


F-CDM-REG

 <p align="center">CDM Project Activity Registration and Validation Report Form <i>(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)</i></p>	
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	15 MW Biomass Co-Generation in Andhra Pradesh
Project participants (Name(s))	Ganpati Sugar Industries Limited (GSIL)
Sector in which project activity falls	1. Energy industries (renewable - / non-renewable sources)
Is the proposed project activity a small-scale activity?	<u>Yes</u> / No (underline as applicable)
Section 2: Validation report	
List of documents to be attached to this validation report (please check mark):	
<ul style="list-style-type: none"> <input checked="" type="checkbox"/> The CDM-PDD of the project activity <input checked="" type="checkbox"/> 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; <input checked="" type="checkbox"/> 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: <ul style="list-style-type: none"> <input type="checkbox"/> (Attach a list of all Parties involved and attach the approval (in alphabetical order)) <input checked="" type="checkbox"/> Other documents, including any validation protocol used in the validation <ul style="list-style-type: none"> <input checked="" type="checkbox"/> (comprehensive list of documents attached clearly referenced) <input checked="" type="checkbox"/> List of persons interviewed by DOE validation team during the validation process <input type="checkbox"/> Any other documents. Please specify. <input type="checkbox"/> Information on when and how the above validation report is made publicly available. <input type="checkbox"/> Banking information on the payment of the non-reimbursable registration fee <input checked="" type="checkbox"/> 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

The proposed CDM project activity is a 15 MW Biomass based co-generation project located in Medak district of Andhra Pradesh in India. The power is being generated by following the Rankine cycle using bagasse as the fuel. The starting date of project activity was 29th April 2001 and commissioned in Jan 2003.

Baseline Scenario:

The electricity generated by project activity would have otherwise been generated by Southern Regional grid which is predominantly fossil fuel based.

With Project Scenario:

The project activity is a renewable power project which generates electricity using bagasse as fuel. There is no associated anthropogenic emission of green house gases. The project displaces the power that would have otherwise been generated by Southern Regional grid which consists of power plants operating on a mix of hydro, nuclear and fossil fuels but are primarily fossil fuel based.

Leakage:

There is no leakage expected with project activity.

Environmental & Social Impacts:

According to project developer, there is no negative environmental and social impact expected with project activity.

Scope

The scope of validation is the independent and objective review of the project design document, baseline study and monitoring plan and other relevant document of the 15 MW Biomass Cogeneration in Andhra Pradesh. The information in this document 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 2

DOE Validation Team

Name	Role
Marco van der Linden	Team Leader / Lead Assessor
Siddharth Yadav	Assessor (Trainee)
Sanjeev Kumar and Syed Khursheed Zaidi	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 is performed primarily as a document review of the publicly available project documents. The assessment is performed by trained assessors using a validation protocol.

In general, a site visit might be required to verify assumptions in the baseline. Sometimes additional information is required to complete the validation, which may be obtained through telephone and face-to-face interviews with key stakeholders (including the project developers and Government and NGO representatives in the host country). These may be undertaken by the local SGS affiliate. In case of this project, a site visit and interviews have been conducted and the results are summarized in Annex 7 to this report.

Assessment against CDM requirements

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

- It organises, details and clarifies the requirements a CDM project is expected to meet;
- It ensures a transparent validation process where the validator will document 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.

<i>Checklist Question</i>	<i>Means of verification (MoV)</i>	<i>Comment</i>	<i>Draft and/or Final Conclusion</i>
<i>The various requirements are linked to checklist questions the project should meet.</i>	<i>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.</i>	<i>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.</i>	<i>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.</i>

The completed validation protocol for this project is attached as Annex 5 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.

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

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

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

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

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

Corrective Action Requests and New Information Requests are raised in the draft validation protocol and detailed in a separate form (Annex 6). In this form, the Project Developer is given the opportunity to "close" outstanding CARs and respond to NIRs and Observations.

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 met. 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

The host Party for this project is India. India has ratified the Kyoto protocol on 26 August 2002. Initially, no Letter of Approval was provided and a CAR (01) was raised. A Letter of Approval dated 26 Dec 2005, issued by the Indian DNA was provided subsequently (reference number 4/22/2005-CCC).

The approval of the project was also verified from the Ministry of Environment & Forest, Government of India's website. Hence CAR1 was closed.

No Annex I Party has been identified in the PDD and therefore no further 'Letter of Approval' from an Annex I party was obtained. As registration of a CDM project activity can take place without an Annex I Party being involved at the stage of registration, this is not a mandatory requirement at this stage. However, it should be noted that before CERs can be transferred to an Annex I Party, a Letter of Approval should be submitted.

Baseline and monitoring methodology

The project has applied the small scale methodology for Renewable Electricity Generation for a Grid-AMS - ID (version 7, 28th November 2005) as per Appendix B of the simplified modalities and procedures for small-scale CDM project activities.

One alternative to the project activity; to set up a distillery for manufacturing fuel ethanol from molasses has been omitted from baseline options. The other alternative; 'to set up a new co-generation power project based on high pressure boiler configuration and develop the project under the CDM' has been corrected as "to set up a new co-generation power project based on high pressure boiler configuration and develop the project without considering the additional financial benefits under the CDM".

The continuation of previous scenario i.e. 'running the old low pressure configuration boiler and power system that generated adequate power to meet the internal requirements of the plant but not for exports' was considered the most likely scenario for the project activity. This has been incorporated in the revised PDD.

The project is replacing equivalent amount of electricity from southern regional grid. The baseline OM and BM have been calculated as per the approved methodology and data for CER calculations were verified. The database for the information regarding baseline calculations has been reviewed by the local assessors during the site visit.

The plant emission factor calculations are based on the technology provider's name plate power plant efficiency (design efficiency). The design efficiency is calculated based on design station heat rate (SHR) values of thermal power plants in the southern region which is documented in official sources. The documents provide both Design SHR and Operating SHR. The Design SHR is lower than the Operating SHR which is usually the case since under actual operating conditions plants operate at efficiencies lower than the designed parameters. However as suggested by the methodology, the Design SHR has been considered.

The Fuel consumption data has been computed as per the methodology. The computations are based on the total power generation from various fossil fuel (coal, gas and diesel) based thermal power stations supplying electricity to Southern grid, Net calorific value of fossil fuel used and the design efficiency values. Supportive documents regarding the power generation data, net calorific value data, the design efficiency values and other associated parameters have been checked during the validation process. The data and the calculations have been verified during the local assessment and were found to be correct.

To confirm whether the emission reductions have been determined in accordance with the methodology described and that there is no project emission related to usage of coal in the project activity, CAR (07) was raised. The client clarified that no coal is being used at present. The audited financial spreadsheets do not show any expenditure incurred towards purchase of coal in the past. There was no evidence of coal usage (past/present) on the site during their site visit, this was further confirmed through audited financial spread sheets. Hence CAR 7 closed.

The baseline emission factor is computed as 937.41 tCO₂e/GWh which is fixed for the entire crediting period. This is in accordance with AMS.I.D version 07.

Additionality

The project participant wishes to have the seven years renewable crediting period starting from Jan 2003 prior to the registration of the project activity. In order to provide evidence that the incentive from the CDM was seriously considered in the decision to proceed with the project activity, minutes of a Board meeting of the project participant (GSIL) were provided. These minutes were reviewed during the site visit and the excerpts of the meeting duly signed by the company director have been submitted to the validator. It was found that the relevant meeting took place on June 13, 2000. The minutes showed that the revenue from the sale of carbon credits was seriously considered while taking a decision on going ahead with the project.

PDD mentions that high pressure bagasse co-generation was not a standard business practice in the Andhra Pradesh Region at the time of start of the project. There were risks due to low market share of the technology. This has been substantiated by the fact that of the total 507 sugar mills in India, only 38 have cogeneration systems of which only 12 are of high pressure configuration. CAR8 was raised requesting the client to provide evidence on the following:

- Project being first of its kind in Indian Sugar Industry
- Regulatory risks:
- State Electricity Regulations
- Revision of Power Purchase agreement by the state regulatory agency on unilateral basis

The local assessor was also requested to further confirm :

- Status of power purchase agreement/sale of power
- Most financial institutions unwilling to finance the project (supporting documentation)
- High Pressure Configuration was not BAU at the time of project start (technological barrier)

It was found that there was uncertainty with respect to the power purchase agreement and lack of incentives to privately owned power generation entities mainly due to poor fiscal health of the state Electricity boards, there were uncertainties in tariff and low power purchase price was offered. The documentation confirming correspondence with financing institutions was not available; but this was ignored as there was sufficient evidence proving the investment, regulatory and technological Barriers. Hence CAR8 was closed.

The State Electricity Boards continued with the policy of levying high wheeling and distributing surcharge, thereby making third party power sale a very complicated process.

To verify the net thermal output from the boiler, the boiler specifications, steam generation capacity and thermal output calculations have been obtained from the boiler supplier (Thermax). These are attached as Annex 02 in supp. doc. folder. The calculation shows the 55TPH max steam generation rate is equivalent to 45MWth. The actual steam generation was also checked from the boiler and found maximum 42 TPH from November 2004 to April 2005. The data is attached as Annex 03 in supp. doc. folder.

Monitoring plan

The data to be collected in order to monitor emissions from the project activity is detailed in the project design document.

However, some of the parameters to be monitored as required by the methodology, were not included in the monitoring plan for the project. Project emissions due to fossil fuel used for starting up the boiler (if required) was not provided in detail under monitoring plan and CAR (09) was raised. Project developer clarified that fossil fuel consumption would be incorporated in monitoring and emission from the same would be deducted from the annual emission reduction figure if any fossil fuel (coal) is purchased which would be reflected in financial certified audit report. As there has been no usage of fossil fuel in the past and the quantity can be monitored and verified if there is any usage in future. CAR 09 was closed.

Specific information was requested on monitoring parameters, measuring, reporting, GHG performance and internal audit procedure through NIR (10). In response to NIR (10), the client provided the detailed monitoring plan (Annex-4, PDD). The NIR (10) was closed as the plan contained the required information.

Following comments from EB25, the revised PDD now contains the correct unit of electricity generation, captive power consumption and electricity export under monitoring plan.

Environmental Impacts

In order to ascertain whether the project activity results in any adverse environmental impacts, it was confirmed whether project details were made available to local village panchayat (also requested in the panchayat's letter) through raising NIR (03).

No public complaint has been registered with the State Pollution Control Board on the project activity in the consent to establish and operate. The local stakeholders were also contacted by the local assessor during the site visit. As there were no adverse environmental impacts observed/documented; NIR 03 was closed.

Comments by local stakeholders

There was no information available on media used for inviting comments from the local public on the project activity. NIR (04) was raised seeking clarification on the issue. Responding to NIR(04), client informed that the representatives of the village community were contacted on one to one basis. This was verified by the local assessor through meetings with some representatives during site visit. No adverse comment was received and hence NIR (04) was closed.

In order to confirm whether stakeholder consultation process is required by regulations/laws in the

host country, and whether it has been carried out in accordance with such regulations/laws NIR (05) was raised. The client replied that there is no requirement of an EIA for project activity and hence no public hearing was envisaged. However, project obtained "Consent to establish and operate" from State Pollution Control Board which is an indication of regulatory acceptance. The host country approval has been accorded to project activity by Ministry of Environment and Forests, the host country approval confirms that the project leads to sustainable development in India (annexure-2). These documents were reviewed during the site visit. The NIR (05) was closed.

Other requirements

The project was listed for comments on the UNFCCC website from 25/10/2005 till 23/11/2005 commented by Joergen Fenhann "The link to the PDD for 15 MW biomass co-generation in Andhra Pradesh did not work", hence CAR(02) was raised to further look into the issue. The UNFCCC web link was checked, the link was found to be operational and the PDD was accessible. No comments were received during the subsequent period of web hosting. Hence CAR2 was closed.

The project participant information was wrongly filled (section A3, PDD); and CAR (06) was raised for the same. The PDD has been modified in accordance with the guideline for completion of the Project Design Document. CAR (06) was closed.

An Observation (11) was raised to clarify if the project uses Official Development Assistance. Details of financial arrangement were verified by local assessor. It was confirmed that there was no ODA utilised for the project.

Special training requirement for the project activity (if any) was checked by raising an Observation (12). Project developer clarified that they had sufficient previous experience to handle plant operations and no training would require thereafter.

An Observation (13) was raised to ensure the project's starting date and lifetime of project activity. The starting date and operational lifetime supporting documents have been provided to the validator. Based on normal life expectancy of the project, the project operational lifetime is expected to be longer than the crediting period and it is not likely that the project will be replaced with other technology during the crediting period.

Final comments and validation opinion

SGS has performed a validation of the project "15 MW Biomass Co-Generation in Andhra Pradesh". The validation was performed on the basis of the UNFCCC criteria and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

Using a risk based approach, the review of the project design documentation and the subsequent follow-up interviews have provided SGS with sufficient evidence to determine the fulfilment of the stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria. The project will hence be recommended by SGS for registration with the UNFCCC.

SGS has received confirmation by the host Party that the project activity assists it in achieving sustainable development.

By utilizing biomass for generation of electricity, the project results in reductions of greenhouse gas emissions that are real, measurable and give long-term benefits to the mitigation of climate change. A review of the investment analysis and prevailing practice, demonstrates that the proposed project

activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity.

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.

Marco van der Linden

Name of authorized officer signing for the DOE

Date and signature for the DOE

14-08-2006



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