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	16 MW bagasse based Co-generation plant by GMR Industries Ltd. [GIDL]
Project participants (Name(s))	GMR Industries Ltd. [GIDL]
Sector in which project activity falls	1. Energy Industries (renewable-/non-renewable sources.
Is the proposed project activity a small-scale activity?	~~Yes~~ / No *(underline as applicable)*

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:

- ☐ (Attach a list of all Parties involved and attach the approval (in alphabetical order)

☒ Other documents, including any validation protocol used in the validation

- ☒ (comprehensive list of documents attached clearly referenced)
- ☒ List of persons interviewed by DOE validation team during the validation process
- ☐ Any other documents (list attached)

☐ 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

The proposed CDM project activity is a 16 MW Bagasse based co-generation plant by GMR Industries Ltd. [GIDL]. The power is being generated by using Bagasse as a fuel. The starting date of project activity was 13-02-2000 and the project is already in operation.

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 generating electricity using bagasse as fuel. There is some associated anthropogenic emission of green house gases as the project activity uses some amount of fossil fuel i.e. coal in power plant and also some diesel in transportation of sugarcane used to generate sugar and bagasse. 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:

This was the new installation and the energy generating equipment was not transferred from another activity or the existing equipment was not transferred to another activity. So, no leakage is considered.

Environmental & Social Impacts:

According to Local assessor, there is no negative environmental and social impact reported or seen from project activity during the site visit or during the local stakeholder consultation carried out as a validation protocol.

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 16MW bagasse based co-generation plant. 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**
Shivananda Shetty	Team Leader and Lead Assessor
Sanjeev Kumar	Assessor

Pankaj Mohan	Local Assessor
Irma Lubrecht / Marco van der Linden	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.

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 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 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

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 CAR1 was raised. A Letter of Approval (F.No. 4/12/2006-CCC) dated 14th June 2006, issued by the Indian DNA was provided subsequently.

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

No Annex 1 Party has been identified in the PDD and therefore no further 'Letter of Approval' from a Annex I party was obtained. As registration of a CDM project activity can take place without an Annex 1 Party being involved at the stage of registration, this is not a mandatory requirement at this stage. However, it should be noted that before CER's can be transferred to an Annex I Party, a Letter of Approval should be submitted.

Baseline and monitoring methodology

The project has applied the Approved consolidated methodology for grid connected Electricity Generation from biomass residues ACM0006 version 3.

The baseline of project activity is that the project proponent would have continued to generate in its existing cogeneration plant of 2X3MW with no power export to the grid. The heat generation would have been by burning bagasse into existing boilers.

The project is replacing equivalent amount of electricity from southern regional grid. The baseline was calculated based on regional grid and the baseline emissions were calculated as per the approved methodology. The database for the information regarding baseline calculations has been desk reviewed by the assessor.

To confirm whether the emission reductions have been determined in accordance with the methodology described and there are project emission related to usage of fossil fuel in power plant and for transportation of cane trash in the project activity. The emission reductions due the project activity are calculated as per methodology and subtracted from the emission reductions due to the replacement of electricity from grid.

Additionality

Investment Analysis is used to demonstrate the additionality.

The project was started on 13th February 2000 and it got operational on 14th August 2001 and the project activity faced "Investment barrier". The project proponent got the loan from Indian Renewable Energy Development Agency (IREDA). The financial analysis shows IRR of 12% without CERs which is less than the Weighted average cost of capital i.e. 15%. The project is not financially viable without CDM benefits. The IRR with CDM benefits rises to 16.40% and the project becomes financially viable as WACC is less than IRR with CDM benefits. The IRR calculation was checked and confirmed by a certified accountant. Certificate from the accountant is attached. The average generation cost of

electricity is high and the power is purchased by the grid is at lower price. Though the project is not financially viable still the project proponent has gone ahead with the project activity considering sale of CERs will make it financially viable.

A CAR2 was raised to clarify about starting date of project activity, Investment and sensitivity analysis i.e. sub-step 2c and 2d of the tool of additionality. The project proponent replied by providing documentary evidence for starting date of project activity and also provided the excel sheet for investment and sensitivity analysis which were reviewed and found OK. The common practice analysis was not transparent so the project proponent clarified to the validator by providing the MNES report which was desk reviewed and found to be OK. PDD was rephrased for starting date of project activity. These were accepted and CAR2 was closed out.

"Other barrier" is also used to prove the additionality. In this regulatory barrier was highlighted. In April 2004 the Andhra Pradesh Electricity Regulatory Commission passed an order mentioning that the bagasse based power generation projects cannot exceed the PLF by 55%. If they increase above 55% then they will get Rs.1.07 per unit along with 0.22 paisa as incentive per unit. This makes it Rs.1.29 per unit instead of Rs.2.84 per unit. This order made it more difficult for the project activity to operate. Still the project proponent continued with the project activity.

Based on the evidences, calculations and the findings above, it was concluded that the project activity was not a likely baseline scenario and hence additional to any which would have been used in the absence of project activity.

Monitoring plan

The data to be collected in order to monitor emissions from the project activity is detailed in the project design document and the desk review showed that the monitoring plan is OK.

A NIR3 was raised for the missing data on Authority and responsibility of registration, monitoring, measurement and reporting. The project proponent replied by informing that Manager CDM and New projects will be having authority and responsibility for responsible registration, monitoring, measurement and reporting. The PDD was rephrased. This was accepted. So, NIR3 was closed out.

A NIR4 was raised to know about the possible monitoring data adjustments and uncertainties. The project developer replied by saying that CDM team will be responsible for correctness of data. The PDD was rephrased. This was reviewed and accepted. Hence, NIR4 was closed out.

A NIR5 was raised to know about the procedures for corrective actions to provide more accurate data for future monitoring and reporting. This was also clarified by telling that Internal audit team will take care of this activity. The PDD was rephrased, which was reviewed and NIR5 was closed out.

A NIR9 was raised to know about the training requirement for monitoring, measurement, and reporting. The project proponent replied by saying that training schedule will be made in advance and the records will be kept for verification stage. This was also rephrased in PDD. This was accepted and hence NIR9 was closed out.

Environmental Impacts

In order to ascertain whether the project activity results in any adverse environmental impacts, it was confirmed that project activity is having the consent to operate from Andhra Pradesh pollution control board (APPCB). EIA is not required as per law.

Comments by local stakeholders

There was no information available on list of stakeholders consulted. NIR6 was raised seeking clarification on the issue. Responding to NIR6, client informed that the representatives of the village community were contacted on one to one basis and through newspaper advertisement. This was verified by the local assessor through meetings with some representatives during site visit. No adverse comment was received. This was also verified by MOM provided to the validator. NOC from APPCB, MOEF were provided by the client. PDD was rephrased and hence NIR 6 was closed out.

A CAR7 was raised to clarify the summary of comments received during local stake holder consultation meeting. The project proponent provided the document which was reviewed and found to be OK and PDD was rephrased so CAR7 was closed out.

CAR8 was raised to know how comments were accounted for. The project proponent replied by providing the document of stake holder consultation which was reviewed and found to be in order so CAR8 was closed out.

Stakeholder consultation process is not required by regulations/laws in the host country. The client 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 (annex4). These documents were desk reviewed and found to be OK.

Other requirements

The project was listed for comments on the UNFCCC website from 13/04/2006 till 12/05/2006. No comment was received during the subsequent period of web hosting.

The PDD was not mentioning the project starting date, and CAR10 was raised for the same. The project proponent provided the document for starting date of the project activity and the PDD has been rephrased so CAR 10 was closed out. The starting date of the crediting period will be considered as the date of registration.

CAR11 was raised to know about the different operational lifetime mentioned in PDD and used in financial analysis. The project proponent replied by rephrasing the PDD. Which was accepted and Hence CAR11 was closed out.

NIR12 was raised for the increase of CERs in the revised PDD. The project developer replied that the project activity has stopped the use of fossil fuel from current crushing season in cogeneration plant and accordingly emissions due to its consumption have been considered as NIL and fossil fuel combustion is also the part of monitoring plan and equivalent amount of emissions will be reduced if any fossil fuel is used. The validator felt that this can be taken care at verification stage and hence NIR12 was closed out.

Final comments and validation opinion

SGS has performed a validation of the project “16MW bagasse based co-generation plant by GMR industries Ltd. [GIDL]”. 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 bagasse 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 and sensitivity analysis, 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. 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	M. van der Linden
Date and signature for the DOE	07-08-2006 

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