	Cogeneration and Electricity Supervisor	Project data
	Javier Becerra Sanchez	CDM Technical Consultant – Zeroemissions	PDD development, Project data, local stakeholder
	Ferran Tejada Valero	CDM Technical Consultant – Zeroemissions	PDD development
	Paulo César Costa	Industrial Manager	Environmental license, EIA
	Valter M. Lopes	Production Supervisor	Project data, monitoring
	Paulo Cesar Escobar	Superintendent Director	Monitoring



7. Document References

Category 1 Documents (documents provided by the Client that relate directly to the GHG components of the project, (i.e. the CDM Project Design Document, confirmation by the host Party on contribution to sustainable development and written approval of voluntary participation from the designated national authority):

1	PDD version 02, dated 28/08/2009
2	Methodology ACM0006 version 09
2a	Combined tool to identify the baseline scenario and demonstrate additionality (version 02.2)
2b	Tool for the demonstration and assessment of additionality (version 05.2)
2c	Tool to calculate the emission factor for an electricity system (version 01.1)
2d	Tool to determine the remaining lifetime of equipment (version 01)
3a	LoA
3b	MoC

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):

4a	Power Purchase Agreement with CCEE
4b	Auction prices result
4c	Energy purchase proposal
4d	Auction conditions
4e	Energy sale communications
5	Production estimatives (5 yrs)
6	USF_Operating Expenses
7	Insurance contract
8a	Turbine purchase contract
8b	Turbine technical specification
9	USF_Financial Analysis_ver.02
10a	BNDES loan contract
10b	Cash Flow (loan contract)
11	WACC 2007
12a	Minutes meeting Sept.2007
12b	Zeroemissions proposal (Oct.2007)
12bi	Zeroemissions proposal (March.2008)
12bii	Zeroemissions proposal (Aug.2008)
12c	Zeroemissions CDM contract
12d	Minutes meeting CDM_31 01 07
13a	Despacho ANEEL
13b	Portaria ANEEL
13c	Technical Info sent to ANEEL
14a	Boiler purchase contract
14b	Technical evaluation of the equipment (boiler)
14c	Generator commercial proposal
14d	Generator inspection



15	Environmental Licenses
16	UsinaSão Fernando_CER Calculation_ver.02
17a	CONAB-Perfil Setor Sucroalcoleiro 2008
17b	Procknor Engineer
18a	NCV determination procedure
18b	Pol, Brix, fiber and humidity procedure
19	Usina São Fernando – Confirmation Receipts from Local Consultation
20	PDD_Sao Fernando_ver.01 _português
20a	USF - Carta stakeholders
20b	ARs stakeholders SFBC Project
20c	Stakeholder contact
21a	USF_Responsável Projeto MDL
21b	USF_Formaçao monitoramento
22	Resolution nº 1 - DNA
23	2008 Brazilian sugarcane harvest

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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 São Fernando Biomass Cogeneration Project.

It serves as a "reality check" on the project that is completed by a local assessor from SGS Braz	il.
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Issue	Findings	Source/Means of Verification	Further Action / Clarification / Information Required?
Check evidence to confirm that the project participants possess ownership or licenses which will allow the implementation of the project at that site.	The name of the mill "São Fernando Álcool e Açúcar Ltda" is shown in several documents, as the auction results /4b/, contract for the energy sold in the auctions-PPA /4a/, ANEEL document /13a/. Also verified the contract between São Fernando Álcool e Açúcar Ltda and Zeroemissions do Brasil Ltda. /12d/.	/4a/ /4b/ /12d/ /13a/	No
Check evidence for the installed capacity of 128MW.	The total installed capacity (128 MW) can be confirmed through the ANEEL despacho nº 1755, 02/05/2009 (Ref.13a). The first stage of the project activity (48 MW) can be through the Ministry of Mines and Energy (MME) portaria nº 90, 20/02/2209 /13b/	/13a/ /13b/	No
Check evidence for the geographical coordinates: Latitude: 22°18' 49" S / Longitude: 54°55' 48" W.	CAR#06 was raised to address PP that the seconds of the geographical coordinates presented in the PDD version 1 are not according to the document provided during site visit (ANEEL technical spreadsheet) /13c/.	/13c/	CAR #06 No
	To close out CAR#06 PP revised the PDD. The correct numbers are: Latitude: 22°18′ 53″ S / Longitude: 54 °55′ 57″ W. CAR#06 was closed out.		



Check evidence for the project planning (stages I, II and III), and the equipments (boiler, turbine, generator, substation, transformer).	During site visit it was possible to verify that stage I of the project is being implemented and has the license for it /13b/. From the energy plan /5/ it is possible to verify that the energy generation will increase in the next 5 years, as described in the PDD.	/5/ /13b/	No
Check evidence for the estimation of emission reductions (spreadsheet with formulas).	The estimation of emission reductions were confirmed through the spreadsheet of CER calculation /16/ and are according to the methodology ACM0006 v.09 /2/.	/16/ /2/	No
Check evidence that no other biomass types than biomass residues will be used.	It is possible to confirm through boiler technical sheet /14b/ that the equipment is projected to operate using sugar cane bagasse as fuel.	/14b/	No
Check that the implementation of the project will not result in an increase of the processing capacity.	The total installed capacity of the project will be 128 MW. This is a Greenfield project and the project is being implemented. The bagasse used as fuel in the boilers to generate electricity is a by product of the sugar and alcohol market. The increase in its generation would be consequence of the sugar and alcohol market.	Site visit	No
Check that the biomass will not be stored for more than one year.	It was informed through interviews that the bagasse will not be stored for more than one year. PP will store some bagasse from one crop season to another to start up the boilers. This period is approximately 4-5 months.	Site visit	No
Check that no significant energy is necessary to prepare the biomass for fuel combustion.	The biomass does not need to be processed/ prepared to be used as fuel in the boilers.	Site visit	No



Check that there is no fossil fuel consumption or electricity consumption associated to the project (on- site, off-site).	During site visit, it was possible to observe that the São Fernando mill will produce bagasse internally which will be transported to its cogeneration facility through electrical and/or mechanical conveyor belts which will operate using electricity and/or steam generated in the biomass residue cogeneration facility, hence there will not be fossil fuel consumption within the project boundary or fossil fuel consumption attributable to the project activity	Site visit	No
Step 1b of the combined	The sub-step 1b: Consistency with mandatory laws and	/13a/	CL #07
consistency with all	about how the requirements of mandatory laws in Brazil were	/13b/	No
mandatory applicable law	checked.CL#07 was raised.	/15a/	
	The revised PDD and the response to CL#07, presented that the that the compliance with the mandatory laws in Brazil of the alternatives to the project activity were checked through the environmental licenses from the environmental agency (SEMAC) and a report from CONAB (official source).	/15b/	
	CL#07 was closed out.		
Check the financial analysis	The evidences of investment in equipments /8a/ /14a and c/,	/8a/	No
assumptions and related	provided to confirm the costs expenses of the project activity.	/9/	
evidences.	The financial spreadsheet named "USF_Financial Analysis	/12c/	
Please provide the evidence	ver.02" was provided by the PP.	/14a/	
of all assumptions used in the financial analysis.	See opening and closure of the CAR#01 in the Annex 3.	/14c/	
Check how the 20 years lifetime was selected.	Verified in the technical evaluation of the equipment report that the minimum lifetime of the boiler is 20 years /14b/.	/14b/	No



Check the sensitivity analysis spreadsheet with formulas.	The objective of the sensitivity analysis is to determine in which scenarios the project would pass the benchmark or become more favorable than the alternative. The sensitivity analysis presented in PDD version 1 does not follow the requirements of the Combined Tool. The initial investment cost that constitute more than 20% of total project cost and energy that represents the main revenue were not analyzed in the sensitivity. With the result of the sensitivity analysis it is no possible to conclude that project is not financial attractive since is some items the IRR pass the project IRR. For information about the sensitivity analysis, please, see the opening and closure of the CAR#02 in the Annex 3.		CAR#02 No
Check evidences used in the common practice analysis. Provide copy of the documentation.	See the opening and closure of the CL#08 in the Annex 3.	/17a/	CL#08 No
Check evidences for the CDM consideration. Provide timeline according to EB41 Annex 46 requirements.	The CDM consideration should be presented according to EB41 Annex 46. With the information provided in the PDD version 1 it is not possible to confirm that real actions was taken to implement the project activity considering the CDM. See closure of the CAR#03 in the Annex 3.	/8a/ /12/	CAR#03 No
Check emission factor source data and calculation.	PDD version 1, section B.6.2: The parameters used to calculate the emission factor shall be presented in the section B.7.1 of the PDD, monitored parameters. See the opening and closure of the CAR#04 in the Annex 3.		CAR#04 No
Check monitoring plan: project responsibilities, project operation, procedures, calibration, registering, archiving, training, etc.	See the opening and closure of the CAR #09 in the Annex 3. FAR#10 will remain to be closed at the first verification.		CAR#09 FAR#10 No



Check local stakeholder	Letters were sent to:	/19/	CAR#12
consultation.	-Dourados City Council (received on 24/03/2009)	/20/	No
	- Dourados Municipal Chamber (received on 13/09/2009)	/20a/	
	- Public Ministry of the State of Mato Grosso do Sul (received	/20b/	
	on 25/03/2009)	/20c/	
	- Federal Prosecutor's Office (received on 24/03/2009)		
	- Environmental Secretary (SEMAC) (received on 24/03/2009)		
	- Public Federal Ministry (Procuradoria MS) (received on 24/03/2009)		
	- Union of the Sugar and Alcohol Industry of the State of Mato Grosso do Sul (received on 24/03/2009)		
	- Institute of Environment of Mato Grosso do Sul (IMASUL) (received on 24/03/2009)		
	- UDOP – Bioenergy Producers Association (received on 24/03/2009)		
	- UNICA – Sugarcane Industry Association (received on 06/04/2009)		
	- CTC – Sugarcane Technology Centre (received on 25/03/2009)		
	- Brazilian Forum of NGOs and Social Movements for Environment and Development – FOBMS (received on 24/03/2009)		
	See opening and closure of CAR#12 in the Annex 3.		
Check environmental license.	Verified the installation license nº 129/2008, issued by IMASUL 22/12/2008 /15/. Also verified the protocol sent to the environmental agency in order to get the Operation License /15/.	/15/	No



A.2 Annex 2: Validation Checklist

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

Requirement	Reference	Comments	Conclusion/CARs/ CLs
 All Parties involved have approved the project activity 1.1. Has the DNA of each Party involved in the proposed CDM project activity in section A.3 of the PDD provided a written letter of approval which confirms 1.1.1. The country is a Party to the Kyoto Protocol 1.1.2. Participation is Voluntary 1.1.3. The Host Party confirming that the proposed CDM project activity contributes to sustainable development of the country Non- Annex 1 Party shall submit a letter of approval 1.1.4. It refers to the precise proposed CDM project activity title in the PDD being submitted for registration 	Annex 3, Clean Development Mechanism, Validation and Verification Manual, Version 01 (from this point forwarded referenced as VVM) - 49a-d /54a-b/125 Paragraph 37 CDM Modalities and procedures	Brazil is listed as the non-Annex-I Party, has ratified the protocol on 23 rd August 2002 and is allowed to participate <u>http://maindb.unfccc.int/public/country.</u> <u>pl?country=BR</u> There is no letter of approval from DNA Brazil at this phase (just after submission of validation report).	Pending
1.2. If the project participant(s) listed in the PDD published at international stakeholder consultation are not included in the PDD submitted with request for registration, a letter should be obtained from the withdrawn project participant(s) confirming its voluntary withdrawal from the proposed project activity.	EB 30 Para. 41.	The PPs listed in the section A.3 and in the Annex 1 of the PDD version 1 and final version 2 are the same.	YES



		1		
	1.3. The letter/s of approval are unconditional with respect to 1.1.1 to 1.1.4 above	VVM Para. 49/54	There is no letter of approval from DNA Brazil at this phase (just after submission of validation report).	Pending
2.	The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof, and be entered into voluntarily	VVM Para. 54 Marrakech Accords, CDM Modalities §29 and §30	There is no letter of approval from DNA Brazil at this phase (just after submission of validation report.	Pending
		Kyoto Protocol Art. 12.2, Marrakech Accords, CDM Modalities §40a		
3.	Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for a minimum of 30 days, and the project design document and comments have been made publicly available	VVM Para. 128 Marrakech Accords, CDM Modalities, §40	The global stakeholder consultation started on 24 April 2009 until 23 May 2009 and no comments were received. The PDD is available in the address <u>http://cdm.unfccc.int/Projects/Validatio</u>	YES
			<u>h/DB/V549C1M9B82HX89AI081SPZS</u> <u>D545X8/view.html</u> of the UNFCCC website.	
4.	The project design document is in accordance with the applicable CDM requirements for completing PDDs.	VVM Para. 57 Marrakech Accords, CDM Modalities, Appendix B, EB Decisions	Yes, all the versions of the PDD provided by the PP were in compliance with the PDD Template version 3 for Large scale project activities.	YES



Table 2 PDD

	Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
Α.	General Description of Project Activ	rity			
	A.1. Project Title				
	A.1.1. Does the used project title clearly enable the reader to identify the unique CDM activity?	VVM Para.56 Guidelines for completing a CDM- PDD (PDD) section A.1	DR	The title "São Fernando Biomass Cogeneration Project" identifies the unique CDM project activity.	YES
	A.1.2. Is there an indication of a revision number and the date of the revision?	VVM Para.56 PDD section A.1	DR	Yes. PDD version 2, dated 24/08/2009 (final version).	YES
	A.2. Description of the Project Activ	ity			
	A.2.1. Does the description of the proposed CDM project activity as contained in the PDD sufficiently cover all relevant elements accurately?	VVM Para.59 PDD section A.2 see also A.4, A.4.3 and B.3	DR	The project consists of a new sugarcane bagasse fired cogeneration unit at the São Fernando mill. The total installed capacity generation is 128MW. The technology of the project will use biomass as fuel in a high pressure boiler and high pressure steam will be generated and expanded in the back pressure turbine, generation power and steam.	YES
				It is expected that the project activity will help Brazil to fulfil its goals of promoting sustainable development. The contributions of the project activity for this were described in the PDD, and comprises, among others: environmental benefits (reducing fossil fuel generation and project developed by the environmental program of the company); social and economical benefits.	
	A.2.2. Does the information provide the reader with a clear understanding of	VVM Para.60 PDD section A.2 see also A.4, A.4.3 and	DR	Yes, the project consists of a renewable energy generation using sugar cane bagasse as fuel.	YES



Chec	klist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
	the proposed CDM activity?	B.3			
A.2.3.	Is all information provided consistent and in compliance with the actual situation or planning?	VVM Para.64 PDD section A.2 see also A.4, A.4.3 and B.3	DR Site visit /5/ /13/ /15/	During site visit it was possible to verify that stage I of the project is being implemented and has the license for it /13/15/. From the energy plan /5/ it is possible to verify that the energy generation will increase in the next 5 years, as described in the PDD.	YES
A.2.4.	Is all information provided consistent with details provided in further chapters of the PDD?	VVM Para.64 PDD section A.2	DR Site visit	The information of the Section A.2 of the PDD is consistent with further chapters. Verified during site visit, that the mill and the cogeneration power plant are being implemented.	YES
A.3. Projec	t Participants				
A.3.1.	Is the table required for the indication of project participants correctly applied?	VVM Para. 51 PDD section A.3	DR	The table is correct applied. Brazil is the only Party involved in the project. The project participants are São Fernando Álcool e Açúcar Ltda. and Zeroemissions do Brasil Ltda.	YES
A.3.2.	Is all information provided in consistency with details provided by further chapters of the PDD (in particular Annex 1)?	VVM Para. 51 PDD section A.3	DR	The description of section A.3 is consistent with the information described in Annex 1 of the PDD.	YES



Chec	klist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
A.4. Techni	ical Description of the Pro	ject 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)	VVM Para.64 PDD section A.4	/13c/	CAR##06 was raised to address PP that the seconds of the geographical coordinates presented in the PDD version 1 are not according to the document provided during site visit (ANEEL technical spreadsheet) /13c/. To close out CAR#06, the PP revised the PDD. See Annex 3. The correct numbers are: Latitude: 22°18' 53" S / Longitude: 54°55' 57 " W.	CAR#06 YES
A.4.2.	Does the proposed CDM project activity involve the alteration of existing installations or process?	VVM Para.64 PDD section A.4	DR Site visit	No, this is a Greenfield project. The project activity is being implemented.	YES
A.4.3.	Do the project participants possess ownership or licenses which will allow the implementation of the project at that site / those sites?	VVM Para.64 PDD section A.4	DR /4a/ /4b/ /13a/ /12c/	The name of the mill "São Fernando Álcool e Açúcar Ltda" is shown in several documents, as the auction results /4b/, contract for the energy sold in the auctions-PPA /4a/, ANEEL document /13a/. Also verified the contract between São Fernando Álcool e Açúcar Ltda and Zeroemissions do Brasil Ltda. /12c/.	YES
A.4.4.	Is the category(ies) of the project activity correctly identified?	VVM Para.64 PDD section A.4	DR	Yes. The project category is renewable electricity generation for a grid, sectoral scope 1. This is in accordance t the UNFCCC web site.	YES
A.4.5.	Is all information provided in compliance with actual situation or planning as available by the project participants?	VVM Para.64 PDD section A.4	DR /13/	Yes, verified that the proposed project activity has the environmental license applicable to the actual situation.	YES



Che	cklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
A.4.6.	Is the table required for the indication of projected emission reductions correctly applied?	VVM Para.64 PDD section A.4	DR	Yes, the table follows the required by the guidelines.	YES
A.5. Publi	c Funding				
A.5.1.	Does the information on public funding provided conform to the actual situation or planning as presented by the project participants?	PDD section A.4.5	DR	No public funding is being used for the project activity.	YES
A.5.2	Is all information provided consistent with details provided by further chapters of the PDD (in particular annex 2)?	PDD section A.4.5	DR	No public funding is being used for the project activity.	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	PDD section A.4.5	DR	Not applicable.	YES
B. Baseline	and Monitoring Methodolo	ду			
B.1. Choic	ce and Applicability				
B.1.1.	Is the baseline methodology previously approved by the CDM Methodology Panel?	VVM Para.68 PDD section B.1	/2/ UNF CCC	Yes, methodology ACM0006, version 9 /2/ is used.	YES



Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
		web site		
B.1.2. Has the methodology (incl. the tools) been altered from the original version as referenced in the PDD?	VVM Para.69 PDD section B (B.1-B.2)	/2/ /2b/ /2c/ UNF CCC web site	 Yes, the methodologies and tools are available at the UNFCCC web site: Methodology ACM0006 - version 09: "Consolidated baseline methodology for grid-connected electricity generation from biomass residues". /2/ "Tool for the demonstration and assessment of additionality"; version 05.2. /2b/ "Tool to calculate the emission factor for an electricity system"; version 01.1. /2c/ 	YES
B.1.3. Is the selected approved methodology applicable to the project activity in the PDD?	VVM Para.75/66a/68/73 PDD section B (B.1-B.2)	SV In /13a/ /14b/	 The project activity complies with the methodology applicability criteria: Verified through boiler technical sheet /14b/ that the equipment is projected to operate using sugar cane bagasse as fuel. The total installed capacity of the project will be 128 MW /13a/. This is a Greenfield project and the project is being implemented. The bagasse used as fuel in the boilers to generate electricity is a by product of the sugar and alcohol mill. The increase in its generation would be consequence of the sugar and alcohol market. It was informed through interviews that the bagasse will not be stored for more than one year. PP will store some bagasse from one crop season to another to start up the boilers. This period is approximately 4-5 months. The biomass does not need to be processed/ prepared to be used as fuel in the boilers. 	YES



Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs		
			 During site visit, it was possible to observe that the São Fernando mill will produce bagasse internally which will be transported to its cogeneration facility through electrical and/or mechanical conveyor belts which will operate using electricity and/or steam generated in the biomass residue cogeneration facility, hence there will be no fossil fuel consumption within the project boundary or fossil fuel consumption attributable to the project activity. 			
B.1.4. Is the discussion in the PDD in conformance with all applicability criteria of the applied methodology?	VVM Para.75/66b/68 PDD section B (B.1-B.2)	DR /2/	Yes, PDD follows the requirements of the methodology.	YES		
B.2. Project Boundary						
B.2.1. Are all emission sources and gases related to the baseline scenario, project scenario and leakage clearly identified and described in a complete and transparent manner? Is there information on GHG emissions in proposed CDM project activity boundary as a result of the implementation of the proposed CDM project activity which are expected to contribute more than 1% of the	VVM Para.79/76 /67a PDD section B.3	DR /2/	The description of the sources and gases included in the baseline and project activity are in accordance with the requirements of the methodology. There will be no unexpected emissions resulting from the project activity. The main source in the baseline scenario is the CO2 emission from the grid electricity generation.	YES		


Chec	klist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs		
	overall expected average annual emissions reductions, which are not addressed by the applied methodology.						
B.2.2.	In case of grid connected electricity projects: Is the relevant grid correctly identified in accordance with the tool to calculate emission factor of electricity system (wherever applicable) and the underlying methodology?	VVM Para.79 PDD section B.3	DR MCT web site	The Brazilian grid is the grid applicable to the project activity. The emission factor of the Brazilian grid is calculated by Brazilian DNA, using data from ONS. Information is publicity available at: www.mct.gov.br/index.php/content/view/74689.html (MCT web site)	YES		
B.2.3.	Does the project boundary include the physical delineation of the proposed CDM project activity?	VVM Para.78/79 PDD section B.3 also see section A.4.3	DR /8/ /14/	The PP included in the project boundary section, B.3, a diagram indicating the physical delineation of the project activity with its equipments.	YES		
B.2.4.	Are the project's geographical boundaries and the project's system boundaries (components and facilities used to mitigate GHGs) clearly defined?	VVM Para.76/79 PDD section B.3 also see section A.4.3	DR	Yes. See section B.2.3 above.	YES		
B.3. Identif	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	VVM Para.67b.80/82/86 PDD Section	DR /2/ /18a/	The identification of the baseline scenario follows the requirements of the methodology ACM0006, version 9. For power generation, the alternatives P4 and P5 are considered realistic and credible;	YES		



Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
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?	B.4/B.5		For heat generation, the alternative H2 is considered realistic and credible; For the use of biomass , the alternative B4 is considered realistic and credible. In conclusion, the scenario #4 of the methodology is identified as the baseline scenario. The proposed project activity involves the installation of a new biomass cogeneration plant (Greenfield). The reference plant that would be installed instead of the project activity at the same site was explained during validation assessment. The reference plant has the same thermal firing capacity but lower efficiency of electricity generation. The same type and quantity of fuel (sugar cane bagasse) will be used in both scenarios (scenario B4). The power generated by the proposed project plant would be generated in the reference plant (scenario P4). The reference plant is also a cogeneration plant (scenario H2).	
B.3.2. Are all tools/procedures in the methodology correctly applied to identify the most reasonable baseline scenario? This includes 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?	VVM Para.81/82/86a- d/83/84 PDD Section B.4/B.5	DR	Yes, see section B.3.1 above.	YES
B.3.3. Is the choice of the baseline compatible with	VVM Para.86b-c/95 PDD Section	DR	Yes, see section B.3.1 above	YES



Chec	Checklist Question		MoV*	Comments	Conclusion/ CARs/CLs
	the available data?	B.4/B.5			
B.3.4.	Is conservativeness addressed in the way of identifying the baseline?	VVM Para.90 PDD Section B.4/B.5	DR	See CAR#09 in the section B.6.1.	YES
B.3.5.	Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?	VVM Para.90/91 PDD Section B.4/B.5	DR	Yes. See section B.3.1 above.	YES
B.3.6.	Is there a verifiable description of the baseline scenario? Does this include a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed CDM project activity?	VVM Para.86e/85 PDD Section B.4/B.5	DR	Yes, the baseline scenario identified corresponds to the scenario #4 of the methodology ACM0006. In the absence of the project activity, there would be the construction of a cogeneration plant, fired with the same type and quantity of biomass residues, but with a power generation efficiency which is common practice in the sector. This means the installation of less efficient boilers and turbines. This plant would not have enough capacity for generating energy in order to cover its own needs and should import a part of energy from the grid. In this case the difference between the power generated by the project plant and the less efficient plant would be generated by other facilities that are connected to the grid and are not under control of the project participants.	YES
B.4. Additi	onality				
B.4.1.	Does the PDD clearly demonstrate the additionality using the approach as specified in the methodology and by following all the required steps?	VVM Para.67d/95 PDD Section B.1/B.4/B.5	DR /2a/ /2b/	According to Combined Tool In cases where one or more alternatives are not available options to project participants, a different procedure than provided here would be required to demonstrate additionality and identify the baseline scenario. In this case the proposed project activity includes grid-connected power projects (where an alternative might be electricity produced by other facilities not under the control of project participants). Project participants can continue to use, if desired, the additionality tool, and provide their own methods to develop and/or assess baseline scenario. CAR#11 was raised.	CAR #11 YES



Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
			To close out CAR#11, PDD was revised and the Tool for the demonstration and assessment of additionality, version 5.2 was used to access the additionality of the project activity. Refer to section B.4.2 bellow.	
B.4.2. In case of using the additionality tool:	PDD Section B.1/B.4/B.5	DR	The Tool for the demonstration and assessment of additionality, version 5.2 is correctly applied in the PDD version 2.	CL#01
Is the 'Additionality Tool' used in the PDD latest		/2/ /2b/	Step 1: Identification of alternatives to the project activity	CAR#02
version? If an earlier		/4/	Sub-step 1a: Define alternatives to the project activity:	CL #07
do the changes impact	// // /1 /1 /1 /1 /1 /1 /1 /1	/5/ /8/	The following alternatives were presented in the PDD:	CL#08
PDD?		/9/	- the project activity not undertaking as a CDM project activity	
Are all steps followed in a transparent manner?		/10/ /11/ /12/ /13/ /14/ /15/ /16/	- the scenario #4 of the methodology ACM0006, version 09: the construction of a cogeneration plant, fired with the same type and quantity of biomass residues, but with a power generation efficiency (less efficient boilers and turbines). This plant would not have enough capacity for generating energy in order to cover its own needs and should import a part of energy from the grid. In this case the difference between the power generated by the project plant and the less efficient plant would be generated by other facilities that are connected to the grid and are not under control of the project participant	YES
		/17a/	Sub-step 1b: Consistency with mandatory laws and regulations	
			CL#07 was raised to address PP that the sub-step 1b: Consistency with mandatory laws and regulations of the PDD version 1 does not present information about how the requirements of mandatory laws in Brazil were checked.	
			It was added to the PDD version 2, information about how the requirements of mandatory laws in Brazil were checked. The PP provided the Construction License and the protocol of the Operating	



Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
			License of the project activity (Ref.15). Also, the Brazilian Electricity Energy Agency (ANEEL) authorized and established the PP as an independent power producer who can sell electricity to the interconnected grid (Ref. 13a, b and c). The CL#07 was closed out.	
			STEP 2: Investment analysis	
			Sub-step 2a: Determine appropriate analysis method	
			The investment analysis method chosen by PP was the option III, benchmark analysis.	
			Sub-step 2b: Option III. Benchmark analysis	
			The financial indicator used is project Internal Return Rate (IRR). In the first version of the PDD the project IRR was compared with SELIC (Basic Interest Rate). CL#01 was raised to address PP that the SELIC from the last eight months (August 2008 – March 2009) was used for the comparison and the last value of 12.66% was adopted in the analysis. The period is not in accordance with PDD chronology, which presents the proposed starting date of 12/11/2007. According to the Guidance on the Assessment of Investment Analysis, the input values used in the investment analysis should be valid and applicable at the time of the investment decision taken by the project participant and not information available at an earlier or later point.	
			To close out CL#01, the PP calculated the Weight Average Cost of Capital – WACC used by the Group Bertin (15.82%) for the period of the starting date of the project activity) /11/. The SELIC rate was excluded from the benchmark analysis and the CL#01 was closed out.	
			Sub-step 2c: Calculation and comparison of financial indicators	
			The appropriate analysis method utilized by the client was the "Option III – Apply Benchmark Analysis", where such analysis is based on the IRR (Internal Return Rate). The premises of the analysis was based on the	





Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
			electricity sales revenue, operating and maintenance costs, insurance, amortization of the equipments, re-investments based on depreciation, general, administrative and financial expenditures. Also, the client has considered 21 years as a lifetime of the project which ranges from 2008 to 2028 /9/.	
			Sub-step 2d: Sensitivity analysis (only applicable to Options II and III)	
			The sensitivity analysis presented in PDD version 1 does not follow the requirements of the Combined Tool. The initial investment cost that constitute more than 20% of total project cost and energy that represents the main revenue were not analyzed in the sensitivity. With the result of the sensitivity analysis it is not possible to conclude that project is not financially attractive since in some items the IRR pass the project IRR.	
			CAR#02 was raised.	
			After considering, from the client inputs, the IRR – Internal Rate of Return is approximately 10.63% reaching the NPV – Net Present Value of about (BRL 35.9 million) – negative when utilizing the benchmark rate of 15.82%.	
			The costs of the project activity were demonstrated by the PP through evidences / $8a$ / $14a$ / $14c$ / which was cross-checked with the loan contract and cash flow evidences / $10a$ / $10b$ /.	
			Taking into account the above items and the fact the PP started to use the <i>"Tool for the demonstration and assessment of additionality"</i> ; version 05.2 instead of the <i>"Combined tool to identify the baseline scenario and demonstrate additionality"</i> version 2, the DOE concludes the project is unfeasible. CAR#02 was closed out.	
			STEP 3: Barrier analysis It was not applied.	



Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
			STEP 4: Common practice analysis	
			Sub-step 4a: Analyze other activities similar to the proposed project activity	
			In the common practice analyses section, there is no conclusion about the analysis related to the efficiency of the project activity, so the CL#08 was raised. After the addition, in the PDD version 2, of the information summarized bellow the CL#08 was closed out.	
			Section B.5 of the PDD, the PP states that the generation and exportation of electricity to the grid is recent, legally allowed since 2000 and so the industries use low pressure, low efficiency units for self-supply.	
			According to ANEEL, the Brazilian installed capacity for electricity generation is 70% based on hydropower plants and only 3.53% relies on sugarcane biomass. The share of fossil fuel is 8%, and the foresee is the increase to 18% in until 2030.	
			The National Supply Company (CONAB) states in its 2008 report (Ref.17a) that more than 89% of the energy produced by sugar and alcohol companies are for self-consumption and the efficiency of them are very low, mainly in the State of Mato Grosso do Sul (69.4KW/ton).	
			The National Agroenergy Plan 2006-2011, developed by the Ministry of Agriculture, foresees for 2020 a decreasing participation of the sugarcane bagasse cogeneration in the composition of the national grid and an increase of the gas generation.	
			Sub-step 4b: Discuss any similar Options that are occurring There are currently 413 registered sugarcane units in registered in Brazil and 270 of them generate electricity, according to the National Electricity Agency (ANEEL), and according to a recent sectoral report of the CONAB (Ref.17a) in cooperation with the Ministry of Agriculture, none of the sugar and alcohol production plants located in the state of Mato Grosso do Sul currently exports electricity to the national grid and the	



Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
			efficiency of generation per ton of this state is the lowest amongs all other Brazilian states (69.4 KWh per ton of bagasse consumed, which means 2.68% efficiency, considering the NCV of the bagasse used in the project plant).	
			According to the project participants' data, when São Fernando achieves its top generation capacity the plant will generate around 468 KWh per ton of bagasse consumed, which means 18.07% of efficiency, so the project activity is not a common practice. There is no similar plant identified in the state of Mato Grosso do Sul where the project is located.	
B.4.3. Has all information been backed up with references, sources and certification? Is the data presented credible and reliable with complete transparency to all available data and documentation?	VVM Para.93/91 PDD Section B	DR	All evidences were provided by the PP, and are reliable. Source of data was provided and comes from official and public websites or documents. See section B.4.2 above.	YES
B.4.4. Is the discussion on additionality and the evidence provided consistent with the starting date of the project? If the project activity start date is prior to the validation is it discussed how the CDM was taken into account in the decision to go ahead with the project activity	VVM Para.102b PDD Section B.5	DR /8a/ /12/	The project starting date is according to the required by EB 41. The starting date of 12/11/2007 corresponds to the date of the purchase of the first turbine /8a/. CAR #03 was raised to address PP that the CDM consideration should be presented according to EB 41, annex 49/ EB 48, annex 61. With the information provided in the PDD version 1 it is not possible to confirm that real actions was taken to implement the project activity considering the CDM. To close out CAR #03, additional information was added in the PDD version 2. SGS verified the documents related to the CDM consideration: -31/01/2007: Grupo Bertin discussed to verify the possibilities of the carbon credits benefits for the São Fernando project located in Dourados /12d/. -06/09/2007: Minutes of the Grupo Bertin's Board meeting specific for the	CAR #03 YES



Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
B.4.5. For an existing project activity with a start date before 2 August 2008, for which the start date is prior to the date of publication of the PDD for global stakeholder consultation, is the real documented evidence for an assessment of real and continuing actions available for validation and is this evidence	EB 49, annex.22	DR /8/ /12/	São Fernando mill /12a/, considering that the project will be developed under CDM, pending to find a consultant for the CDM project. -October 2007: first proposal from ZeroEmissions to Sao Fernando project /12b/ -12/11/2007: Starting date of the project activity /8a/ -March 2008: revised proposal from ZeroEmissions to Sao Fernando project. /12bi/ -August 2008: revised proposal from ZeroEmissions to Sao Fernando project. /12bii/ -26/11/2008: Contract between Zero Emissions and Usina São Fernando Açúcar e Álcool Ltda /12c/ -05/02/2009, 13/04/2009: proposals from SGS -13/04/2009: Signed contract with SGS -24/04/2009: PDD published for Global stakeholders consultation Through the evidences provided by PP, SGS concluded that the CDM consideration was presented according to EB 49 Annex 22. CAR #03 was closed out. As specified in the EB49 Annex 22 about CDM consideration if <i>"there is less than 2 years of a gap between the documented evidence the DOE shall conclude that continuing and real actions were taken to secure CDM status for the project activity", the DOE concludes that the evidences provided by the PP fulfil the requirements of continuing and real actions were taken in the project activity. See section B.4.4 above and the references /8/ /12/ for details.</i>	YES



Chec	cklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
	authentic?				
B.4.6.	If an investment analysis has been used, has it been shown that the proposed project activity is economically or financially less attractive than at least one other alternative without the revenue from the sale of CERs?	VVM Para. 106, 107, 109 112a-c PDD Section B.5	DR /9/ /11/	Yes. See section B.4.2 above for details.	Y
B.4.7.	If a benchmark is used, is it ensured that it is selected in accordance with the requirements of the tool /methodology and it represents standard returns in the market (not linked to the subjective profitability expectation or risk profile of a particular project developer).	VVM Para. 110 PDD Section B.5	DR /9/ /11/	Yes. See section B.4.2 above for details.	YES
B.4.8.	If a barrier analysis has been used, has it been shown that the proposed project activity faces barriers that prevent the implementation of this type of proposed project activity but would not have prevented the implementation of at	VVM Para. 114 115a-b/116 PDD Section B.5	DR	Not applicable.	YES



Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
least one of the alternatives?				
B.4.9. Is the discussion on additionality consistent with the identification of all plausible and credible baseline scenarios?	VVM Para. 105 PDD Section B.5	DR /2/ /2b/	The PP presented all the scenarios as per approved methodology ACM0006 version 9 in the PDD concluding that the scenario #4 agrees with the description of the project activity.	YES
B.4.10. Do the identified baseline scenarios include technologies and practices that include outputs or services comparable with the proposed CDM project activity? Do they also abide by the same applicable laws and legislations?	VVM Para. 105 PDD Section A.4.3/B.5	DR /13/	No, in the absence of the project activity no electricity would be generated. All the legislation applied is the same with the exception of the ANEEL authorizations /13a, b and c/ for exporting electricity to the Brazilian interconnected grid.	YES
B.4.11. Has it been shown that the project is not common practice?	VVM Para. 119a/b PDD Section B.5	DR /17a/	Yes, see section B.4.1 above.	YES
B.4.12. What are the key distinctions between the project activity and any similar projects that are widely used as common practice?	VVM Para. 118, 119c/d PDD Section B.5	DR /17a/	As demonstrated in the section B.4.1, the differences are the fact the project activity will export renewable electricity to the interconnected grid and the efficiency of generation per ton of bagasse (18.07%) is much higher than the average (2.86%), comparing with the state of Mato Grosso do Sul where the project is located. The conclusion is that there is no similar plant compared with proposed project activity.	YES



Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
B.5. Application of the Baseline Meth	odology			
B.5.1. Has the approved methodology been applied correctly for determining baseline emissions ?	VVM Para. 91d PDD Section B (B.6.1 -B.7.1)	DR /2/	Yes, the ACM0006 version 09 was correctly applied. Based in the methodology applied, page 48, the baseline emissions due to uncontrolled burning or decay of the biomass residues are zero $(BE_{biomass,y} = 0)$, since the biomass residues would not decay or be burnt in the absence of the project activity.	YES
B.5.2. Has the approved methodology been applied correctly for determining project emissions ?	VVM Para. 90/91d PDD Section B (B.6.2-B.7.1)	DR /2/	The formulae to calculate the project emissions is expressed below: $PE_y = PET_y + PEFF_y + PE_{ECy} + GWP_{CH4} \cdot (PE_{Biomass,CH4,y} + PE_{ww,CH4,y})$ PET_y = CO ₂ emissions during the year <i>y</i> due to transport of the biomass residues to the project plant (tCO ₂ /yr). PEFF_y = CO ₂ emissions during the year <i>y</i> due to fossil fuels co-fired by the generation facility or other fossil fuel consumption at the project site that is attributable to the project activity (tCO ₂ /yr). PE_{EC;y} = CO ₂ emissions during the year <i>y</i> due to electricity consumption at the project site that is attributable to the project activity (tCO ₂ /yr). PE_{EC;y} = Global Warming Potential for methane valid for the relevant commitment period. PE_{BiomassCH4, y} = CH ₄ emissions from the combustion of biomass residues during the year <i>y</i> (tCH ₄ /yr). PE_{WW,CH4,y} = CH ₄ emissions from wastewater generated from the treatment of biomass residues in year <i>y</i> (tCH ₄ /yr).	YES
			It was verified that there will be no emissions from:	



Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
			- transportation of biomass residues ($PET_y = 0$);	
			- electricity consumption of fossils fuels during the project activities (PEFF $_y = 0$);	
			- electricity demand of the projected plant will be satisfied with the bagasse electricity generation ($PE_{EC,y} = 0$);	
			- combustion of biomass residues (PE $_{Biomass, CH4, y} = 0$); and	
			- wastewater generated from the treatment of biomass (PE $_{ww,\ CH4,\ y}$ = 0).	
			The desk review allowed the assessment team to conclude that project emissions are not applicable to the project activity.	
B.5.3. Has the approved methodology been applied correctly for determining leakage ?	VVM Para. 91d PDD Section B (B.6.2 -B.7.1)	DR /2/	Leakage is not applicable to the project activity because, as states in the methodology ACM0006 v.09 page 52, "the main potential leakage is an increase in emissions from fossil fuel combustion or other sources due to the diversion of biomass residues from other uses to the project plant as a result of the project activity" and this project activity does not combust fossil fuel and either apply biomass residues which would not be used for the same purpose.	YES
B.5.4. Where applicable, has the approved methodology been applied correctly for the direct calculation of emission reductions?	VVM Para 88/91d PDD Section B (B.6.2 -B.7.1)	DR /2/	$ER_y = ER_{heat,y} + ER_{electricity,y} + BE_{biomass,y} - PE_y - L_y$ $ER_y = Emissions$ reductions of the project activity during the year y (tCO ₂ /yr).	YES
			$\mathbf{ER}_{\text{electricity},y}$ = Emission reductions due to displacement of electricity during the year <i>y</i> (tCO ₂ /yr).	
			$ER_{heat,y}$ = Emission reductions due to displacement of heat during the year y (tCO ₂ /yr)	



Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
			$BE_{biomass,y}$ = Baseline emissions due to natural decay or burning of anthropogenic sources of biomass residues during the year <i>y</i> (tCO ₂ e/yr).	
			$PE_y = Project$ emissions during the year y (tCO ₂ /yr).	
			L_y = Leakage emissions during the year <i>y</i> (tCO ₂ /yr).	
			ER _{heat,y} =0 (because the thermal efficiency in the project plant is similar compared with the thermal efficiency of the reference plant considered in the baseline scenario)	
			BE _{biomass,y} =0 (see section B.5.1)	
			PE _y =0 (see section B.5.2)	
			$L_y = 0$ (see section B.5.3)	
			So, ER _y = ER _{electricity, y}	
			$ER_{electricity,y} = EG_{y} \cdot EF_{electricity,y}$	
			EG_y = Net quantity of increased electricity generation as a result of the project activity (incremental to baseline generation) during the year y (MWh).	
			$EF_{electricity,y} = CO_2$ emission factor for the electricity displaced due to the project activity during the year <i>y</i> (tCO ₂ /MWh).	
			$EG_{y} = EG_{project \ plant, y} - \varepsilon_{el, other \ plant(s)} \cdot \frac{1}{3.6} \sum BF_{k, y} NCV_{k}$	
			$EG_{project plant,y}$ = Net quantity of electricity generated in the project plant during the year y (MWh).	
			$\boldsymbol{\epsilon}_{el, other plant(s)}$ = Average net energy efficiency of electricity generation in	



Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
			(the) other power plant(s) that would use the biomass residues fired in the project plant in the absence of the project activity (MWh _{el} /MWh _{biomass}).	
			$\mathbf{BF}_{k,y}$ = Quantity of biomass residue type <i>k</i> combusted in the project plant during the year <i>y</i> (tons of dry matter or litre).	
			NCV_k = Net calorific value of the biomass residue type <i>k</i> (GJ/ton of dry matter or GJ/litre).	
			$EF_{grid,CM,y} = EF_{grid,OM,y} \times w_{OM} + EF_{grid,BM,y} \times w_{BM}$	
			$\mathbf{EF}_{grid,BM,y}$ = Build margin CO ₂ emission factor in year y (tCO ₂ /MWh).	
			$\mathbf{EF}_{grid,OM,y}$ = Operating margin CO ₂ emission factor in year y (tCO ₂ /MWh).	
			w_{OM} = Weighting of operating margin emissions factor (%). w_{BM} = Weighting of build margin emissions factor (%).	
B.5.5. Where there is an option between different equations or parameters, has the methodological choices for the project been explained, have they been properly justified and are they correct?	VVM Para.89/90/91 PDD Section B (B.6.2 -B.7.1)	DR /2/ /2c/	Yes, PDD version 01 /1/ follows the methodology ACM0006 v.08, and formulas applicable to the scenario 4. For the emission factor calculation, PP used the DNA calculations that follows the <i>Tool to calculate the emission factor for an electricity system,</i> option C (Dispatched data analysis), vintage data updated ex-post (option 2) /2c/.	YES
B.5.6. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	PDD Sections B.5- C	DR /2/	Yes. The uncertainties were taken into account as ACM0006 v.08 states. ACM0006 v.09 did not updated this matter.	YES



Chec	klist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs				
B.6. Ex-ante	B.6. Ex-ante Data and Parameters Used								
B.6.1.	Are the data provided in	VVM Para.	DR	See CAR#09 in the section B.10.1.	YES				
	compliance with the methodology?	91/67c	/2/	Yes. The ex-ante parameters listed in the PDD are in compliance with					
		PDD Section B.6.3/B.6.4		methodology.					
B.6.2.	Is all the data derived	VVM Para.	DR	Yes. The parameter "Average net energy efficiency of electricity in the	YES				
	from official data sources or replicable	91a/b	/17a/	activity" was calculated based on a National Report about the Profile of					
records and have these been correctly quoted?	PDD Section B.6.3/B.6.4		the Alcohol Sector in the year 2008 (CONAB) /17a/.						
B.6.3.	Is the vintage of the	PDD Section	DR	Yes, data from official study from CONAB (National Company of Supply, from the Portuguese Company Actional de Abastecimento) was used	YES				
		B.6.3/B.6.4	/17a/	nom the Polluguese Compania Nacional de Abastecimento) was used.					
B.6.4.	Is all the data appropriate	VVM Para.	DR	Yes. The data was correctly applied and in a conservative manner.	YES				
	the CDM project activity?	91c	/17a/						
		PDD Section B.6.3/B.6.4							
B.6.5.	Are data and parameters	VVM Para. 90	DR	There is no fixed data/parameter which will have influence in the	YES				
	monitored and remained	PDD Section	/2/	emissions reductions during the crediting period.					
fixed throughout the crediting period appropriately assessed, correct, and will they	D.0.3/D.0.4	/3/							
	result in conservative estimates?								
B.7. Calcula	ation of Emissions Reduc	tions							
B.7.1.	Has the approved methodology been	VVM Para.	DR	Yes, methodology /2/ was correctly applied (see section B.5.4).	YES				



Check	klist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
	applied correctly for determining emission reductions ?	91d PDD Section A.4.4/B.6	/2/		
B.7.2.	Are the emission reduction calculations documented in a complete and transparent manner?	VVM Para. 91e PDD Section B.6	DR /2/ /3c/	The ER's are clearly calculated and expressed in the PDD version 01 /1/ following the scenario #4 of the ACM0006 .08.	YES
B.7.3.	Is the projection based on same procedures as used for later monitoring or acceptable alternative models?	PDD Section B.6	DR /2/ /3c/ /17a/ /18a/	The data used to calculate the emissions is based on official or local data and the monitored parameters will replace them later for the ER calculation. In the PDD version 1, section B.6.2, the PP presented parameters used to calculate the emission factor (EFgrid) and they shall be presented in the section B.7.1 of the PDD version 01 /1/, monitored parameters. CAR#04 was raised. As the parameters used to calculate the emission factor from the grid were excluded from the section B.6.2 and included in the section B.7.1 of the PDD version 02 /1/. Also the source of the EF _{OM} and EF _{BM} and the calculation of the EF _{CM} were done correctly. CAR#04 was closed out.	CAR#04 YES
B.7.4.	Is the calculation of the emission reduction correct?	VVM Para. 91e PDD Section B.6	DR /16/	Yes. The ER's are correct and can be reproduced, as clearly demonstrated in the spreadsheet /16/.	YES
B.8.1.	Is the form/table required for the indication of projected emission reductions correctly applied?	PDD Section A.4.4/ Section B.6	DR /16/	Yes, the table is correctly applied in the section B.6.4 of the PDD v.01 /1/.	YES



Check	list Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
B.8.2.	Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period?	PDD Section A.4.4/ Section B.6	DR /16/	The projection starts on 1 st January 2010 as well the starting date of the first crediting period (7 years).	YES
B.9. Monitor	ring Methodology				
B.9.1. [Does the monitoring methodology provide a consistent approach in the context of all parameters to be monitored and further information provided by the PDD? Are all parameters and data that are available at validation consistent with the approved methodology. Has this	VVM Para. 67e PDD Section B.7- B.8 see also Annex 4	DR /2/ /2c/	All the parameters that will be monitored are explained, consistent and in compliance with the methodology ACM0006 version 9 /2/. See section B.10.1 below for more details about the monitored parameters.	YES
B.9.2. []]]]]]]]]]]]]]]]]]]	and applied correctly? Does the monitoring methodology apply consistently the choice of the option selected for monitoring both of project and baseline emissions?	PDD Sections B and C	DR /2/	See section B.9.1and B.10.1.	YES





Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs				
B.10. Data and Parameters Monit	B.10. Data and Parameters Monitored							
B.10.1. Does the monitoring plan in the PDD comply with the approved methodology provided 	VVM Para. 91a/91d/121/79 PDD Section B.7- B.7.2	DR /2/ /2c/	CAR#09 was raised to address PP that the evidences for the reference plant and for the data/parameter used in the calculation needs to be provided. Regarding the ex-ante and monitored parameters: -EG project plant: it is not clear how this parameter will be monitored. Moreover, there is no value of data applied for purpose of calculated expected emission reductions in section B.5	CAR#09 YES				
		About the monitoring of EGy, the PP states that "Data will be measured in electricity meters devices and the monitoring will be done according to standards and monitoring patterns of the CCEE".						
crediting period?			-BFk,y: it is not clear how PP will monitor this parameter. Moreover according to the methodology ACM0006 " <i>if the amount of biomass combusted is estimated from the amount of biomass delivered to the project site, a procedure should be established to undertake an energy balance for the verification period, considering the stocks of biomass at the beginning and end of each verification period</i> ", however it is not clear how the requirements of the methodology will be meet.					
			To clarify, the PP stated that "The total bagasse consumed in the facility is based on the total sugarcane crushed and the percent amount of bagasse in the sugarcane. Trucks carrying the sugarcane will be weighted (loaded and empty) in a weight bridge located at the entrance of the plant. Samples of the sugarcane carried by each truck will be analyzed and the percentage of fiber in the cane will be calculated. The quantity of fiber in a specific amount of sugarcane is the same as the bagasse proceeding from it; therefore, the quantity of bagasse available for cogeneration is directly proportional to the sugarcane produced. Data will be adjusted for the moisture content in order to determine the quantity of dry biomass. The quantity will be crosschecked with the quantity of electricity (and heat) generated. Data will be recorded on a working day basis by the Technical department and archived in electronic					





Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
			spreadsheet	
			-NCVk: QA/QC procedure described in the section B.7.1 is not according to the required by the methodology. Also the evidences for the calculation of the bagasse NCV used in the reference plant and the one used in the project activity to calculate the efficiency of the plants need to be provided.	
			To clarify, the PP stated that "regarding the QA/QC procedure, the methodology asks for checking the consistency of the measurements by comparing the measurement results with measurements from previous years, relevant data sources and default values by the IPCC."	
			The PP will compare the NCV _K with data from IPCC since there is no historical measurement and , the ex-ante values of NCV_k for the estimation of ER was evidenced (Ref.18a) and the source of the values 19.42 checked.	
			-Moisture content of the biomass residues: the monitoring frequency required by the methodology is continuously, mean values calculated at least annually. This requirement is not met in the monitoring plan of the PDD version 1.	
			To clarify, the PP stated that "according to the methodology, moisture content of biomass residue will be continuously monitored, which means that values will be calculated at least annually. Samples will be determined on site by the internal laboratory". The ex-ante value of <i>Moisture content</i> applied by the PP for the estimation of ER was evidenced (Ref.18a) and the source of the value 48% checked.	
			The monitored parameters presented in the PDD version 2 section B.7.1, including their monitoring frequency and QA/QC procedures, are in accordance with the methodology ACM0006 version 9 applied by the PP. The CAR#09 was closed out.	
B.10.2. Are the choices of	PDD Section B.7-	DR	Yes. See section B.10.1 above.	YES



Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
project GHG indicators reasonable and in conformance with the requirements set by the approved methodology applied?	B.7.2/B.6.2	/2/ /2c/		
B.10.3. Will it be possible to determine the specified project GHG indicators?	PDD Section B.6.2- B.8	DR /2/ /2c/	All the monitored parameters necessary to fulfill the requirements of the methodology were identified in the section B.7.1 of the PDD.	YES
B.10.4. Is the information given for each monitoring variable by the presented table sufficient to ensure the verification of a proper implementation of the monitoring plan?	PDD Section B.6.2- B.7.1	DR /2/ /2c/	Yes. See section B.10.1 and B.10.3 above.	YES
B.10.5. Is the information given for each monitoring variable by the presented table sufficient to ensure the delivery of high quality data free of potential for biases or intended or unintended changes in data records?	PDD Section B.6.2- B.7.1	DR /2/ /2c/	Yes. See section B.10.1 and B.10.3 above.	YES
B.10.6. Is the monitoring approach in line with current good practice, i.e. will it deliver data in a reliable and reasonably	PDD Section B.5- B.7.2	DR /2/ /2c/	Yes. See section B.10.1 and B.10.3 above. Expected that the monitoring plan will deliver an acceptable accuracy.	YES



Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
acceptable accuracy?				
B.10.7. Are all formulae used to determine project emission clearly indicated and in compliance with the monitoring methodology.	PDD Section B.6.2- B.7.1	DR /2/ /2c/	There are no project emissions and leakage according to the scenario #4 of the ACM0006 applied.	YES
B.11. Quality Control (QC) and Q	uality Assurance (QA) Proce	dures	
B.11.1. Is the selection of data	VVM Para. 121	DR	The QC/QA procedures for each parameter is:	FAR#10
undergoing quality	Refer to all data	/2/	EGy	
control and quality assurance procedures complete?	within the PDD Inc. B.6.2-B.7.1	/2c/	The consistency of metered net electricity generation will be cross- checked with receipts from electricity sales (if available, since there will be sale receipts only for the power exported to the grid, not for the whole power generation of the plant). $EF_{BM, OM, CM}$ Since this is a public data calculated and given by the Brazilian DNA, no QA/QC procedures will be applied.	
			BF _{K,y}	
			Measurements will be cross-checked with an annual energy balance that is based on purchased quantities (if possible) and stock changes.	
			Moisture content of the biomass residues	
			Moisture content of biomass residue will be continuously monitored. Mean values will be calculated at least annually.	
			NCV _K	
			Since there are no NCV measurements from previous years, the consistency of the measurements will be checked by comparing the measurement results with default values by the IPCC.	
			The QC/QA proposed by the PP for the parameters cited above are in	



Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
			compliance with the methodology ACM0006 version 09, but as the project is not implemented yet, it is requested to the PP to provide before verification the procedures implemented to guarantee that the project will follow the required by methodology in order to assure the delivery of high quality data, including procedures for calibration of the equipments, day-to-day records handling, data storage, internal audits of GHG project, project performance reviews before data is submitted for verification, dealing with possible monitoring data adjustments and missing data allowing redundant reconstruction of data in case of monitoring problems. FAR#10 was raised.	
B.11.2. Is the belonging determination of uncertainty levels done correctly for each ID in a correct and reliable manner?	Refer to all data within the PDD Inc. B.4/B.7.2/Annex 4	DR /2/ /2c/	Yes. See sections B.10.1 and B.11.1 above.	YES
B.11.3. Are quality control procedures and quality assurance procedures sufficiently described to ensure the delivery of high quality data?	VVM Para 121	DR /2/ /2c/	Yes. See sections B.10.1 and B.11.1 above.	YES
B.11.4. Is it ensured that data will be bound to national or internal reference standards?	VVM Para. 86d	DR /2/ /2c/	Yes. See sections B.10.1 and B.11.1 above.	YES
B.11.5. Is it ensured that data provisions will be free of potential conflicts of interests resulting in a tendency of	VVM Para. 19	DR /2/ /2c/	Yes. See sections B.10.1 and B.11.1 above.	YES



Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
overestimating emission reductions?				
B.12. Operational and Manageme	ent Structure			
B.12.1. Is the authority and responsibility of project management clearly described?	PDD Section B.8/Annex 1	DR /21a/	Refer to FAR #10, section B.11.1. São Fernando plant will also organise the staff training in the appropriate monitoring, measurement and reporting techniques. The responsible for the cogeneration unit of the plant will also be the person in charge for organising the staff training.	YES
B.12.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	PDD Section B.8/Annex 1	DR /21a/	The General Manager of Usina São Fernando is the responsible for the project activity. Zeroemissions is responsible for the Quality Assurance. Technical department is responsible for management/ data collection, laboratory is responsible for the measurements of the moisture content and net calorific value of the bagasse. Financial department is responsible for the verification/ invoices collection.	YES
			The monitoring plan structure is presented in the PDD.	
B.12.3 Are procedures identified	PDD Section	DR	See B.12.1.	YES
personnel?	B.8/Annex 1	/21b/		
B.13 Monitoring Plan (Annex 4)				
B.13.1. Is the monitoring plan	VVM Para.	DR	See FAR#10, section B.11.1 above.	YES
developed in a project specific manner clearly	122a	/2/		
addressing the unique		/2c/		
features of the CDM activity?				
B.13.2. Does the monitoring plan	VVM Para.	DR	See FAR#10, section B.11.1 above.	YES
completely describe all	122b	/2/		
implemented for		/2c/		
monitoring all parameter				
developed in a project specific manner clearly addressing the unique features of the CDM activity? B.13.2. Does the monitoring plan completely describe all measures to be implemented for monitoring all parameter required, including	VVM Para. 122b	DR /2/ /2c/ DR /2/ /2c/	See FAR#10, section B.11.1 above.	YES



Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
measures to be implemented for ensuring data quality?				
B.13.3. Does the monitoring plan provide information on monitoring equipment and respective positioning in order to safeguard a proper installation?	VVM Para. 122b	DR /2/ /2c/	See FAR#10, section B.11.1 above.	YES
B.13.4. Are procedures identified for calibration of monitoring equipment?	VVM Para. 122a-c	DR /2/ /2c/	See FAR#10, section B.11.1 above.	YES
B.13.5. Are procedures identified for maintenance of monitoring equipment and installations?	VVM Para. 122a-c	DR /2/ /2c/	See FAR#10, section B.11.1 above.	YES
B.13.6 Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	VVM Para. 122a-c	DR /2/ /2c/	See FAR#10, section B.11.1 above.	YES
B.13.7. Are procedures identified for dealing with possible monitoring data adjustments and missing data allowing redundant reconstruction of data in case of monitoring problems?	VVM Para. 122a-c	DR /2/ /2c/	See FAR#10, section B.11.1 above.	YES



	Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
E	B.13.8. Are procedures identified for internal audits of GHG project compliance with operational requirements where	VVM Para.122a-c	DR /2/ /2c/	See FAR#10, section B.11.1 above.	YES
E	applicable? B.13.9. Are procedures identified for project performance reviews before data is submitted for verification,	VVM Para. 122a-c	DR /2/ /2c/	See FAR#10, section B.11.1 above.	YES
E	B.13.10. Describe the ability of the project participants to implement the monitoring plan.	VVM Para. 122c	DR /2/ /2c/	See FAR#10, section B.11.1 above.	YES
B.14. B.	. Baseline Details .12.2. Is there any indication of a date when determining the baseline?	PDD Section B.8/Annex 3	DR	Yes, according to the PDD version 1, the bsaseline was determined on 15/03/2009 and updated in the PDD version 2 (24/08/2009).	YES
В.	.12.3. Is this consistent with the time line of the PDD history?	Also see revision history of the PDD	DR	Yes.	YES
В.	.12.4. Is all data required provided in a complete manner by annex 3 of the PDD?	PDD Annex 3	DR	No information presented in the Annex 3.	YES
C. Dura	ation of the Project / Crediting P	eriod			
(C.1.1. Are the project's starting date and operational lifetime clearly defined	VVM Para. 102a-c	DR /8a/	CAR #05 was raised. According the PDD guidelines, the starting date of a CDM project activity is the earliest of the date(s) on which the implementation or construction or real action of a project activity	CAR #5 YES



	Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
	and reasonable?	PDD Section C.1.1/C.1.2	/14b/	begins/has begun. To close out CAR #05, PDD was revised to present the project starting date according to the required by EB 41. The starting date of 12/11/2007 corresponds to the date of the purchase of the first turbine /8a/. CAR #05 was closed out. Regarding the operational lifetime, verified in the technical evaluation of the equipment report that the minimum lifetime of the boiler is 20 years /14b/.	
	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)?	VVM Para. 102a PDD Section C.2/C.2.1/C.2.2	DR	Renewable crediting period (7 years).	YES
	C.1.3. Does the project's operational lifetime exceed the crediting period	VVM Para. 102a PDD Section C.1.2/C.2.1.1/C.2.1 .2	DR	Yes, the operational life time exceeds the first crediting period.	YES
	C.1.4. Does the start date indicate whether this is a new project activity or a pre-existing project activity?	VVM Para. 102a/ 98 PDD Section C.1.1/C.2.1.1	DR	This is a new project activity. The starting date is 12/11/2007.	YES
D.	Environmental Impacts				
	D.1.1. Does the project comply with environmental legislation in the host country?	VVM Para. 131 PDD section D	DR	Yes, verified the environmental licenses for the project. Refer to data bellow.	YES



Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
D.1.2. Has an analysis of the environmental impacts of the project activity been	VVM Para. 131	DR /15/	The environmental aspects of the project activity were analyzed by the Environmental Agencies.	YES
sufficiently described?	PDD section D		22/12/2008 /15/. Also verified the protocol sent to the environmental agency in order to get the Operation License /15/.	
D.1.3. Are there any Host Party	VVM Para.	DR	The environmental aspects of the project activity were analyzed by the	YES
Environmental Impact	131		Environmental Agencies.	
Assessment (EIA), and if yes, is an EIA approved?	PDD section D			
D.1.4. Will the project create	VVM Para.	DR	Refer to section D.1.2. Adverse environmental effects were considered	YES
environmental effects?	131		by the environmental agency when issuing the applicable licenses.	
	PDD section D			
D.1.5. Are trans-boundary	VVM Para.	DR	Refer to section D.1.2. Transboundary impacts were considered by the	YES
environmental impacts	131		environmental agency.	
analysis?	PDD section D			
D.1.6. Have identified	VVM Para.	DR	Refer to section D.1.2. Environmental impacts were analyzed by	YES
environmental impacts	131		environmental agency.	
project design?	PDD section D			
E. Stakeholder Comments				
E.1.1. Have relevant	VVM Para.	DR	Regarding the local stakeholders consultation, Resolution number 7 of	CAR#12
stakenolders been consulted?	128a	/19/	the Brazilian DNA, establishes that the PP shall "II – inform the specific electronic address for the web site where copies can be obtained in	
	PDD Section E.1	/20/	Portuguese, of the last available version of the project design document	YES
		/20a/	in question, as well as the description of the project activity's contribution	
		/20b/	under the Clean Development Mechanism towards sustainable development as per Annex III of Resolution no 1 of this Commission	
			guaranteeing this site will remain accessible at least until conclusion of	



Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
		/20c/	the project activity registration process by the CDM Executive Board'. Verified that this requirement was not meet. PDD was not available in Portuguese. CAR #12 was raised.	
		Verified that the PP sent the PDD in Portuguese /20/ through email to Sugarcane Technology Centre (CTC) /20c/. CAR #12 was closed out.		
			The following stakeholders were contacted. Verified the ARs /20b/ :	
			-Dourados City Council	
			-Dourados Municipal Chamber	
			-Public Ministry of the State of Mato Grosso do Sul	
			-Environmental Secretary (SEMAC)	
			-Public Federal Ministry (Procuradoria MS)	
			-Union of the Sugar and Alcohol Industry of the State of Mato Grosso do Sul	
			-Institute of Environment of Mato Grosso do Sul (IMASUL)	
			-UDOP – Bioenergy Producers Association	
			-UNICA – Sugarcane Industry Association	
			-CTC – Sugarcane Technology Centre	
			-Brazilian Forum of NGOs and Social Movements for Environment and Development – FOBMS	
E.1.2. Have appropriate media	VVM Para.	DR	Letters /20a/ were sent in Portuguese and also, the PDD was made	YES
comments by local	128a	/20a/	available in local language (Refer to CAR #12).	
stakeholders?	PDD Section E.1			
E.1.3. Is the undertaken stakeholder process described in a complete	VVM Para. 128b	DR	The stakeholder consultation followed the Brazilian DNA resolution number 7, 05 March 2008.	YES



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Checklist Question		Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
and transpare manner?	nt	PDD Section E.1			
E.1.4. Is a summary stakeholder co received provi	of the omments ded?	VVM Para. 128b PDD Section E.2	DR /20c/	Yes, the Sugarcane Technology Centre (CTC) asked for more information about any CDM projects developed by companies associated to the institution /20c/.	YES
E.1.5. Has due accou taken of any s comments rec	unt been takeholder eived?	VVM Para. 128b PDD Section E.3	DR /20/ /20c/	Yes, PP sent an email to CTC /20c/ with the PDD in Portuguese /20/	YES



References

Ref. ID	Title/Description	Comment
1	PDD version 02	Dated 24 th August 2009
2	Methodology ACM0006 version 09	Valid from 31/07/2009
2a	Combined tool to identify the baseline scenario and demonstrate additionality (version 02.2)	Combined tool to identify the baseline scenario and demonstrate additionality (version 02.2)
2b	Tool for the demonstration and assessment of additionality (version 05.2)	Tool for the demonstration and assessment of additionality (version 05.2)
2c	Tool to calculate the emission factor for an electricity system (version 01.1)	Tool to calculate the emission factor for an electricity system (version 01.1)
2d	Tool to determine the remaining lifetime of equipment (version 01)	Tool to determine the remaining lifetime of equipment (version 01)
3a	LoA	LoA
3b	MoC	MoC
4a	Power Purchase Agreement with CCEE	CCEE means Chamber of Comerce of Electricity Energy and is a governmental company responsible for the electricity commercialization.
4b	Auction prices result	For the years 2010-12
4c	Energy purchase proposal	Dated 2 nd March 2009
4d	Auction conditions	Edital nº 01/2008 ANEEL
4e	Energy sale communications	Between 2 nd February and 02 March 2009
5	Production estimatives (5 yrs)	Internal document
6	USF_Operating Expenses	USF_Operating Expenses
7	Insurance contract	Insurance contract
8a	Turbine purchase contract	Turbine purchase contract
8b	Turbine technical specification	Turbine technical specification
9	USF_Financial Analysis_ver.02	USF_Financial Analysis_ver.02
10a	BNDES loan contract	Signed on 03 February 2009



10b	Cash Flow (loan contract)	Cash Flow (loan contract)
11	WACC 2007	Folder containing spreadsheet with WACC calculation and examples of oher companies.
12a	Minutes meeting Sept.2007	CDM consideration step 0
12b	Zeroemissions proposal (Oct.2007)	Zeroemissions proposal (Oct.2007)
12bi	Zeroemissions proposal (March.2008)	Zeroemissions proposal (March.2008)
12bii	Zeroemissions proposal (Aug.2008)	Zeroemissions proposal (Aug.2008)
12c	Zeroemissions CDM contract	Signed on 26 November 2008
12d	Minutes meeting CDM_31 01 07	Minutes meeting CDM_31 01 07
13a	Despacho ANEEL	Authorization for electricity Generation, dated 02 May 2008
13b	Portaria ANEEL	Authorization for Usina São Fernando to be a Independent Energy Producer (PIE), dated 20 February 2008
13c	Technical Info sent to ANEEL	Technical Info sent to ANEEL
14a	Boiler purchase contract	Boiler purchase contract
14b	Technical evaluation of the equipment (boiler)	Technical evaluation of the equipment (boiler)
14c	Generator commercial proposal	Generator commercial proposal
14d	Generator inspection	Generator inspection
15	Environmental Licenses	License of Construction and the application for the Operating License
16	UsinaSão Fernando_CER Calculation_ver.02	UsinaSão Fernando_CER Calculation_ver.02
17a	CONAB-Perfil Setor Sucroalcoleiro 2008	Found at www.conab.gov.br/conabweb/download/safra/perfil.pdf on 25/08/2009
17b	Procknor Engineer	Procknor Engineer
18a	NCV determination procedure	NCV determination procedure
18b	Pol, Brix, fiber and humidity procedure	Pol, Brix, fiber and humidity procedure
19	Usina São Fernando – Confirmation Receipts from Local Consultation	Usina São Fernando – Confirmation Receipts from Local Consultation
20	PDD_Sao Fernando_ver.01 _português	For local stakeholders consultation



20a	USF - Carta stakeholders	USF - Carta stakeholders
20b	ARs stakeholders SFBC Project	ARs stakeholders SFBC Project
20c	Stakeholder contact	Stakeholder contact
21a	USF_Responsável Projeto MDL	CDM project Management Responsibility procedure
21b	USF_Formaçao monitoramento	CDM project Training Responsibility procedure
22	Resolution nº 1 - DNA	Approved by the Brazilian DNA on 11 th September 2003 and can be found at <u>http://www.mct.gov.br/upd_blob/0023/23433.pdf</u> , last access on 20/10/2009.
23	2008 Brazilian sugarcane harvest	2008 Brazilian sugarcane harvest



A.3 Annex 3: Overview of Findings

Findings Overview

Findings from validation of São Fernando Biomass Cogeneration 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 ex.: CAR #1, CAR #2, CL #3, FAR #4 etc.

Description of Table:

Type

Ref

Findings are 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 registration. Lead Assessor Details the content of the finding Comments Refers to the item number in the Validation Protocol Please insert response to finding, starting with the date of entry. Response

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 (exception of finding linked to Letter of Approval, which can be submitted separately).

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 Summarv

-	CARs	CLs	FARs
Total Number raised	08	03	01

Deadline for submission of Response by Client¹: 20/08/2009

Date:	20/04/2009		Raised by:	Thaís Ca	Carvalho / Fabian Gonçalves	
Type:	CL	Number:	01		Reference:	B.4.2 – Annex 2
Lead Assessor Comment:						
PDD version 1, section B.4, step 3 investment analysis:						
The project is using the SELIC rate as a benchmark. The last eight months (August 2008 – March 2009) was						
used for the comparison and the last value of 12.66% was adopted in the analysis.						
The period is not in accordance with PDD chronology. The proposed starting date is 12/11/2007.						

Response to all findings with relevant associated documentation to be sent to SGS in one submission.

According to the Combined Tool the input values used in the investment analysis should be valid and applicable at the time of the investment decision taken by the project participant and not information available at an earlier or later point.

Project Participant Response:Date: 25/05/2009The first serious consideration of São Fernando project took place on the Grupo Bertin's Board meeting at the
beginning of September 2007 and the first real action of the project activity was the purchase of the first
turbine on 12/11/2007.

The investment decision was taken during 2007 (before the purchase of the turbine). Therefore, the investment analysis was also done in that period and Grupo Bertin used its own Weight Average Cost of Capital (WACC) to decide whether to carry out the project.

Due to the strong variability of the SELIC tax during the last years (SELIC values can be consulted on <u>www.portalbrasil.net/indices selic.htm</u>) and the difficulty for determining which range of time would be the most suitable in order to establish a proper average value of SELIC as a benchmark, project participants have decided to reject the use of the SELIC tax as a benchmark for the investment analysis.

In order to follow the correct PDD chronology, project participants will use as a benchmark the company's WACC, which is the minimum return rate expected by Grupo Bertin in its investments. As said before, this was the benchmark that Grupo Bertin used for taking the investment decision of the São Fernando project.

Therefore, the IRR of the project (with and without CDM benefits) has been compared with the company's WACC. At the time of the investment decision, which is 2007, the benchmark of Grupo Bertin for this type of investment was 15.82%.

The same value of WACC was used for a similar project developed in the same period, which is the construction of a new bagasse fired cogeneration plant (known as Biolins plant) in the municipality of Lins, in the state of São Paulo. Therefore, this is the most suitable benchmark for the company in order to decide about this kind of investments.

Documentation Provided by Project Participant:

- First turbine's purchase agreement, dated on 12/11/2007.
- Minutes of the Grupo Bertin's Board meeting at the beginning of September 2007.
- Calculation of the company's Weight Average Cost of Capital (WACC).
- Financial analysis of Biolins Biomass Cogeneration Project; a similar project from Grupo Bertin which used the same benchmark as São Fernando Project.

Information Verified by Lead Assessor:

It was verified the evidences above which were named, respectively, as:

Ref.8a - Turbine purchase contract

Ref.12a - Minutes meeting Sept.2007

Ref.9 - USF_Financial Analysis_ver.02

Ref.11 - WACC 2007

Reasoning for not Acceptance or Acceptance and Close Out:

06/10/2009 - Leandro Silva and Fabian Goncalves

Based on the Financial Expert analysis it was possible to check that the documentation provided by the PP reached the requirements of the "Guidance on the Assessment of Investment Analysis" (EB41 Annex 45). The PP calculated the Weight Average Cost of Capital – WACC used by the Group Bertin and the benchmark is 15.82% for the period of the starting date of the project activity /11/. The SELIC rate was excluded from the benchmark analysis. CL#01 was closed out.

Acceptance and Close out by Lead Assessor: Date: 06/10/2009

Date:	20/04/2009		Raised by:	Thaís Ca	Thaís Carvalho / Fabian Gonçalves		
Type:	CAR	Number:	02		Reference:	B.4.2 – Annex 2	

Lead Assessor Comment:

The objective of the sensitivity analysis is to determine in which scenarios the project would pass the benchmark or become more favorable than the alternative.

The sensitivity analysis presented in PDD version 1 does not follow the requirements of the Combined Tool. The initial investment cost that constitute more than 20% of total project cost and energy that represents the main revenue were not analyzed in the sensitivity.

With the result of the sensitivity analysis it is not possible to conclude that project is not financially attractive



since in some items the IRR pass the project IRR.	

 Project Participant Response:
 Date: 25/05/2009

 According to the "Guidance on the Assessment of Investment Analysis", the ultimate objective of the sensitivity analysis is to determine the likelihood of the occurrence of a scenario other than the scenario presented, in order to provide a cross-check on the suitability of the assumptions used in the development of the investment analysis. Therefore, the parameters and the range of fluctuation of the sensitivity analysis have to be chosen considering realistic situations. The same Guidance also recommends using only input values valid and applicable at the time of the investment decision taken by the project participant. The use of investment analysis to demonstrate additionality is intended to assess whether or not a reasonable investor would or not decide to proceed with a particular project activity without the benefits of the CDM. This decision will therefore be based on the relevant information available at the time of the investment decision and not information available at an earlier or later point.

Since the investments in Property, Plant and Equipment (PP&E) are an important part of the project total cost, they will be included in the sensitivity analysis.

Although the electricity price is a meaningful parameter of the investment analysis, it can not be considered as parameter likely to fluctuate since the company has already signed a 15 year Power Purchase Agreement (PPA) starting at 2010, with a fix price of 156 R\$/MWh. The PPA of São Fernando plant has been signed with the Brazilian Government, and there is not any possibility of variation of the electricity price for the following 15 years. Therefore, any alternative financial scenario considering the fluctuation of the power price would not be realistic. For the electricity price on 2009, since the company did not have any PPA at the moment of the financial analysis, it has been assumed a value of 120 R\$/MWh, which is the price of the proposal of purchase from the free market that the company has.

Since the financial analysis was performed at the same time that the investment decision was taken, which is 2007, the estimations of power surplus for sale considered in the financial analysis correspond to the more optimistic calculations taken from the engineering study that project owners ordered prior to the project implementation in order to ensure the technical feasibility of the project. This report was carried out by a Brazilian engineering company with 15 years of recognised experience in the sugarcane processing sector. According to the engineering report, the sugarcane plant would not achieve its top production of sugarcane (4,000,000 tones and 50.150 hectares) until 2017.

Therefore, the sensitivity analysis has been made by altering the parameters that are considered as likely to fluctuate over time. These are the following ones:

- Investments in Property, Plant and Equipment (PP&E).
- Operation Costs.
- General & Administrative Expenses.
- Energy Output.

Documentation Provided by Project Participant:

- Updated version of the sensitivity analysis, including the investments in PP&E as a variable parameter.

- 120 R\$/MWh proposal of power purchase from the free market.
- 156 R\$/MWh Power Purchase Agreement with the Brazilian Government.
- Power generation estimations, according to the engineering studies carried out prior to the project implementation, in order to discuss the project feasibility.

Information Verified by Lead Assessor:

It was verified the evidences above which were named, respectively, as:

Ref.9 - USF_Financial Analysis_ver.02

Ref.4c - Energy purchase proposal

Ref.4a - Power Purchase Agreement with CCEE

Ref.5 - Production estimative (5 yrs)

Ref.16 - Usina São Fernando_CER Calculation_ver.02

Reasoning for not Acceptance or Acceptance and Close Out:

06/10/2009 - Leandro Silva and Fabian Goncalves

After considering, from the client inputs, the IRR – Internal Rate of Return is approximately 10.63% reaching the NPV – Net Present Value of about (BRL 35.9 million) – negative when utilizing the benchmark rate of


15.82%. Taking into account the above items and the fact the PP started to use the "Tool for the demonstration and assessment of additionality", version 05.2 instead of the "Combined tool to identify the baseline scenario and demonstrate additionality" version 2 (CAR#11), the DOE concludes the project is unfeasible. CAR#02 was closed out.

Acceptance and Close out by Lead Assessor: Date: 06/10/2009

Dat	e:	20/04/2009		Raised by:	Thaís Carval	ho / Fabian G	onçalves			
Тур	e:	CAR	Number:	03	Ref	erence:	B.4.4 – A	nnex 2		
Lea	Lead Assessor Comment:									
The CDM consideration should be presented according to EB41 Annex 46.										
Wit	With the information provided in the PDD version 1 it is not possible to confirm that real actions was taken to									
imp	implement the project activity considering the CDM.									
Pro	Project Participant Response: Date: 25/05/2009									
Acc	cordi	ng to Guidance o	on the Demons	tration and As	sessment of P	rior Considera	ation of the CD	M, proposed		
pro	ject	activities with a	start date bef	ore 2 August	2008, for whi	ch the start o	date is prior to	the date of		
put	licat	ion of the PDD	for global stake	eholder consu	ltation, are req	uired to dem	onstrate that th	e CDM was		
ser	iousi	ly considered in	the decision	to implement	the project ac	ctivity. Such	demonstration	requires the		
folle	owin	g elements to be	satisfied:							
	(a)	that the benefits Evidence to sup the decision by t as a CDM project	cipant must ind s of the CDM port this would he Board of Dir t activity	icate awarene were a decisi include, inter a ectors, or equi	ive factor in the CDM ive factor in the alia, minutes and valent, of the p	prior to the pi ne decision to nd/or notes re roject particip	oject activity sta proceed with lated to the con ant, to undertak	art date, and the project. sideration of e the project		
	(b) The project participant must indicate, by means of reliable evidence, that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation. Evidence to support this should include, inter alia, contracts with consultants for CDM/PDD/methodology services, Emission Reduction Purchase Agreements or other documentation related to the sale of the potential CERs (including correspondence with multilateral financial institutions or carbon funds), evidence of agreements or negotiations with a DOE for validation services, submission of a new methodology to the CDM Executive Board, publication in newspaper, interviews with DNA, earlier correspondence on the project with the DNA or the UNECCO apprendict.									
In t the Pro	he c first ject:	ase of the project t turbine. There	et activity, the p are some evid	roposed starti ences of the	ng date is 12/1 early consider	1/2007, which ation of the C	h is the date of CDM for the Sá	purchase of ão Fernando		
	•	Reference to the September 2007 the CDM develop	e CDM mechar 7, where it is ag pment.	nism included reed that the c	in the minutes company would	of the Grupo l look for cons) Bertin's Board sultants in order	l meeting on r to carry out		
	•	Grupo Bertin cre investments into consideration of	eated a CDM L the Clean De the São Fernar	Department in evelopment M ndo project at t	order to study echanism. Thi he beginning o	the different s department f 2007.	possibilities of already studie	including its ed the CDM		
	•	Three different p offers its consult These three offe	proposals from ancy services i rs are dated res	Zeroemissions for developing spectively on C	s Technologies the CDM proje October 2007, N	(PDD consu ect for São Fe Aarch 2008 ar	ltant) in which t rnando Cogene nd August 2008.	he company eration Plant.		
Do	cum	entation Provide	ed by Project F	Participant:						
-	 Minutes of Grupo Bertin's Board meeting on September 2007, where it is agreed that the company would look for consultants in order to carry out the CDM development. 									
-	 Minutes of Grupo Bertin's CDM Department meeting on January 2007, where they discussed the different possibilities for CDM projects in the investments of the company. São Fernando project is one of these possibilities. 									
-	Thr Fer Aug	ee different offer nando Biomass gust 2008, respec	rs from Zeroen Cogeneration I tively.	nissions Techr Project. These	nologies (PDD offers are da	consultant) for ted on: Octor	or the developi ber 2007, Marc	ment of São ch 2008 and		



Informat	ion Verified by	/ Lead Assesso	r:					
It was ver	rified the evider	nces above whic	h were named	l, respecti	vely, as:			
Ref.8a - Turbine purchase contract								
Ref.12a - Minutes meeting Sept.2007								
Ref.12b - Zeroemissions proposal (Oct.2007)								
Ref.12bi	 Zeroemission 	s proposal (Mar	ch.2008)					
Ref.12bii	 Zeroemission 	is proposal (Aug	.2008)					
Ref.12c -	Zeroemissions	CDM Contract						
Ref.12d -	Minutes meeti	ng CDM_31 01 (07					
Ref.1 - P	DD version 2							
Reasonii	ng for not Acc	eptance or Acc	eptance and	Close Ou	t:			
28/09/200	J9 – Leandro S	Ilva and Fabian	Goncalves		(the first took is a (Def Oa)		
The proje	ect activity's sta	rting date is 12/1	11/2007, Which	i is the da	te of purchase of t	the first turbine (Ref.8a).		
For the c	consideration of	r the CDIVI the I	PP provided ti	ne minute	is of meeting of the	ne Board (Ref.12a and 12d)		
which the	e project viabili	ly was discusse	a and decided		1 CDIVI. AISO, the	PP presented proposal and		
the contra	act with the con	suitant Zeroem	issions (Rei.)	IZD, IZDI,	12011 and 12C) for	CDM consultancy.		
The CAP		dited above, the	e proposed pro	Ject activ	ity meets the requi	irements of EB49, Annex 22.		
	nce and Close	out by Lead As	seeseor.	Dat	a. 28/09/2009			
Accepta			5363301.	Da	c. 20/03/2003			
Date:	20/04/2009		Raised by:	Thaís C	arvalho / Fabian 🤆	Soncalves		
Type:		Number:	04		Reference:	B.7.3 – Annex 2		
Lead Ass	sessor Comme	ent:	•					
PDD vers	sion 1 section	B 6 2 [.] The para	meters used to	o calculat	e the emission fac	tor shall be presented in the		
section B	7 1 of the PDF) monitored para	ameters					
Project F	Particinant Res	snonse:		Da	te: 25/05/2009			
Although	the CO. emiss	sion factor for th	o Brazilian ari	d is calcu	lated and given h	v the DNA every year it has		
heen incl	uded as a mon	itored parameter	r in the section	R 7 1 of	the PDD	y the DNA every year, it has		
Deenmen	ntation Provid	ed by Project P	articipant:	10.1.10				
Link	to the CO omit	eu by Floject F	anticipant.	dana by t	ha Prazilian DNA			
	$O III e CO_2 emit$		ulation, yearly	uone by t	ne brazilian DNA.			
www.mct	.gov.br/index.p	<u>hp/content/view/</u>	<u>/74689.html</u>					
Informat	ion Verified by	Lead Assesso	r:					
Ref.1 - P	DD version 02							
Ref.2 - A	CM0006 versio	n 9						
Brazilian	DNA website							
Reasonii	ng for not Acc	eptance or Acc	eptance and	Close Ou	t:			
25/08/200	09 – Leandro S	ilva and Fabian	Goncalves					
The para	meters used to	calculate the er	mission factor	from the	grid were exclude	d from the section B.6.2 and		
included	in the section E	3.7.1 of the PDD) version 02. 7	The sourc	e of the EF _{OM} and	EF_{BM} and the calculation of		
the EF _{CM}	were done cor	rectly, so the CA	R#04 was clos	sed out.				
Acceptar	nce and Close	out by Lead As	ssessor:	Dat	e: 25.08.2009			
Date:	20/04/2009		Raised by:	Thaís C	arvalho / Fabian C	Gonçalves		
Type:	CAR	Number:	05		Reference:	C.1.1 – Annex 2		
Lead Ass	sessor Comme	ent:						
Section C.1.1 of the PDD version 1 is not complete as required by the PDD guidelines.								
Project Participant Response: Date: 25/05/2009								
The sect	ion C.1.1 of the	PDD refers to	the starting da	ate of the	project activity. Ac	ccording the PDD guidelines.		
the starting date of a CDM project activity is the earliest of the date(s) on which the implementation or								
construction or real action of a project activity begins/has begun.								
In the case of São Fernando project, the starting date corresponds to the purchase of the first relevant								
equipmer	nt, which is the	first turbine. Thi	s purchase too	ok place o	n 12/11/2007.			
Docume	ntation Provid	ed by Project P	articipant:	, .				
- (Contract of purc	hase of the first	turbine.					
Information Verified by Lead Assessor:								



It was verified the suideness shows which were named respectively, as:							
	urbino purchase			i, respec	lively, as.		
Kelloa - Turbine purchase contract							
Rei.i - PL			ontonoo ond				
Reasonin	g for not Accep	otance or Acc	eptance and	Close U	ut:		
25/08/200	9 - Leandro Silv	a and Fabian	Goncaives				
The section	on C.1.1 of the I	PDD version 2	2 was complet	ed as re	quired and based on evi	dence (Ref.8a), so the	
CAR#05 v	vas closed out.						
Acceptan	ce and Close o	out by Lead As	ssessor:	Da	ate: 25.08.2009		
Date:	12/05/2009	-	Raised by:	Thaís	Carvalho / Fabian Gonça	ives	
Type:	CAR	Number:	06		Reference:	A.4.1 – Annex 2	
Lead Ass	essor Commen	nt:					
The seco	nds of the geo	graphical coo	rdinates prese	ented in	the PDD version 1 are	not according to the	
document	provided during	site visit (ANE	EL technical s	spreadsh	neet).	C	
Project P	articipant Resp	onse:		D	ate: 25/05/2009		
The geog	raphical coordina	ates of the pro	ject activity ha	ve beer	included in the PDD as	indicated in the ANEEL	
technical	spreadsheet, wh	nich correspon	ds to the locati	ion of the	e substation.		
Documer	tation Provided	d by Project P	Participant:				
- A	NEEL technical	spreadsheet.					
Informati	on Varified by I						
Informati		Lead Assesso	or:				
Ref.1 - PL	D Version 2						
Ret.13c - Lechnical Into sent to ANEEL							
Reasoning for not Acceptance or Acceptance and Close Out:							
25/08/2009 – Leandro Silva and Fabian Goncalves							
The PDD version 2 was corrected and presents the geographical coordinates in accordance with the Brazilian							
Energy Ag	gency document	ation (ANEEL)	. The CAR#06	was clo	sed out.		
Acceptance and Close out by Lead Assessor: Date: 25.08.2009							

Date:	12/05/2009		Raised by:	Thaís Carvalho / Fabian Gonçalves			
Type:	CL	Number:	07		Reference:	B.4.2 – Annex 2	
Lead Assessor Comment:							

The sub-step 1b: Consistency with mandatory laws and regulations of the PDD version 1 does not present information about how the requirements of mandatory laws in Brazil were checked.

Project Participant Response: Date: 25/05/2009

The Secretary of Environment of the State of Mato Grosso do Sul (SEMAC) is responsible for analyzing any possible environmental impact due to the project activity normal development. The licenses required by the Brazilian environmental regulation are:

- The preliminary license (Licença Prévia, LP).
- The construction license (Licença de Instalação, LI).
- The operating license (Licença de Operação, LO).

São Fernando plant has already all the required licenses, as detailed below:

- Preliminary licenses number 20/2009 (for the transmission line) and 27/2009 (for the substation).
- Construction license number 129/2008.
- Operating licenses protocol number 256/2009 (for the cogeneration unit), 285/2009 (for the substation) and 288/2009 (for the transmission line).

The power plant also has its authorization and registration on the National Agency of Electrical Energy (ANEEL) to operate as an independent power producer. Therefore, the project activity obeys all the mandatory laws and regulations of the state of Mato Grosso do Sul.

Project participants identified the most plausible baseline scenario and demonstrated additionality using the latest approved version of the "Combined tool to identify the baseline scenario and demonstrate additionality". According to the analysis, there were two available scenarios for the project activity:

1. The project activity not undertaken as a CDM project.



Since the project participants have already obtained all the necessary licences for the construction and operation of the project plant, in case of construction of the same project plant, with the same characteristics but without considering the CDM revenues, it would also be consistent with laws and regulations currently applicable in Brazil.

2. The scenario #4 of the methodology ACM0006.

The project activity involves the installation of a new biomass residue fired power plant at a site where no power was generated prior to the implementation of the project activity. In the absence of the project activity, a new biomass residue fired power plant (in the following referred to as "reference plant") would be installed instead of the project activity at the same site and with the same thermal firing capacity but with a lower efficiency of electricity generation as the project plant (e.g. by using a low-pressure boiler instead of a high-pressure boiler). The same type and quantity of biomass residues as in the project plant would be used in the reference plant. Consequently, the power generated by the project plant would in the absence of the project plant than in the reference plant – (b) partly in power plants in the grid. In case of cogeneration projects, the following conditions apply: The reference plant would also be a cogeneration plant; the heat generated by the project plant would in the absence of a the project plant would in the absence of the project plant than in the reference plant – (b) partly in power plants in the grid. In case of cogeneration projects, the following conditions apply: The reference plant would also be a cogeneration plant; the heat generated by the project plant would in the absence of the project plant would in the absence of the project plant would also be a cogeneration plant; the heat generated by the project plant would in the absence of the project plant would in the absence of the project plant would also be a cogeneration plant; the heat generated by the project plant would in the absence of the project plant would in the absence of the project plant would in the absence of the project plant would also be a cogeneration plant; the heat generated by the project plant would in the absence of the project plant would in the absence plant.

In this case, the reference plant's efficiency for power generation would be the one that is common value in the state of Mato Grosso do Sul. This efficiency has been taken from a recent sectoral report from the National Supply Company (CONAB, Companhia Nacional de Abastecimento, a public and reliable font belonging to the Brazilian Ministry of Agriculture).

Therefore, since the reference plant would be located at the same site than the project plant, with the same characteristics than the project plant, but with an efficiency that is common practice in the state of Mato Grosso do Sul, no mandatory laws or regulations would prevent the construction of this reference plant.

Documentation Provided by Project Participant:

- Preliminary license (LP).
- Construction license (LI).
- Operating license (LO).
- Authorization and registration of ANEEL for operating as an independent power producer.
- CONAB report: Profile of the sugar and ethanol sector in Brazil. April 2008.

Information Verified by Lead Assessor:

It was verified the PDD version 2 and some evidences, such as:

Ref.13a - Despacho ANEEL

Ref.13b - Portaria ANEEL

Ref.13c - Technical Info sent to ANEEL

Ref.15 - Environmental Licenses

Reasoning for not Acceptance or Acceptance and Close Out:

25/08/2009 - Leandro Silva and Fabian Goncalves

It was added to the PDD version 2, information about how the requirements of mandatory laws in Brazil were checked. The PP provided the Construction License and the protocol of the Operating License of the project activity (Ref.15), which states the Environmental Agency, agrees with it. Also, the Brazilian Electricity Energy Agency (ANEEL) gave authorization and established the PP as an independent power producer who can sell electricity to the interconnected grid (Ref. 13a, b and c). The CL#07 was closed out.

Acceptance and Close out by Lead Assessor: Date: 25.08.2009

Date:	12/05/2009		Raised by:	Thaís C	aís Carvalho / Fabian Goncalves		
Type:	CL	Number:	08		Reference:	B.4.2 – Annex 2	
Lead Assessor Comment:							
In the common practice analyses section, there is no conclusion about the analysis related to the efficiency of							
the project activity.							
Project Participant Response: Date: 25/05/2009							
According to a recent sectoral report of the Brazilian National Supply Company (CONAB) in cooperation with							



the Ministry of Agriculture, the power generation efficiency of the sugarcane plants in the state of Mato Grosso do Sul is, in terms of power generation per bagasse consumption, 69,4 kWh/ton (2.68% efficiency), which means the lowest efficiency of Brazil. They also have the lowest percentage of bagasse used for cogeneration, which means that these plants barely generate electricity for self consume and they do it in a very inefficient way.

On the other hand, according to the project participants' data, when São Fernando achieves its top generation capacity the plant will generate around 468 kWh per ton of bagasse consumed (18.07% efficiency). Therefore, thanks to the high efficiency of the equipments installed in the cogeneration unit, the plant will generate (with the same bagasse consumption) more than six times as much power as the currently existing plants in Mato Grosso do Sul.

Besides, all the bagasse generated in the São Fernando's sugarcane production process will be used for power generation.

Documentation Provided by Project Participant:

- 'Profile of the Brazilian Sugarcane Sector'. April 2008. Report from the National Supply Company, CONAB (www.conab.gov.br/conabweb/download/safra/perfil.pdf)
- Project participants' estimation for power generation, bagasse consumption and power efficiency of the project plant.

Information Verified by Lead Assessor:

It was verified the evidences:

Ref.1 - PDD version 2

Ref.16 - UsinaSão Fernando_CER Calculation_ver.02

Ref.17a - CONAB-Perfil Setor Sucroalcoleiro 2008

Reasoning for not Acceptance or Acceptance and Close Out:

25/08/2009 - Leandro Silva and Fabian Goncalves

The common practice was discussed consistently through out the section B.5 of the PDD version 2, in the sub-steps 4a and 4b, and the analysis related to the efficiency of the project activity was clarified, so the CL#08 was closed out.

Acceptance and Close out by Lead Assessor: Date: 25.08.2009

Date:	12/05/2009		Raised by:	Thaís Carvalho / Fabian Gonçalves			
Type:	CAR	Number:	09		Reference:	B.10.1 – Annex 2	
Lood Appagaar Commants							

Lead Assessor Comment:

Regarding the monitored parameters and monitoring plan:

-EG project plant: it is not clear how this parameter will be monitored. Moreover, there is no value of data applied for purpose of calculated expected emission reductions in section B.5

-BFk,y: it is not clear how PP will monitor this parameter. Moreover according to the methodology ACM0006 "*if* the amount of biomass combusted is estimated from the amount of biomass delivered to the project site, a procedure should be established to undertake an energy balance for the verification period, considering the stocks of biomass at the beginning and end of each verification period", however it is not clear how the requirements of the methodology will be meet.

-NCVk: QA/QC procedure described in the section B.7.1 is not according to the required by the methodology. Also the evidences for the calculation of the bagasse NCV used in the reference plant and the one used in the project activity to calculate the efficiency of the plants need to be provided.

-Moisture content of the biomass residues: the monitoring frequency required by the methodology is continuously, mean values calculated at least annually. This requirement is not met in the monitoring plan of the PDD version 1.

Date: 25/05/2009

Project Participant Response:

Regarding to the comments about the monitored parameters:

EG project plant: the electricity generated by the project plant will be monitored through direct measurements. Data will be measured in electricity meters devices and monitoring will be done according to standards and monitoring patterns of the CCEE (Câmara de Comercialização de Energia Elétrica, a governmental institution linked to ANEEL, Brazilian National Electricity Agency).

The consistency of metered net electricity generation will be cross-checked with receipts from electricity sales. Data will be archived in database. Data will be kept for the later of, two years after the end of the crediting period or the last issuance of CERs for the project activity.



As the plant will be built in three different stages, the power generation will be different for each year of the crediting period, according to the installed capacity. The value of data applied for the purpose of calculating expected emission reductions in section B.5 are detailed in section B.6.3 of the PDD.

 BF_{ky} : As it is the common practice in similar CDM Projects (either registered or under validation) bagasse quantity measurement in São Fernando Project is done in an indirect way. Monitoring is done in the same way as another similar Brazilian project which is already registered: Project 1062: Santa Terezinha – Tapejara Cogeneration Project (Usina de Açúcar Santa Terezinha Ltda).

The total bagasse consumed in the facility is based on the total sugarcane crushed and the percent amount of bagasse in the sugarcane. The percentage of bagasse per unit of cane is measured in the internal laboratory. Trucks carrying the sugarcane will be weighted (loaded and empty) in a weight bridge located at the entrance of the plant. Samples of the sugarcane carried by each truck will be analyzed and the percentage of fiber in the cane will be calculated. The quantity of fiber in a specific amount of sugarcane is the same as in the bagasse proceeding from it; therefore, the quantity of bagasse available for cogeneration is directly proportional to the sugarcane produced. Data will be adjusted for the moisture content in order to determine the quantity of dry biomass. The quantity will be crosschecked with the quantity of electricity (and heat) generated.

The quantity of bagasse combusted in the project plant is based on the quantity of heat generated in each boiler. The performance guarantee of the boilers establishes the exact proportion between the bagasse consumed and the heat generated. Heat generation is continuously monitored in both boilers.

Data will be recorded on a working day basis by the Technical department and archived in electronic spreadsheet. It will also be prepared annually an energy balance for all the installed boilers, based on stock changes.

NCV_k: regarding the QA/QC procedure, the methodology asks for checking the consistency of the measurements by comparing the measurement results with measurements from previous years, relevant data sources (e.g. values in the literature, values used in the national GHG inventory) and default values by the IPCC. If the measurement results differ significantly from previous measurements or other relevant data sources, conduct additional measurements. NCV will be determined on the basis of dry biomass.

Since there are no NCV measurements from previous years, the consistency of the measurements will be checked by comparing the measurement results with default values by the IPCC.

Moisture content: according to the methodology, moisture content of biomass residue will be continuously monitored, which means that values will be calculated at least annually. Samples will be determined on site by the internal laboratory.

Documentation Provided by Project Participant:

- Calculation of the power generation forecast during the first crediting period.
- Usina São Fernando's operational procedure for calculation of the quantity of bagasse combusted.
- Guarantee of performance of the boilers.

Information Verified by Lead Assessor:

It was verified the evidences:

Ref.1 - PDD version 2

Ref.16 - UsinaSão Fernando_CER Calculation_ver.02

Ref.18a - NCV determination procedure

Ref.18b - Pol, Brix, fiber and humidity procedure

Reasoning for not Acceptance or Acceptance and Close Out:

25/08/2009 - Leandro Silva and Fabian Goncalves

The monitored parameters presented in the PDD version 2 section B.7.1, including their monitoring frequency and QA/QC procedures, are in accordance with the methodology ACM0006 version 8 applied by the PP.

The source of the ex-ante values of NCV_k and *Moisture content* applied by the PP for the estimation of the ER's were provided in the procedures for the calculation of fibre and water percentage (Ref.18b) and net calorific value of bagasse (Ref.18a). The CAR#09 was closed out.

Acceptance and Close out by Lead Assessor: Date: 25/08/2009

Date:	12/05/2009		Raised by:	Thaís Carvalho / Fabian Gonçalves			
Type:	FAR	Number:	10		Reference:	B.10.1	
Lead Assessor Comment:							



As the project is not implemented yet, it is requested to the PP to provide before verification the procedures implemented to guarantee that the project will follow the required by methodology in order to assure the delivery of high quality data, including procedures for calibration of the equipments, day-to-day records handling, internal audits of GHG project, project performance reviews before data is submitted for verification, dealing with possible monitoring data adjustments and missing data allowing redundant reconstruction of data in case of monitoring problems, data storage.

Project Participant Response:

Date: 25/05/2009

The monitoring of the electricity generated in the project plant will be done with the equipments and according to the standards and monitoring patterns of the Chamber of Commercialization of Electricity (CCEE, Câmara de Comercialização de Energia Elétrica) a governmental institution linked to the National Agency of Electricity (ANEEL, Agência Nacional de Energia Elétrica).

Regarding the biomass residues, São Fernando plant has its own internal laboratory for analyzing and monitoring the main specifications of the bagasse combusted. In this laboratory the procedures for calibration and maintenance of the instruments will be done according to the regulations of the Brazilian Standards Association (Associação Brasileira de Normas Técnicas, ABNT), and the National Institute of Metrology and Normalization (Instituto Nacional de Metrologia, Normalização e Qualidade Industrial, INMETRO), and will be done during preventive maintenance operation of Usina São Fernando.

São Fernando plant will also organise the staff training in the appropriate monitoring, measurement and reporting techniques. The responsible for the cogeneration unit of the plant will also be the person in charge for organising the staff training. In order to ensure the correct development of the monitoring process, the plant has implemented two documents of procedures:

- CDM Responsible Procedure: it appoints a responsible for the monitoring and explains which his duties and obligations are.

- Formation for Monitoring Procedure: it resumes the procedures that must be taken into account in order to achieve a proper training for the staff that is in charge for the monitoring.

As an extra quality assurance measure, project participants will also count on the continuous assessment from the PDD consultants during the whole verification period.

Date:	05/06/2009		Raised by:	Thaís Carvalho / Fabian Gonçalves			
Type:	CAR	Number:	11		Reference:	B.4.1	

Lead Assessor Comment:

According to Combined Tool, in cases where one or more alternatives are not available options to project participants, a different procedure than the one provided here would be required to demonstrate additionality and identify the baseline scenario. In this case the proposed project activity includes grid-connected power projects (where an alternative might be electricity produced by other facilities not under the control of project participants). Project participants can continue to use, if desired, the additionality tool, and provide their own methods to develop and/or assess baseline scenario.

Project Participant Response:

One of the alternative scenarios to the project activity is the construction of a new cogeneration plant with less efficient equipments. This plant, with the same installed capacity, would fire the same type and quantity of biomass residues as in the project plant, but with a lower power generation. In this case, the difference between the power generated by the project plant and the power generated by the less efficient plant would be generated by other facilities that are currently connected to the grid and are not under the control of the project participants.

Date: 05/06/2009

In this possible and feasible scenario and according to the latest approved version of the Combined Tool, project participants are able to use the "Tool for the demonstration and assessment of additionality".

The CDM Executive Board (EB) on its 47th meeting (paragraph 23 of the meeting report) asked for the deviation from the use of Combined Tool prescribed by the methodology and requested the Meth Panel to review the possibility of allowing the use of Additionality Tool, in place of Combined Tool.

The Meth Panel on its 39th meeting recommended the EB to approve a revision of the combined tool in the context of the overall revision of ACM0006. According to the Meth Panel, the use of the combined tool is currently restricted to situations in which all potential alternative baseline scenarios to the proposed project activity are available options to the project participants.

Therefore, in this case, the additionality was determined using the "Tool for the demonstration and assessment of additionality"; version 05.2.

Documentation Provided by Project Participant:

PDD version 2.

Information Verified by Lead Assessor:

Ref.1 - PDD version 2

Ref.2 – ACM0006 version 8

Reasoning for not Acceptance or Acceptance and Close Out:

25/08/2009 - Leandro Silva and Fabian Goncalves

The "Tool for the demonstration and assessment of additionality"; version 05.2 was applied correctly by the PP and the CAR#11 was closed out.

Acceptance and Close out by Lead Assessor: Date: 25/08/2009

Date:	27/07/2009		Raised by:	Thaís C	arvalho / Fabian Gonç	alves
Type:	CAR	Number:	12		Reference:	E.1.1
Lead Assessor Comment:					te: 27/07/2009	

Regarding the local stakeholders consultation, resolution number 7 of the Brazilian DNA, establishes that the PP shall "II – inform the specific electronic address for the web site where copies can be obtained, in Portuguese, of the last available version of the project design document in question, as well as the description of the project activity's contribution under the Clean Development Mechanism towards sustainable development, as per Annex III of Resolution no. 1 of this Commission, guaranteeing this site will remain accessible at least until conclusion of the project activity registration process by the CDM Executive Board". Verified that this requirement was not meet. PDD was not available in Portuguese.

Date: 31/07/2009

The letter sent to the stakeholders by the project participants included an email address and a postal mail for requesting for more information about the projects, including the PDD translated into Portuguese and the description of the project activity's contribution under the Clean Development Mechanism towards sustainable development, as per Annex III of Resolution no. 1 of the Brazilian DNA.

One of the stakeholders consulted (Centro de Tecnologia Canavieira, Sugarcane Technology Centre) used the email address provided in the letter in order to ask for more information. According to the DNA specifications, the translation into Portuguese of the available version of the PDD and the description of the project activity's contribution under the Clean Development Mechanism towards sustainable development were sent to him.

Documentation Provided as Evidence by Project Participant:

- Letter sent to the stakeholders.

Project Participant Response:

- Stakeholder's request for more information about the project.
- PDD translated into Portuguese sent to the stakeholder.
- Project activity's contribution under the CDM towards sustainable development, as per Annex III of Resolution no. 1 of the Brazilian DNA.
- Email sent for replying the stakeholder's request.

Information Verified by Lead Assessor: The information verified was: Ref.20 - PDD_Sao Fernando_ver.01 _português Ref.20a - USF - Carta stakeholders Ref.20b - ARs dos stakeholders doSão Fernando Biomass Cogeneration Project Ref.20c - Stakeholder contact Reasoning for not Acceptance or Acceptance and Close Out: 25/08/2009 - Leandro Silva and Fabian Goncalves Based on the email contacts from the local stakeholder "CTC" and the reply from the PP (Ref.20c) with the PDD in Portuguese (Ref.20), on the letters sent to the local stakeholders (Ref.20a), and on the receipts of the letters (Ref.20b), the PP reached the requirements from the Brazilian DNA resolution nº7 for local stakeholder consultation. The CAR#12 was closed out. Acceptance and Close out by Lead Assessor:



A.4 Annex 4: Team Members Statements of Competency