F-CDM-REG

CDM Project Activity Registration and Validation Report Form
(By submitting this form, designated operational entity confirms that the proposed CDM project activity meets all validation and registration requirements and thereby requests its registration)

Section 1: Request for registration	
Name of the designated operational entity (DOE) submitting this form	SGS United Kingdom Ltd.
Title of the proposed CDM project activity (Section A.2 of the attached CDM-PDD) submitted for registration	USJ Açúcar e Álcool S/A – Usina São Francisco Cogeneration Project
Project participants (Name(s))	USJ Açúcar e Álcool S/A Ecoinvest Carbon
Sector in which project activity falls	Scope number 1 – Energy industries, renewable electricity for a grid.
Is the proposed project activity a small-scale activity?	Yes / **No**

Section 2: Validation report	
List of documents to be attached to this validation report (please check mark)*:*	

- ✔ The CDM-PDD of the project activity
- ✔ An explanation by the submitting designated operational entity of how it has taken due account of comments on validation requirements received, in accordance with the CDM modalities and procedures, from Parties, stakeholders and UNFCCC accredited non-governmental organizations;
- ❑ The written approval of voluntary participation from the designated national authority of each Party involved, including confirmation by the host Party that the project activity assists it in achieving sustainable development:
- ✔ Other documents, including any validation protocol used in the validation
  - ✔ List of documents attached clearly referenced
  - ✔ List of persons interviewed by DOE validation team during the validation process
  - ✔ Copies of documents reviewed during validation visit.
- ✔ Information on when and how the above validation report is made publicly available.
- ❑ Banking information on the payment of the non-reimbursable registration fee
- ❑ A statement signed by all project participants stipulating the modalities of communicating with the Executive Board and the secretariat in particular with regard to instructions regarding allocations of CERs at issuance

Executive Summary and Introduction, including

- **Description of the proposed CDM project activity**
- **Scope of validation process (include all documentation that has been reviewed and name persons that have been interviewed as part of the validation, as applicable)**
- **DOE Validation team (list of all persons involved in the validation, describing functions assumed in the validation)**

Description of the proposed CDM project activity

This report summarizes the results of the validation of the project, performed on the basis of UNFCCC criteria. The validation has been performed as a desk review of the project documents presented by Usina São Francisco and a site visit to Usina São Francisco unit located in Quirinópolis, Goiás, Brazil, where staff from the company and its consultant were interviewed.

This project activity consists of construction of a sugar mill, which will be operational in June 2007. The mill will apply biomass power conversion technology for simultaneous power and heat generation. Bagasse, a renewable fuel source by-product from sugar cane processing, will be used as biomass. The project will generate enough energy for powering the sugar mill and for delivering surplus electricity to the national grid, avoiding the dispatch of same amount of energy produced by fossil-fuelled thermal plants to that grid. This displacement of energy thus creates a reduction of greenhouse gases emissions. This project also provides social and economic benefits that contribute to the local sustainable development.

The project is owned by USJ – Açúcar e Álcool S/A, a sugar cane based distillery.
Usina São Francisco will operate using 1 boiler, 1 generator and 1 turbo-generator. Em 2008 it's predicted an expansion, increasing Usina São Francisco capacity. The project is expected to generate an annual average of 357,573 MWh power surplus at the end of the first crediting period, operating at full capacity during the season.

Total amount of emission reductions for the first crediting period is 357,573 tCO2.

Baseline Scenario:
Electricity generation from fossil-fuel thermal plants that would have otherwise dispatched to the grid.

With-project scenario:
Usina São Francisco utilizes bagasse as biomass for electricity generation to the grid, avoiding the dispatch of same amount of energy produced by fossil-fuelled thermal plants to that grid.

Leakage:
No leakage was identified for this project.

Environmental and social impacts:

To be in compliance with legal requirements, a Preliminary Environmental Report – "Relatório Ambiental Preliminar" (RAP) has been completed and a report was produced, containing information about the use of resources, legal requirements, impacts on climate and air quality, geological and soil impacts, impacts on surface and groundwater, impacts on the flora and fauna, and social and economic issues. Mitigation measures and a monitoring plan were also included into the RAP.

The impacts identified from the study above-mentioned were not considered significant and a full Environmental Impact Assessment was not legally required.

The project sponsors are fulfilling all the requirements of the State environmental Agency (Agência Ambiental do Estado de Goiás which issued the Construction License – nº 369/2005 for the Usina São Francisco (07/06/2006).

The bagasse cogeneration is a sustainable source of energy that brings advantages for mitigating global warming and also creates a sustainable competitive advantage for the sugarcane industry in Brazil. In addition to environmental benefits to be obtained from the CDM project, the revenues obtained from the sale of the CERs will help the USJ, the owner of the project, to continue supporting its social initiatives and partnership with local communities.

Scope

The scope of the validation is the independent and objective review of the project design document, the baseline study and monitoring plan and other relevant documents of the Usina São Francisco Cogeneration Project. The information in these documents is reviewed against the criteria defined in the Marrakech Accords (Decision 17) and the Kyoto Protocol (Article 12) and subsequent guidance from the CDM Executive Board.

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.

Overview of documentation that has been reviewed and names of persons that have been interviewed as part of the validation

Please refer to Annex 3.

DOE Validation team

Name	Role
Áurea Nardelli	Team leader / lead assessor
Fabian Gonçalves	Local assessor
Irma Lubrecht	Technical reviewer

Description of methodology for carrying out validation

- **Review of CDM-PDD and additional documentation attached to it**
- **Assessment against CDM requirements (e.g. by use of a validation protocol)**
- **Report of findings by the DOE, e.g. by use of type of findings (e.g. corrective action requests, clarifications or observations). Please explain the way findings are "labelled" during validation.**
- **Include statements or assessments in the section "Conclusions, final comments and validation opinion" below.**

Review of CDM-PDD and additional documentation

The validation was performed primarily as a document review of the publicly available project documents (see Annex 2 for the list of documents). The assessment was carried out by trained assessors using a validation protocol.

A site visit was required to verify the project like described in the PDD. Additional information was required to complete the validation, which was obtained through telephone, e-mail and face-to-face interviews with the project developers and their consultant. These were performed by the local assessor, from SGS do Brazil. The results of the site visit carried out on 2nd and 3rd March 2006 are summarized in Annex 6 to this report.

Assessment against CDM requirements

In order to ensure transparency, a validation protocol was customised for the project. The protocol shows requirements, means of verification and the results from validating the identified criteria. The

validation protocol serves the following purposes:

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

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

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

The completed validation protocol for this project is attached as Annex 4 to this report.

Report of findings and use of type of findings.

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

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

Where a non-conformance arises that requires the Project Developer to do something (for example correct something in the PDD) the Assessor shall raise a **Corrective Action Request (CAR).**

A CAR is issued, where:

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

II. validation protocol requirements have not been met; or

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

The validation process may be halted until this information has been made available to the assessors' satisfaction. Failure to address a NIR may result in a CAR. Information or clarifications provided as a result of an NIR may lead to a CAR. Observations may also be raised which are for the benefit of future projects and future verification or validation actors. These have no impact upon the completion of the validation or verification activity.

Corrective Action Requests and New Information Requests are raised in the draft validation protocol and detailed in a separate form (Annex 5). In this form, the Project Developer is given the opportunity to "close" outstanding CARs and respond to NIRs and Observations.

For this project, the CAR and NIR was closed out through communication between validation team and Usina São Francisco staff and its consultant. Changes to the project design were necessary to clarify the issues raised.
Explanation by the submitting designated operational entity of how it has taken due account of comments on validation requirements received, in accordance with the CDM modalities and procedures, from Parties, stakeholders and UNFCCC accredited non-governmental organizations; • **Description of how and when the PDD was made publicly available** • **Description of how comments were received and made publicly available** • **Explanation of how due account has been taken of comments received** • **Compilation of all comments received (Identify the submitter)**
In accordance with the CDM modalities and procedures, the project design document of this proposed CDM project activity has been made publicly available and comments have been invited from Parties, stakeholders and UNFCCC accredited non-governmental organizations. This process is described in Annex 1 to this report, which is available as a separate document.

Conclusions, final comments and validation opinion

- **Provide conclusions on each requirement under paragraph 37 of the CDM modalities and procedures, describing how these requirements have been meet. This shall include assessments and findings (e.g. corrective action requests, clarifications or observations) in relation to each requirement, including a confirmation that all issues raised have been addressed to the satisfaction of the DOE.**
- **Final comments and validation opinion**

Participation requirements

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

At time of the validation, no Letter of Approval from the host country had been provided. The Letter of Approval will be signed when the DNA of Brazil has received and analysed the validation report.

Baseline and monitoring methodology

Usina São Francisco Cogeneration Project is a greenfield power project: Usina São Francisco is a new biomass power generation plant at a site where currently no power generation occurs. It uses one type of biomass: bagasse, a byproduct of the production of sugar. The power generated by the project plant would in the absence of the project activity be purchased from the grid.

The methodology applied to the project is the *"ACM0006 – Consolidated baseline methodology for grid-connected electricity generation from biomass residues".*

ACM0006 is subject to the conditions listed below; it was verified that the project activity meets all of them:

(i) No other biomass types than biomass residues are used in the project plant and these biomass residues are the predominant fuel used in the project plant. Biomass is defined as a by-product, residue or waste stream from agriculture, forestry and related industries.

The primary fuel in the project plant is sugar cane bagasse. The bagasse to be used in the Usina São Francisco Cogeneration Project is a residue of the production of sugar carried in the same facility where the project is located.

(ii) The implementation of the project shall not result in an increase of the processing capacity of raw input or other substantial changes in the process:

Increasing in the bagasse production will be due to Usina São Francisco Cogeneration Project natural expanding business and can not be attributed to the implementation of the cogeneration project.

(iii) The biomass used by the project facility should not be stored for more than one year:

The bagasse will be stored from the end of the harvest season, in November, until the beginning of the following harvest season, in April. The volume of bagasse stored between seasons is foreseen to be less than 5% of the total amount of bagasse generated during the year or during the harvest period.

(iv) No significant energy quantities, except for transportation of the biomass, are required to prepare the biomass residues for fuel consumption:

The biomass used in this project is not transformed or prepared in any way before being used as a fuel.

According to the baseline methodology, the baseline emission factor should be calculated as a combined margin (CM), following the guidance in the section "Baselines" in the "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" (ACM0002). A summary of the data and equations used for calculation of the emission factor were presented in the PDD. The baseline emission factor calculated for the first credit period is 0.2647 tCO_2/MWh

This project activity is not expected to result in GHG emissions due to the use of a renewable energy source (bagasse) for electricity generation.

Additionality

The project demonstrated additionality using the "Tool for the demonstration and assessment of additionality". The relevant information for the analysis of additionality was presented in detail in the PDD.

The project sponsors consider that CDM has been an incentive for mills to set up their cogeneration plants and export surplus electricity to the grid by helping to overcome financial barriers through the financial benefits obtained from CERs. Additionally, CDM has helped to overcome institutional and cultural barriers since the CDM has made the project sponsors take more seriously into consideration the generation of renewable electricity.

NIR 6 was raised asking clarification about PROINFA -Program of Incentives to Alternative Energy Sources and about PPA - Power Purchase Agreement (section B.3 of the PDD).

It was informed that Usina São Francisco did not apply for Proinfa, because there was not enough time to fulfil all the application requirements in the most recent energy auction. Also, no PPA was signed to date (it will be signed in April/2006). Investment barrier in section B.3 of the PDD was updated to clarify this information. NIR was closed out.

Monitoring plan

The main data to be monitored for determining the emissions reductions is the electricity exported to the grid. The emissions reduction is reached by applying an emission factor through the electricity dispatched to the grid, which is verified and monitored by the power plant that sells the electricity.

During the desk study, NIR (New Information Request) and CAR (Corrective Action Request) regarding the monitoring plan were raised:
- There was not a plan for monitoring of environmental impacts and sustainable development indicators (CAR 1).
See CAR close out details in the following report section "Environmental impacts".

- There was no information in PDD regarding training of monitoring personnel (NIR 2).
During site visit and from interviews with the project managers, it was verified that the project is part of the routine of Usina São Francisco and no specific training procedure is necessary. Personnel will be

trained on the monitoring of the emission of SOx and NOx and the production of solid residues at the combustion of bagasse in the boilers. The information was included in Annex 4 (revised PDD) and was accepted by the validation team.

- There were not procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions (CAR 3).
It was discussed with the project managers and clarified that the only potential unintended emissions from the project would be due to biomass decay. Sugar mills, generally, store a small amount of bagasse for the next season in order to start plant operations when the new crop season/ harvest begins. In Usina São Francisco, this volume will be approximately 3% and will be stored from November – April (less than 1 year, which is acceptable under ACM0006). CAR 3 was closed out.

- Procedures for calibration of monitoring equipment were not presented or mentioned in the PDD and Monitoring plan (CAR 4).
The calibration of the electricity meters will be done according to the internal procedures of Usina São Francisco and in compliance with the regulations of CCEE (*Câmara de Comercialização de Energia Elétrica*). This information was included in the PDD, Annex 4.

- Procedures for maintenance of monitoring equipment and installations are not mentioned in the PDD and Monitoring Plan (CAR 5).
It was verified during the site visit and interviewing the project managers that there is no need of specific procedure for the project. The maintenance of monitoring equipment and installations will be done according to the internal procedures of Usina São Francisco, as included in PDD, Annex 4. CAR 5 was closed out.

The electricity baseline emission factor is determined ex-ante and will be updated at renewal of the crediting period. The data monitored in combination with an emission factor will be the information necessary to calculate the emission reductions.

No leakage or project emissions need to be monitored.

The monitoring plan is in line with the monitoring methodology mentioned in ACM0006.

Environmental Impacts

During the validation visit, copy of the project‘s Construction License (LI n° 369/2005, issued by State Environmental Agency of Goiás on 06/07/2006) was provided to the auditor (reference 3 of Annex 4).

It was verified that no monitoring of sustainable development indicators was presented in Annex 4 of the PDD. Section F mentions that the project is required to control some environmental aspect to obtain the environmental license, but there is no details about (CAR 1).

The environmental assessment report was verified during the site visit (reference 2 of Annex 4). The study carried out in October 2004 concluded that the project is not resulting in significant adverse environmental impacts. Mitigation measures and a monitoring plan were proposed and have been implemented.

The project manager provided information that the monitoring of environmental impacts will be carried out according to the requirements of the State Environmental Agency. Usina São Francisco will monitor the emission of SOx, NOx and CO and the production of solid residues at the combustion of bagasse in the boilers, following the CONAMA resolutions 005/89, 003/90 and 008/90.
In addition, Usina São Francisco will monitor other environmental aspects, such as water quality, erosion and noise level. Project “Margem Verde”, a reforestation programme, has already planted 70,000 trees, and its maintenance will be monitored.

Social indicators related to social programs activities and worker's health indicators will also be monitored.
The Annex 4 of the PDD was updated to include the above-mentioned details. CAR 1 was closed out

Comments by local stakeholders

Local stakeholders were invited by letters to comment on the Usina São Francisco Cogeneration CDM project.

The invitation was sent to specific stakeholders, considered representative of the general public, as defined by Resolution n° 1 of the DNA. The following stakeholders were contacted:

- The municipality mayor house of Quirinópolis;
- The municipality chamber of Quirinópolis;
- The local attorneys' office of the State of Goiás;
- The Brazilian NGO Forum;
- The state environmental agency of Goiás;
- The municipality's environmental authority of Quirinópolis;
- Rural Workers's Union of Quirinópolis.

It was verified that Usina São Francisco submitted these letters in February/2006 (by checking the formal records of post office).

No comments were received.

Other requirements

Verified ANEEL Resolution 359 of 14/11/2005, this authorization was canceled in order to be substituted to one that authorizes Usina São Francisco to operate with an installed capacity of 96 MW (on going process).
Observation 1 was raised: ANEEL will issue a Resolution authorizing Usina São Francisco to operate with an installed capacity of 96MW before the project start and this Resolution needs to be available in the verification assessment.

The project applies the correct PDD format and no modifications have been made to the format.

Final comments and validation opinion

Actions have been taken to close out 6 findings and one observation was raised.

SGS has performed a validation of project: USJ Açúcar e Álcool S/A – Usina São Francisco Cogeneration Project. The validation was performed on the basis of the UNFCCC criteria and host country criteria, as well as criteria given to provide consistent project operations, monitoring and reporting. Using a risk based approach, the validation of the project design documentation and the subsequent follow-up interviews have provided SGS with sufficient evidence to determine the fulfilment of the stated criteria.

By the cogeneration the project will generate enough energy not only for powering the sugar mill but also for delivering surplus energy to the national grid, the project results in reducing greenhouse gas emissions that are real, measurable and give long-term benefits to the mitigation of climate change. A review of the barriers presented demonstrates that the proposed project activity was not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. If the project is implemented as designed, the project is

likely to achieve the estimated amount of emission reductions.

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

The DOE declares herewith that in undertaking the validation of this proposed CDM project activity it has no financial interest related to the proposed CDM project activity and that undertaking such a validation does not constitute a conflict of interest which is incompatible with the role of a DOE under the CDM.

By submitting this validation report, the DOE confirms that all validation requirements are met. Name of authorized officer signing for the DOE	The SGS will request the registration of the Project Usina São Francisco Cogeneration, as a CDM project activity, once the written approval by the DNA of the participating Parties and the confirmation by the DNA of Brazil that the project assists in achieving sustainable development has been received.
Date and signature for the DOE	

Section below to be filled by UNFCCC secretariat		
Date when the form is received at UNFCCC secretariat		
Date at which the registration fee has been received		
Date at which registration shall be deemed final		
Date of request for review, if applicable		
Date and number of registration	Date	Number