VALIDATION REPORT
DHAMPUR SUGAR MILLS LTD

VALIDATION OF THE
THE DSM-DHAMPUR BAGASSE COGENERATION PROJECT

REPORT NO. INDIA-VAL/0072/2007
REVISION NO. 03
BUREAU VERITAS CERTIFICATION

VALIDATION REPORT

Date of first issue:	Organizational unit:
04/03/2007	Bureau Veritas Certification Holding SA
Client:	**Client ref.:**
The Dhampur Sugar Mills Ltd	Mr. Goel Gautham

Summary:

Bureau Veritas Quality International (BVQI) has made a validation of the DSM-Dhampur Bagasse Cogeneration Project located in Dhampur, Distt.-Bijnor in the state of Uttar Pradesh, India. This is a power capacity expansion project of M/s. Dhampur Sugar Mills Ltd (Hereafter called "the client") , on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria..

The validation scope is defined as an independent and objective review of the project design document, the project's baseline study, monitoring plan and other relevant documents, and consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final validation report and opinion. The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the validation process is a list of Clarification and Corrective Actions Requests (CL and CAR), presented in Appendix A. Taking into account this output, the project proponent revised its project design document.

In summary, it is Bureau Veritas Certification's opinion that the project correctly applies the baseline and monitoring methodology ACM 006 Version 04 and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria.

Report No.:	Subject Group:
INDIA-val/0072/2007	CDM
Project title:	
The DSM-Dhampur Bagasse Cogeneration Project	
Work carried out by:	
R Seshapathy – Team Leader R Sankaranarayanan – Member P.S. Srinivas – Trainee H B Muralidhar – Sector specialist	
Work verified by:	
Dr.Ashok Mammen	

Date of this revision:	Rev. No.:	Number of pages:
19/10/2007	03	60

Indexing terms

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Abbreviations change / add to the list as necessary

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reductions
CL	Clarification Request
CO_2	Carbon Dioxide
DOE	Designated Operational Entity
GHG	Green House Gas(es)
I	Interview
IETA	International Emissions Trading Association
MoV	Means of Verification
NGO	Non Government Organization
PCF	Prototype Carbon Fund
PDD	Project Design Document
UNFCCC	United Nations Framework Convention for Climate Change

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1 INTRODUCTION

M/s Dhampur Sugar Mills Ltd has commissioned Bureau Veritas Certification to validate its CDM project DSM-Dhampur Bagasse Cogeneration Project (hereafter called "the project") at Bijnor in the state of Uttar Pradesh , India.

This report summarizes the findings of the validation of the project, performed on the basis of UNFCCC criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

1.1 Objective

The validation serves as project design verification and is a requirement of all projects. The validation is an independent third party assessment of 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 a requirement for all CDM projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reductions (CERs).

UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

1.2 Scope

The validation scope 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.

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.

1.3 GHG Project Description

The proposed Clean Development Mechanism (CDM) project activity involves the expansion of the cogeneration system at the Dhampur Sugar Mill (DSM) located in the district of Bijnor in central Uttar Pradesh, India. The project involves efficiency enhancement in existing boiler and the installation of a new high pressure (105 kg/cm^2) and high capacity (170 TPH) boiler, along with a 30 MW double extraction-condensing turbine. The new boiler and turbine will operate in conjunction with the present steam

and power generation configuration. The plant has not exported electricity to date and the implementation of the project activity will permit the plant to supply electricity to the Paschimanchal Vidyut Vitran Nigam Limited. The 30 MW double-extraction condensing turbine will be powered by steam generated from the combustion of bagasse, a by-product of the sugar manufacturing process. The export of electricity to the regional grid will thus lead to a reduction in GHG emissions through the substitution of the predominantly fossil fuel dominated grid based electricity in the northern region grid.

The total CO_2 emission reduction for the entire crediting period of 10 years (2007 to 2016) has been calculated as 973,440Tonne CO_2 –equivalent. The other benefits being a reduction in GHG emissions, considering the global scenario, and thus sustainable development through better energy efficiency which will also lead to an improvement in the local environment.

1.4 Validation team

The validation team consists of the following personnel:

R. Seshapathy
Bureau Veritas Certification Team Leader, Climate Change Verifier
R Sankaranarayanan
Bureau Veritas Certification Climate Change Verifier

H B Muralidhar ,
Bureau Veritas Certification Sector specialist
P S Srinivas
Bureau Veritas Certification Climate Change Verifier - Trainee
Dr. Ashok Mammen
Bureau Veritas Certification, Internal reviewer

2 METHODOLOGY

The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

In order to ensure transparency, a validation protocol was customized for the project, according to the Validation and Verification Manual (IETA/PCF). The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organizes, 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 five tables. The different columns in these tables are described in Figure 1.

The completed validation protocol is enclosed in Appendix A to this report.

Validation Protocol Table 1: Mandatory Requirements			
Requirement	**Reference**	**Conclusion**	**Cross reference**
The requirements the project must meet.	Gives reference to the legislation or agreement where the requirement is found.	This is either acceptable based on evidence provided (**OK**), a **Corrective Action Request (CAR)** or a **Clarification Request (CL)** of risk or non-compliance with stated requirements. The CAR's and CL's are numbered and presented to the client in the Validation Report.	Used to refer to the relevant protocol questions in Tables 2, 3 and 4 to show how the specific requirement is validated. This is to ensure a transparent validation process.

Validation Protocol Table 2: Requirements checklist				
Checklist Question	**Reference**	**Means of verification (MoV)**	**Comment**	**Draft and/or Final Conclusion**
The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organized in several sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.	Gives reference to documents where the answer to the checklist question or item is found.	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). **Clarification Request (CL)** is used when the validation team has identified a need for further clarification.

Validation Protocol Table 3: Baseline and Monitoring Methodologies				
Checklist Question	**Reference**	**Means of verification (MoV)**	**Comment**	**Draft and/or Final Conclusion**
The various requirements of baseline and monitoring methodologies should be met. The checklist is organized in several sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.	Gives reference to documents where the answer to the checklist question or item is found.	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). **Clarification Request (CL)** is used when the validation team has identified a need for further clarification.

Validation Protocol Table 4: Legal requirements				
Checklist Question	**Reference**	**Means of verification (MoV)**	**Comment**	**Draft and/or Final Conclusion**
The national legal requirements the project must meet.	Gives reference to documents where the answer to the checklist question or item is found.	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). **Clarification Request (CL)** is used when the validation team has identified a need for further clarification.

Validation Protocol Table 5: Resolution of Corrective Action and Clarification Requests			
Report clarifications and corrective action requests	**Ref. to checklist question in tables 2/3**	**Summary of project owner response**	**Validation conclusion**
If the conclusions from the Validation are either a Corrective Action Request or a Clarification Request, these should be listed in this section.	Reference to the checklist question number in Tables 2, 3 and 4 where the Corrective Action Request or Clarification Request is explained.	The responses given by the Client or other project participants during the communications with the validation team should be summarized in this section.	This section should summarize the validation team's responses and final conclusions. The conclusions should also be included in Tables 2, 3 and 4, under "Final Conclusion".

Figure 1 Validation protocol tables

2.1 Review of Documents

The Project Design Document (PDD) submitted by The Dhampur Sugar Mills Ltd and additional background documents related to the project design and baseline, i.e. country Law, Guidelines for Completing the Project Design Document (CDM-PDD), Approved methodology, Kyoto Protocol, Clarifications on Validation Requirements to be Checked by a Designated Operational Entity were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests The Dhampur Sugar Mills Ltd revised the PDD and resubmitted it in April 2007..

The validation findings presented in this report relate to the project as described in the PDD version 04.

2.2 Follow-up Interviews

On 02/11/2006 & 03/11/2006 Bureau Veritas Certification performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of Dhampur Sugar Mills Ltd were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organisation	Interview topics
DHAMPUR SUGAR MILLS LTD	• Commitment of organisation towards GHG emission reduction • Evidence of date of starting of project activity and CDM consideration • Checking the documentation of procurements of critical equipments such as Boilers & Turbines • Discussions on additionality and related evidences • Operation and maintenance management. • Power Purchase Agreements with state electricity board • Record keeping and QA/QC of data • Sensitivity towards local stakeholders and actions on their comments • Monitoring methodologies. • Barriers and confirmation of information • Project activity conformance with PDD details, • Calculations for GHG calculations and emission reduction • Proposed plan for Calibration of monitoring equipment • Proposed plan for GHG audits and review • Responsibility and authority of various persons • Governmental clearances and compliances
Employees and contractors who have been given job	• Additionality, Baseline, Monitoring plan • Procedure for Operation & management of proposed project activity • Discussions on additionality and related evidences Base line emissions and the emissions reduction
Consultants –Agrinergy Limited Mr. Robert Taylor DSCL Energy Services Company Ltd Mr. Charu Gupta	• Commitment of organisation towards GHG emission reduction • Evidence of date of starting of project activity and CDM consideration • Checking the documentation of procurements of critical equipments such as Boilers & Turbines • Discussions on additionality and related evidences • Operation and maintenance management. • Power Purchase Agreements with state electricity board • Record keeping and QA/QC of data • Sensitivity towards local stakeholders and actions on their comments

	• Monitoring methodologies. • Barriers and confirmation of information • Project activity conformance with PDD details, • Calculations for GHG calculations and emission reduction • Proposed plan for Calibration of monitoring equipment • Proposed plan for GHG audits and review • Responsibility and authority of various persons • Governmental clearances and compliances
LOCAL STAKE HOLDERS Mr. Rajpal singh , Member Kisan Union , Dhampur Mr. Ram Singh , Farmer , village Mauda Mr Puskar Kumar, Retired District planning officer Mr Harinath Singh , Cane farmer , Village Ajitpur dasi, Dhampur Mr. Hari Singh , Pradhan , Village Guri Mauda Mr. Ghansher Singh, Resident , Village Dhanpur	• Communication from Project proponent regarding the project • Discussion of their concern / feed back about the project • Response from the project proponent.

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation is to raise the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification positive conclusion on the project design.

To guarantee the transparency of the validation process, the concerns raised are documented in more detail in the validation protocol in Appendix A.

3 VALIDATION FINDINGS

In the following sections, the findings of the validation are stated. The validation findings for each validation subject are presented as follows:

1) The findings from the desk review of the original project design documents and the findings from interviews during the follow up visit are summarized. A more detailed record of these findings can be found in the Validation Protocol in Appendix A.

2) Where Bureau Veritas Certification had identified issues that needed clarification or that represented a risk to the fulfillment of the project objectives, a Clarification or Corrective Action Request, respectively, have been issued. The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Validation Protocol in Appendix A. The validation of the Project resulted in 8 Corrective Action Requests and 9 Clarification Requests.
3) The conclusions for validation subject are presented.

3.1 Project Design

Bureau Veritas Certification recognizes that company name Project is helping country fulfill its goals of promoting sustainable development. The project is expected to be in line with host-country specific CDM requirements because it -

- Contributes towards meeting the electricity supply deficit in the state of Uttar Pradesh through the control of Northern Region Grid
- Improves micro-economic efficiency of the power sector through improved availability and load factor
- Avoids GHG emissions from fossil fuel burning
- Generates direct and indirect jobs in project maintenance

The Project Scenario is considered additional in comparison to the baseline scenario, and therefore eligible to receive Certified Emissions Reductions (CERs) under the CDM, based on an analysis, presented by the PDD, technological and other barriers, and prevailing practice.

The project design is sound and the geographical (Bijnore, Uttar Pradesh, India) and temporal (10 years) boundaries of the project are clearly defined.
CAR- 1,2 & 3 and CL1 were issued with respect to project design. All the CARs and Cls have been satisfactorily resolved. Please Refer Appendix – A

3.2 Baseline and Additionality

The DSM-Dhampur Bagasse Cogeneration Project uses the approved consolidated baseline methodology ACM 006, Version 04.

The DHAMPUR SUGAR MILLS LTD project activity is a Grid connected biomass residue fired power plant expansion project. Proposed project activity involves installation of new biomass based power generation units using extraction cum condensing turbine. Installation for proposed project activity is next to existing biomass power generation unit fired with the same biomass residue i.e. Bagasse. The existing

plant will continue to work after the installation and commissioning of the proposed project activity. DOE has confirmed that all the applicable conditions of "Consolidated Baseline Methodology for grid connected electricity generation from biomass residues" are covered and met.

The proposed project activity of DHAMPUR SUGAR MILLS LTD will produce and export the electricity to the Northern Region Grid. The project activity is designed not to use any fuel for the preparation of biomass residues being used as fuel. The DOE confirms that no such equipment used for such preparation was found installed in the plant The project activity is a large-scale renewable energy supply grid connected project activity in energy sector for scope number 1.

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The emission reductions as per the ACM 0006 version 4, 2nd November 2006 version at the time of submission of the request for registration indicates the applicability of scenario 12 for the proposed project activity. The total emission reduction as indicated in the methodology is the addition of emission reductions due to displacement of heat, due to displacement of electricity and the baseline emissions due to natural decay or burning of anthropogenic sources of biomass after subtracting of the project emission and the leakages. Emission reduction for displacement of electricity is the kWh produced by the proposed project multiplied by the emission coefficient for other power stations connected to the grid of India, i.e. the weighted average of the current generation mix of the Northern Region Grid. Emission reduction for displacement of heat is considered as nil since the proposed project efficiency is more than the existing efficiency of heat generating equipment.

The choice of this baseline methodology is considered applicable due to following prevailing situations:

The status of Northern Region Grid indicates energy shortage of 5.5% besides this demand in energy requirement is expected to rise by another 6.9% until 2017. It is evident through reports that while the planned capacity additions (primarily through fossil fuelled power and nuclear power generation) are not expected to meet this demand, similarly renewable energy sources are not expected to contribute to change the fossil fuel dominated grid condition significantly by 2012.

It is concluded that the grid system will remain carbon intensive during the ten-year crediting period. The emission coefficient has been determined based on actual power generated from all power generation sources in the northern regional grid and as monitored and published by the Central Electricity Authority for the period April 2003 to March 2005.

The alternatives considered for determination of the baseline scenario in the context of the project activity include

- **Power:** How power would be generated in the absence of the CDM project activity;

Validation comment: It was verified that the existing configuration of boilers and turbines satisfies the captive steam and power requirements of the sugar mill without any export of electricity to the grid.

- **Biomass:** What would happen to the biomass residue in the absence of the project activity;

Validation comment;-

In the absence of project activity, the biomass residues would be used for heat generation in boilers at project site as it is used till date. This has been verified through heat balance.

- **Heat:** In case of cogeneration projects: how the heat would be generated in the absence of the project activity.

Validation comment:-

In the absence of project activity, the biomass residues would be used for heat generation in boilers at project site as it is used till date. This has been established through Bagasse and heat balance. From the Bagasse balance it can be seen that the total consumption of Bagasse before and after the project is same for the whole year. Also it is to be noted that any surplus bagasse in working season will be consumed in the off-season. The organisation has planned to carry out the efficiency enhancement in the existing boilers. This will save more bagasse for the project activity. The contract for conducting the study and coming out with improvement proposals was given to M/s DSCL which was also consultant for CDM project. Results of efficiency trials were also made available to the validation team.

Without the project activity, the heat would be generated in the present configuration of existing boilers without any export of power. After the implementation of the project heat demand of the plants will be taken care by both new and existing boilers.

Technical life of the existing boilers has been certified by a competent chartered engineer. It was certified that the existing boiler has a life of 15 years which is more than the proposed crediting period.

The possible alternative baseline scenarios are the following:

(a) Proposed project activity without CDM;
(b) To continue operating the present power generation set-up at the sugar unit.

The baseline options considered do not include those options that:

- do not comply with legal and regulatory requirements; or

- depend on key resources such as fuels, materials or technology that are not available at the project site.

The most plausible and credible alternative among the alternatives mentioned above has been selected as the baseline scenario, since such alternative is not expected to face any prohibitive barriers that could have prevented it from being taken up as the project activity.

ADDITIONALITY:-

The Project Scenario is considered additional in comparison to the baseline scenario, and therefore eligible to receive Certified Emissions Reductions (CERs) under the CDM, based on an analysis, presented through the PDD. The additionality has been appropriately demonstrated by use of the advised tool "Tool for demonstration and assessment of additionality version 3." DOE has also confirmed of existence of barriers such as barriers related to bagasse availability, technological and other barriers such as Institutional risks, and uncertainty of tariff rates

It is observed by DOE that there is evidence of CDM consideration before the start of the project, This is evident from the letter of intent for CDM project services placed on M/s DSCL Energy Services company Ltd vide LOI dt. 29/10/05, Additional evidence is available in the form of public notice given in Local newspaper namely Dainik samachar dt. 12/06/06.

Starting date of the project was 08/12/2005 based on the evidence on the letter of indent for the supply ,erection & commissioning of 30 MW extraction cum condensing turbines.(Refer document list No.10)

The project's additionality has been demonstrated through presenting mainly Technological barriers, barrier due to uncertainty in bagasse availability and Institutional barriers.

TECHNOLOGICAL BARRIER:-

Project activity has adopted a high-pressure technology. Generally the capacity of boilers used for sugar units, even at lower pressure and temperature ratings, is in the range of 60 TPH to 90 TPH, while the maximum presently installed capacity is 120 TPH.

A boiler of such a large size, 170 TPH, 105 kg/cm^2 and 540 deg C, as the project activity has its own set of technical barriers.

The bagasse density is almost 1/6th of the fossil fuel. Handling and feeding six times the volume, without any buffer storage inline (which is possible in fossil and most biomasses) has its own technical limitations

In bagasse fired boilers the maximum temperature achieved till date is 510 deg C. Due to inherent high moisture content in bagasse, around 50%, the attainment of temperature above 510 deg C is yet to be practically observed.

The project activity uses a technology, which has low market penetration. The use of low penetration technology has its inherent constraints namely, Availability of skilled manpower to operate plant continuously and efficiently and Availability of spare parts

This was further evidenced by the confirmation by the technology supplier (From M/s Thermax Babcock & Wilcox). (Refer Document list No.14). Validation team also verified a study report on "Removal of barriers to Bio-mass generation in India". This study was carried out by UNDP (Project No: IND/02/G31/A/1G/99 dt. 1/April 2004)). The study also brought out the various barriers related to capacity building, adequate information dissemination, policy and regulatory framework and financing. The study report also indicated that High pressure and temperature configuration of 67 kg/cm2 and 495°C have been established in bagasse cogen and biomass power sectors and extra high pressure configurations are being tried out.

UNCERTAINTY IN BAGASSE AVAILABILITY:-

The cropping pattern by farmers in Uttar Pradesh has shown significant fluctuations from cane planting to the cultivation of other commercially lucrative crops. This has resulted from the significant price fluctuations in agriculture markets over the recent years in the state and due to this the continuous availability of cane for the sugar industry is a risk that the project will face. It is to be noted that the surplus bagasse in working season will be consumed in off season by the project activity. Hence any uncertainty in bagasse availability affect the project activity.
The PDD has explained the effect of shortfall of bagasse through a well-presented Data analysis.
The above UNDP report also indicated the uncertainty in Bagasse availability as one of the possible barriers.

INSTITUTIONAL BARRIER:-

Institutional risks in the form of change of PPA conditions and the procurement tariff are also indicated to be derived from the past practices of uncertainty. It was verified through Power Purchase Agreement Dt. 07/04/06

Based on the evidences and evaluation of these evidences , the validation team has concluded that the project is additional.

3.3 Monitoring Plan

Title: "Consolidated monitoring methodology for grid-connected electricity from biomass residues" ACM 0006 / version 04 Sectoral scope 1, 2nd November 2006

Project uses the amended version 04 of the Approved consolidated monitoring methodology ACM 0006. This methodology is used in conjunction with the approved baseline methodology ACM 0006 (Consolidated baseline methodology for grid -

connected electricity generation from biomass residues). Monitoring methodology requires monitoring of the parameters as per the applicable scenario. The scenario 12 is applicable for the project activity and accordingly the parameters are chosen The adopted monitoring methodology has been chosen based on the following reasons:
The adopted monitoring methodology has been chosen based for scenario and the parameters identified are as per methodology ACM 0006.

The energy meters are scheduled to be tested for accuracy every year, the Monitoring Plan indicates the annual frequency for the same. The system for calibration was found in place and status marked at regular intervals.

It is the opinion of validators after evaluating the system that the application of the monitoring methodology is transparent and as per the mentioned methodology.

CAR 6 & 7 and CL-6 & 7 were issued with respect to monitoring requirement. Please refer Appendix-A.

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3.4 Calculation of GHG Emissions

As per methodology ACM 006, the baseline emission sources considered are CO2 from plants connected to the relevant electricity system (grid). The relevant grid considered for the calculation of baseline emissions is the Northern region grid and not the state or the National grid. The reason for such exclusion of the latter grids is that in the host country i.e. India the control of electric supply is through regional grids. This decision is used subsequently for data compilation of regional grid participants and deciding the future planning.

Scenario 12, from ACM0006 version 04 2 Nov 2006, is the identified baseline scenario for the proposed project activity. The justification of their applicability has already been demonstrated in section B.4..

The baseline heat emissions for the proposed project activity are not included in the project boundary. Under baseline scenario 12 the heat emissions for the project activity are assumed to be zero. As per the ACM0006 version 04 2 Nov 2006, it is demonstrated that the heat generated per unit of biomass residue in the project activity is greater than or equal to the heat generated per unit of biomass residue in the baseline scenario
The total CO_2 emission reduction for the entire crediting period of 10 years (2007 to 2016) has been calculated as 973,440Tonne CO_2 –equivalent

The estimated annual average of approximately 97344 tCO2e over the crediting period of emission reduction represents a reasonable estimation using the assumptions given by the project. Validation team has verified the calculation and confirm the same.

CAR–5 & 8 , CL-4 & 5 and their resolution/conclusion applicable to calculation of GHG emissions. For further details refer Appendix -A

3.5 Sustainable Development Impacts

No significant environmental impacts have been identified from the project activity and this is in line with sustainable development policy guidelines of host country.

- No harm to the ecological environment is envisaged and Organisation is complying with relevant environmental norms and has been provided with the relevant consent by State Pollution Control Board.

In view of positive environmental impact, contribution towards the country's goal of sustainable development improvement in quality of life of local population, the development and implementation of systems for installation and commissioning of bagasse based electricity generation and export of the generated power were recommended by the DHAMPUR SUGAR MILLS LTD management.

The clearance of this CDM initiative by DHAMPUR SUGAR MILLS LTD would facilitate the process of sustainable energy production.

3.6 Comments by Local Stakeholders

Local stakeholder consultation meeting to discuss stakeholder concerns on the proposed Clean Development Mechanism (CDM) project–was conducted by DHAMPUR SUGAR MILLS LTD Limited for its grid-connected bagasse based power plant at Dhampur, District Bijnor in Uttar Pradesh state of India . The stakeholders such as farmers, employees and persons living in nearby villages connected with various services viewed this project as contributing to local environmental benefits and socio-economy.

Local stakeholder consultation meeting to discuss stakeholder concerns on the proposed Clean Development Mechanism (CDM) project – DSM-Dhampur Bagasse Cogeneration Project at Dhampur Sugar Mills Ltd was held on 12/06/2006 at Dhampur Sugar Mills Ltd, Bijnore, Uttar Pradesh,India.

The public notice given in Local newspaper namely Dainik samachar dt. 12/06/06-inviting participation to interested stakeholders, record of the

stakeholder meeting proceedings is also maintained by the project participants.

The stakeholders viewed the DSM- Dhampur Bagasse Cogeneration project as contributing to local environmental benefits and socio-economy. Overall, there was agreement that the project activity was a beneficial project from the local sustainable development. These views were endorsed by the local stakeholders interviewed during the site visit of the validation activity.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

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According to the modalities for the Validation of CDM projects, the Validator shall make publicly available the project design document and receive, within 30 days; comments from Parties, stakeholders, and UNFCCC accredited non-governmental organisations and make them publicly available.

BVQI published the project documents on the UNFCCC CDM website (http://cdm.unfccc.int) on 01/10/2006 and invited comments within 30/10/2006 by Parties, stakeholders and non-governmental organisations.

No Comments were received

5 VALIDATION OPINION

Bureau Veritas Certification has performed a validation of the DSM-Dhampur Bagasse Cogeneration Project in India. The validation was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

The validation consisted of the following three phases: i) a desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) the resolution of outstanding issues and the issuance of the final validation report and opinion.

Project participant/s used the latest tool for demonstration of the additionality. In line with this tool, the PDD provides analysis of technological and other barriers to determine that the project activity itself is not the baseline scenario.

By synthetic description of the project, the project is likely to result in reductions of GHG emissions partially. An analysis of technological barriers 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. Given that the project is implemented and maintained as designed, the project is likely to achieve the estimated amount of emission reductions.

The review of the project design documentation (version No 4) and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the project correctly applies and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria.

The validation is based on the information made available to us and the engagement conditions detailed in this report.

6 REFERENCES

Category 1 Documents:
Documents provided by Type the name of the company that relate directly to the GHG components of the project.

1	Project Design Document Version 2 dt. 01/09/2006 and Version 3 dt. 17/02/2007
2	DNA Approval number F.No.4/17/2006-ccc dated 7th March 2007 from host country India
3	DNA Approval number AL/32/2007dated 23rd February 2007 from participating country "UK"
4	Evidence of CDM consideration vide Letter of Indent for CDM project placed on M/s DSCL Energy Services Company dt. 29/10/05
6	Evidence of CDM consideration: Newspaper cutting for Public notice for stakeholder in Local newspaper Dainik Samachar dt. 12/06/06.
7	Proceedings of stakeholder meetings with farmers and other residents. – Minutes of meeting dt. 12/06/06
8	Water Consent for existing plant No. F 05095 dt. 18/08/06 and NOC for new project No. 74 dt. 10/08/06.
9	Air Consent No, F 01032 dt. 05/05/06 and NOC No. 29 dt, 25/04/06
10	Letter of indent for the supply, erection & commissioning of 30 MW extraction cum condensing turbines Vide LOI dt. 08/12/2005.
11	Purchase order No. DPR 406 dt. 07/06/06 for the procurement of Travelling grate boiler from M/s Thermax Babcock & Wilcox Ltd.
12	Power Purchase Agreement Dt. 07/04/06
13	Circular for Bhoomi Puja dt. 03/June/2006.
14	A letter dt. 5th December 2006 for confirming, to the best of their knowledge, the supply of 170 TPH boilers for the first time in India. (From M/s Thermax Babcock & Wilcox)
15	UNDP Project No: IND/02/G31/A/1G/99 - Removal of Barriers to Biomass Power Generation in India, Phase I, Project starting date: 1st April 2004.

16	Certification of Technical life of Existing boilers by a Competent Engineer.
17	Bagasse balance
18	Efficiency trial reports

Category 2 Documents:

Background documents related to the design and/or methodologies employed in the design or other reference documents.

1 Consolidated baseline methodology for grid-connected electricity generation from biomass residues ACM 0006 Version 03, 19 May 2006.and Version 4, 2nd November 2006.
2 Guidelines for completing the PDD and the proposed new baseline and monitoring methodologies (CDM-NM) Version 6
3 Kyoto Protocol to the United Nations Framework Convention on Climate Change, United Nations, Dec 1997.
4 Consolidated baseline methodology for grid connected electricity generation from renewable sources ACM 0002 Version 6, 19 May 2006
5 "Tool for demonstration and assessment of Additionality" Version 2, & Version 3

Persons interviewed:

List persons interviewed during the validation or persons that contributed with other information that are not included in the documents listed above.

Dhampur Sugar Mills Ltd

/1/ Mr. Sandeep Sharma Executive President

/2/ Mr. Sanjay Sharma Group GM(QC)

/3/ Mr. V Gupta Additional GM (Power Plant)

/4/ MR. YOGENDRA BHIST CHIEF ENGG (POWER PLANT)

/5/ Mr. Pankaj Sosodia Chief Engg (Elec)

/6/ Mr. Anand Kumar Chief Engg (Inst)

/7/ Mr. Vijay Gupta Asst.GM(P&A)

Consultants

/8/ Mr. Robert Taylor of Agrinergy Ltd

/9/ Mr. Charu Gupta of DSCL Energy Services Company Ltd

Stake - Holders

/10/ Mr. Rajpal singh , Member Kisan Union , Dhampur

/11/ Mr. Ram Singh , Farmer , village Mauda

/12/ Mr Puskar Kumar, Retired District planning officer

/13/ Mr Harinath Singh , Cane farmer , Village Ajitpur dasi, Dhampur

/14/ Mr. Hari Singh , Pradhan , Village Guri Mauda

/15/ Mr. Ghansher Singh, Resident , Village Dhanpur

APPENDIX -A: DHAMPUR SUGAR MILLS LTD LIMITEDCDM PROJECT Validation Protocol

TABLE 1:MANDATORY REQUIREMENTS FOR CLEAN DEVELOPMENT MECHANISM (CDM) PROJECT ACTIVITIES

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
1. The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3	Kyoto Protocol Art.12.2	OK	Table 2, Section E.4.1
2. The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof	Kyoto Protocol Art. 12.2, Marrakesh Accords, CDM Modalities §40a	OK	Table 2, Section A.3
3. The project shall assist non-Annex I Parties in contributing to the ultimate objective of the UNFCCC	Kyoto Protocol Art.12.2.	OK	Table 2, Section E.4.1
4. The project shall have the written approval of voluntary participation from the designated national authorities of each party involved, including confirmation by the host party that the project activity assists it in achieving sustainable development	Kyoto Protocol Art. 12.5a, Marrakesh Accords, CDM Modalities §40a, §28, Annex 3 of the Resolução Interministerial 01/03	OK	Table 2, Section A.3.2
5. The emission reductions shall be real, measurable and give long-term benefits related to the mitigation of climate change	Kyoto Protocol Art. 12.5b	OK	Table 2, Section E
6. Reduction in GHG emissions shall be additional to any that would occur in absence of the project activity, i.e. a CDM	Kyoto Protocol Art. 12.5c,	OK	Table 2, Section B.3

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
project activity is additional if anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the registered CDM project activity	Marrakesh Accords, CDM Modalities §43 and 44		
7. Potential public funding for the project from Parties in Annex I shall not be a diversion of official development assistance	Marrakech Accords	OK	-
8. Parties participating in the CDM shall designate a national authority for the CDM	Marrakech Accords, CDM Modalities §29, UNFCCC website	OK	-
9. The host country shall be a Party to the Kyoto Protocol	Marrakech Accords, CDM Modalities §30, UNFCCC website	OK	-
10. Comments by local stakeholders shall be invited, a summary of these provided and how due account was taken of any comments received	Marrakech Accords, CDM Modalities §37b	OK	Table 2, Section G
11. Documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts, shall be submitted, and, if those impacts are considered significant by the project participants or the Host Party, an environmental impact assessment in accordance with procedures as required by the Host Party shall be carried out.	Marrakech Accords, CDM Modalities §37c	OK	Table 2, Section F
12. Baseline and monitoring methodology shall be previously approved by the CDM Methodology Panel	Marrakech Accords, CDM Modalities §37e	OK	Table 2, Section B.1.1 and D.1.1
13. Provisions for monitoring, verification and reporting shall be in	Marrakech	OK	Table 2, Section D

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
accordance with the modalities described in the Marrakech Accords and relevant decisions of the COP/MOP	Accords, CDM Modalities §37f		
14. Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days, and the project design document and comments have been made publicly available	Marrakech Accords, CDM Modalities, §40	OK	Source http://cdm.unfccc.int/ Projects/Validation
15. A baseline shall be established on a project-specific basis, in a transparent manner and taking into account relevant national and/or sectoral policies and circumstances	Marrakech Accords, CDM Modalities, §45 b, c, e	OK	Table 2, Section B.2
16. The baseline methodology shall exclude to earn CERs for decreases in activity levels outside the project activity or due to force majeure	Marrakech Accords, CDM Modalities, §47	OK	Table 2, Section B.2
17. The project design document shall be in conformance with the UNFCCC CDM-PDD format and fulfilled according to the guidelines for completing CDM-PDD, CDM-NMB, and CDM-NMM	Marrakech Accords, CDM Modalities, Appendix B, EB Decisions	OK	Reference 1 to this validation protocol

TABLE 2 REQUIREMENTS CHECKLIST

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A. General Description of Project Activity *The project design is assessed.*					
A.1. Title of the project activity, version number and date of the document	1	DR	Title of the Project activity: DSM - Dhampur Bagasse cogeneration Project. (Version 2, 01/09/2006 - Version 5 dt .08/10/07)	OK	OK
A.2. Description of the project activity					
A.2.1. Is the purpose of the project activity included?	1	DR I	PDD section A.2 indicates description of project activity. The project involves installation of a high pressure (105 kg/cm^2) and high capacity (170 TPH) boiler along with 30 MW double extraction - condensing turbine. The purpose of this project activity is to supply electricity to Paschimanchal Vidut Vitran Nigam Limited (PVVNL) of the Uttar Pradesh Power Corporation Limited (UPPCL).	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A.2.2. Does PDD include explanation how the project activities reduce greenhouse gas emission?	1	DR I	The proposed project activity is a grid-connected bagasse based cogeneration power plant with a high-pressure steam-turbine configuration. The project involves the installation of a high-pressure (105 kg/cm^2) and high capacity (170TPH) boiler, supplying steam generated from combustion of bagasse to the newly installed double extraction-condensing type 30 MW capacity turbine The project activity involves the installation of a new biomass residue fired cogeneration unit, which is operated next to (an) existing biomass residue fired power generation unit(s). The existing unit(s) are only fired with biomass residue and continue to operate after the installation of the new power unit. The power generated by the new power unit is fed into the grid or would in the absence of the project activity be purchased from the grid. The biomass residue would in the absence of the project activity be used for heat generation in boilers at the project site	OK	OK
A.2.3. Is the view of the project participants on the contribution of the project activity to sustainable development included?	1	DR	Yes. According to project participants, the project activity contributes to sustainable development. PDD indicates that the project activity will create direct and indirect employment opportunities.	OK	OK
A.3. Project participants					

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
1. Are Party (ies) and private and/or public entities involved in the project activity listed?	1	DR	Yes. The parties are India & United Kingdom and they do not wish to be project participants There are three project participants involved and listed are (1)The Dhampur Sugar Mills Limited (2) DSCL Energy services company Ltd (India) & (3) Agrinergy Limited. (UK) .	OK	OK
2. Is the contact information provided in annex 1 of the PDD?	1	DR	Yes, provided for all the private entities	OK	OK
3. Is this information indicated using the tabular format?	1	DR	Yes	OK	OK
4. Is the project in line with relevant legislation and plans in the host country?	-	DR I	Uttar Pradesh Pollution Control Board consents are available	OK	OK
5. Is the project in line with host-country specific CDM requirements?	-	DR I	DNA approval from host country India and United Kingdom are not available.	CAR 1	OK
6. Is the project in line with sustainable development policies of the host country?	-	DR I	Yes, Indicated in A 2 of the PDD	OK	OK
A.4. Technical description of the project activity					
A.4.1. Location of the project activity					
1. Host country Party(ies)	1	DR	India	OK	OK
2. Region/State/Province etc.	1	DR	Uttar Pradesh State	OK	OK
3. City/Town/Community etc.	1	DR	District: Bijnor, Village: Dhampur	OK.	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
4. Detailed description of the physical location, including information allowing the unique identification of this project activity.	1	DR	Unique identification of the project activity such as plot number is not indicated in PDD. However the co ordinates of latitude and longitude are given as 29°19'N and 78°33'E respectively are given in the PDD	CAR 2	OK
A.4.2. Category of the project activity					
A.2.3.1. Is the category of the project activity specified?	1	DR	**Grid-connected electricity generation from biomass residues**	OK	OK
A.2.3.2. Is it justified how the proposed project activity conforms to the project category selected?	-	DR	The proposed project activity is justified comprehensively for the project category in section B.2	OK	OK
A.4.3 Technology to be employed *Validation of project technology focuses on the project engineering, choice of technology and competence/ maintenance needs. The validator should ensure that environmentally safe and sound technology and know-how is used.*					
1. Does the project design engineering reflect current good practices?	-	DR I	Yes. It involves travelling grate type boiler. The technology is extensively used in India	OK	OK
2. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	-	DR I	The technology employed is well established and widely used in India and will result in better performance. However evidence of its performance in sugar industry is not provided during the site visit	CL 1	

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
3. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	-	DR I	Expected operational lifetime of the project activity is indicated to be 20 years.	OK	OK
4. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	-	DR I	Company has planned to implement ISO 9001 system. System procedures need to be established.	CL 2	OK
5. Does the project make provisions for meeting training and maintenance needs?	-	DR I	Company has planned to implement ISO 9001 system. System procedures need to be established	CL 2	OK
A.4.4 Emission reduction estimation:					
1. Is the estimate of total anticipated reductions of tons of CO_2 equivalent provided?		DR	Yes. The estimated emission reductions over the 10-year fixed crediting period would be 97,344tCO2e.	OK	OK
2. Is this information indicated using the tabular format?		DR	Yes. The information on emissions reductions is indicated using the tabular format.	OK	OK
A.4.5 Public funding of the project activity					
1. Is it indicated whether public funding from Parties included in Annex I is involved in the proposed project activity?	1	DR	The project will not receive any public funding from Parties included in Annex I. Refer A.4.5. of PDD.	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
2. If public funding is involved, is information on sources of public funding for the project activity provided in Annex 2, including an affirmation that such funding does not result on a diversion of official development assistance and is separate from and is not counted towards the financial obligations of those Parties?	1	DR	Not applicable.	OK	OK
B. Project Baseline / Monitoring M methodology *The validation of the project baseline establishes whether the selected baseline & Monitoring methodology is appropriate and whether the selected baseline represents a likely baseline scenario.*					
B.1. Baseline & Monitoring Methodology *It is assessed whether the project applies an appropriate baseline & Monitoring methodology.*					
B.1.1. Are the title and the reference of the baseline & Monitoring methodology applicable to the project activity defined?	1 UNFCCC web site	DR I	Yes. Baseline & Monitoring methodology applied is ACM0006 Version no.3 named “Consolidated baseline methodology for grid connected electricity generation from biomass residues”.	OK	OK
B.1.2. Does the CDM Methodology Panel previously approve the methodology?	1	DR	Yes. It is UNFCCC Approved consolidated baseline methodology ACM 0006 Version 03.	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
B.1.3. Does the proposed project activity meet the applicability conditions of the methodology?	1	DR	Detailed Justification as per applicability requirements of the methodology is indicated in B.2. of PDD.	OK	OK
B.2. Description of how the methodology is applied in the context of the project activity					
B.2.1. Is the baseline methodology the one deemed most applicable for this project and is the appropriateness justified?	1 ACM 006	DR	The applicability of approved methodology is indicated to be fulfilling the criteria indicated in Approved baseline methodology ACM0006. It's appropriateness and justification with reference to choice of baseline methodology and conclusion is indicated in PDD.	OK	OK
B.2.2. Is there any documentation referred ?			Yes refer Annexe III of PDD.	OK	OK
B.2.3. Are national policies and circumstances relevant to the baseline of the proposed project activity summarised?	-	I	*There are no national policies and circumstances relevant to the baseline of the project activity summarised. These need be described or referred in PDD.*	CL 3	
B.3. Description of the project boundary for the project activity.					
1. Are all the emission sources/ gases included and justified?	1	DR	*Yes B.3. of PDD.*	OK	OK
2. Are the project's spatial (geographical) boundaries clearly defined?	1	DR	B.3 includes description how the sources and gases are included in the project boundary.	OK	OK
3. Are the project's system (components and facilities used to mitigate GHGs) boundaries clearly defined?	1	DR	Grid system is not identified in the project boundary.	CAR 3	
B.4. Identification of Baseline scenario					
B.4.1. Is the identification of baseline justified?	1	DR	Analysed and justified.	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
B.4.2. Is it transparent and conservative? What are the documents referred ?	1	DR	Yes, ACM 006 Version 03	OK	OK
B.5. Assessment and demonstration of additionality					
B.5.1. Is the proposed project activity additional?	1	DR	ACM 0006 requires stepwise assessment of additionality detailed in the "Tool for the demonstration and assessment of additionality" Version 2. This is described in detail in section B.4 and B.5 of PDD. Barrier analysis is followed. Evidences to be provided. Step 5 – Impact of CDM registration refers to investment barrier. However evidence for the same is not available in PDD.	CAR 4	
B.5.2 Was the project started before the validation?	1	DR I	Starting Date 08.12.2005.	OK	OK
B.5.2.1 If, yes, is there any proof to show that the CDM was seriously considered?	1	I	Yes	OK	OK
B.6 Emission reduction: Validation of baseline GHG emissions will focus on methodology transparency and completeness in emission estimations.					
1. Does PDD provide explanation and justification for the choice of methodology?	1	DR	Yes as per Section B.4 of PDD	OK	OK
2. Will the project result in fewer GHG emissions than the baseline scenario?	-	DR	Yes. Use of biomass residue in the project activity will result in fewer GHG emissions than the baseline scenario.	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
B.6.1.a. Predicted Project GHG Emissions *The validation of predicted project GHG emissions focuses on transparency and completeness of calculations*					
Are uncertainties of external data sources for emissions reduction estimated?	-	DR	Since the external data is being taken from official sources, the Uncertainties are limited.	OK	OK
B. 6.1.b. Baseline Emissions *The validation of predicted baseline GHG emissions focuses on transparency and completeness of calculations.*					
1. Are the baseline boundaries clearly defined and do they sufficiently cover sources and sinks for baseline emissions?	-	DR	Yes. The baseline boundaries are clearly defined in Annex 3	OK	OK
2. Are the GHG calculations documented in a complete and transparent manner?	-	DR	GHG calculations are not attached with PDD but the formulae for calculations are described in PDD. The detailed GHG calculations to be provided	CL 4	OK
3. Have conservative assumptions been used when calculating baseline emissions?	-	DR	Description and justification for conservative assumptions when calculating baseline emissions is evident in PDD. The detailed GHG calculations to be provided	CL 5	OK
4. Are uncertainties in the GHG emission estimates properly addressed in the documentation?	-	DR	Uncertainties in the GHG emission are not addressed.	CAR 5	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
5. Have the project baseline(s) and the project emissions been determined using the same appropriate methodology and conservative assumptions?	-	DR	Yes. The project baseline(s) and the project emissions been determined using the same appropriate methodology.	OK	OK
B.6.2.Data and Parameters: Availability of information on the data and parameters that are monitored throughout the crediting period but determined only once, are verified.					
B.6.2.1 Is there a compilation of data in a tabular form?	1	DR	*Yes*	OK	OK
B.6.2.2 Are the data available at the time of validation?	1	DR I	Yes	OK	OK
B.6.2.3. Is justification and explanation transparent?	1	DR	Yes	OK	OK
B.6.2.4 Is there any further explanation available in Annex III? Does it include a description of measurement methods and procedures?	1	DR	*Yes*	OK	OK
B.6.3 Ex-ante calculation of emission reductions:					
B.6.3.1 Is it transparent? Is it reproducible?	1	DR	Yes B 6.3	OK	OK
B.6.3.2 Are the detailed calculations available under Annexe III?	1	DR	Yes	OK	OK
B.6.4 Ex-ante estimation of emission reduction:					
B.6.4.1 Are the data summarised in the tabular form without any error?	1	DR	*Yes*	OK	OK
B.7. Application of Monitoring methodology and plan.					

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
B.7.1.1. Is the tabular format used for monitoring of data?	1	DR	Yes	OK	OK
B.7.1.2. Are the QA/QC procedures properly referred and explained?	1	DR	PDD is silent on QA/QC procedures to be employed.	CAR 6	OK
B.7.1.3 Is there any relevant information provided in Annex IV	1	DR	Monitoring Plan indicated as Annex 4 is left blank and no justification for it is evident.	CAR 7	OK
B.7.2. *Monitoring Plan* *The monitoring plan review aims to establish whether all relevant project aspects deemed necessary to monitor and report reliable emission reductions are properly addressed* Monitoring Methodology *It is assessed whether the project applies an appropriate baseline methodology.*					
B.7.2.1.1 Is the monitoring methodology previously approved by the CDM Methodology Panel?	1	DR	Yes. Monitoring methodology ACM 0006 called 'Consolidated monitoring methodology for grid connected electricity generation from biomass residues' version 3 Date 19 May 2006 is approved previously.	OK	OK
B.7.2.1.2 Is the monitoring methodology applicable for this project and is the appropriateness justified?	1	DR	The reasons for choosing the monitoring methodology and Justification for appropriateness are described in B 4 of the PDD	OK	OK
B.7.2.1.3. Does the monitoring methodology reflect good monitoring and reporting practices?	-	DR	Yes	OK	OK
B.7.2.1.4. Is the discussion and selection of the monitoring methodology transparent?	-	DR	Yes.	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
B.7.2.2. Monitoring of Project Emissions *It is established whether the monitoring plan provides for reliable and complete project emission data over time.*					
B.7.2.2.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the greenhouse gas emissions within the project boundary during the crediting period?	-	DRI	Yes. Monitoring methodology ACM 0006 called 'Consolidated monitoring methodology for grid connected electricity generation from biomass residues' version 3 Date 19May 2006 is approved previously.	OK	OK
B.7.2.2.2. Are the choices of project GHG indicators reasonable?	-	DR	The reasons for choosing the monitoring methodology and Justification for appropriateness are described.	OK	OK
B.7.2.2.3. Will it be possible to monitor / measure the specified project GHG indicators?	-	DR	Yes	OK	OK
B.7.2.2.4 Will the indicators give opportunity for real measurements of achieved emission reductions?	-	DR	As above	OK	OK
B.7.2.2.5. Will the indicators enable comparison of project data and performance over time?	-	DR	As above	OK	OK
B.7.2.3. Monitoring of Leakage *It is assessed whether the monitoring plan provides for reliable and complete leakage data over time.*					
B.7.2.3.1 Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	-	DR	As per the identified scenario leakage calculations need not be done	OK	OK
B.7.2.3.2. Have relevant indicators for GHG leakage been included?	-	DR		-	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
B.7.2.3.3 Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	-	DR		-	OK
B.7.2.3.4. Will it is possible to monitor the specified GHG leakage indicators?	-	DR		-	OK
B.7.2.4 Monitoring of Baseline Emissions *It is established whether the monitoring plan provides for reliable and complete project emission data over time.*					
B.7.2.4.1 Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining baseline emissions during the crediting period?	-	DR	Monitoring Plan indicated as Annex 4 is left blank and no justification for it is evident. Inclusion and exclusion of various parameters and the justification need be evaluated during site visit interactions	CAR 4	OK
B.7.2.4.2. Is the choice of baseline indicators, in particular for baseline emissions, reasonable?	-	DR	Seems to be reasonable	-	OK
B.7.2.4.3. Will it be possible to monitor the specified baseline indicators?	-	DR	Yes	-	OK
B.8 Details of the baseline and its development					
Table 5 Is the date of completion provided in the specified format? 2. Contact information provided ?			01/09/2006. Based on the feedback after the site visit, the baseline study was done again and completed on 17/02/2007 Yes	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
B.7.2.5. Project Management Planning *It is checked that project implementation is properly prepared for and that critical arrangements are addressed.*					
1. Is the authority and responsibility of project management clearly described?	1	DR	Authority and responsibility related to project management is not referred or described in PDD. This needs to be defined	CL 6	OK
2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	1	DR	Authority and responsibility for registration, monitoring, measurement and reporting is not clearly described. Needs to be defined	CL 7	OK
3. Are procedures identified for training of monitoring personnel?	-	I	The Project proponent is establishing ISO systems Evidences to be provided.	CL 8	OK
4. Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	-	I	See above	CL 8	OK
5. Are procedures identified for calibration of monitoring equipment?	-	I	See above	CL 8	OK
6. Are procedures identified for maintenance of monitoring equipment and installations?	-	I	See above	CL 8	OK
7. Are procedures identified for monitoring, measurements and reporting?	-	I	See above	CL 8	OK
8. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	-	I	See above	CL 8	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
9. Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?	-	I	See above	CL 8	OK
10. Are procedures identified for review of reported results/data?	-	I	See above	CL 8	OK
11. Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	-	I	See above.	CL 8	OK
12. Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?	-	I	See above	CL 8	OK
13. Are procedures identified for corrective actions in order to provide for more accurate future monitoring and reporting?	-	I	See above.	CL 8	OK
B.8. Details of the baseline and its development					
1. Is the date of completion provided?	1	DR	The date of completion of baseline study is indicated to be 01/09/2006.	OK	OK
2. Is contact information provided?	1	DR	Yes	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
C. Duration of the Project/ Crediting Period *It is assessed whether the temporary boundaries of the project are clearly defined.*					
1. Are the project's starting date and operational lifetime clearly defined and reasonable?	1	DR	The project activity staring date and the operational lifetime is clearly defined in Section C of PDD. Project activity starting date and Operational lifetime are indicated to be 08/12/2005 and 20 years respectively.	OK	OK
2. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max. two x 7 years or fixed crediting period of max. 10 years)?	1	DR	Fixed crediting period is for the crediting length in years and months i.e. 10 years. Fixed crediting period starting date is indicated to be 15/02/2007 in C.2.2.1. of PDD. Considering the validation in Nov'06, the starting date needs review.	CL 9	OK
D. Environmental and Social Impacts *Documentation on the analysis of the environmental and social impacts will be assessed, and if deemed significant, an EIA should be provided to the validator.*					
i. Has an analysis of the environmental and social impacts of the project activity been sufficiently described?	PDD	I	*Section D.1 of PDD describes the environmental impacts, which are positive. It indicates rightly that no negative environmental impacts are identified. PDD indicates that Consent to operate and approval to operate have been received from Uttar Pradesh Pollution Control Board*	OK	OK
ii. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	-	I	No. EIA is not indicated mandatory for power plants in India.	OK	OK
iii. Will the project create any adverse environmental or social effects?	-	I	*No.*	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
iv. Are trans boundary environmental and social impacts considered in the analysis?	-	I	There is no negative trans boundary environmental and social impacts considered in the analysis. However there are remote chances of these impacts.	OK	OK
v. Have identified environmental and social impacts been addressed in the project design?	-	I	The environmental impacts have been addressed in the project design. Refer D.1 of PDD	OK	OK
vi. Does the project comply with environmental legislation in the host country?	-	I	D 1of PDD indicates that Consent to operate and approval to operate have been received from Uttar Pradesh Pollution Control Board	OK	OK
E. Stakeholder Comments *The validator should ensure that a stakeholder comments have been invited and that due account has been taken of any comments received.*					
i. Have relevant stakeholders been consulted?	-	DR I	Though the PDD indicates that local stakeholder meeting has taken place, minutes and the date of the meeting 12/06/06 is available. A national and international stakeholder meet is also proposed.	OK	OK
ii. Have appropriate media been used to invite comments by local stakeholders?	-	DR I	Local newspapers in English and Hindi have been used for inviting local stakeholders. Evidence of meetings provided	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
iii. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	-	I	As per host country regulations it is not mandatory for stakeholder consultations.	OK	OK
iv. Is a summary of the stakeholder comments received provided?	-	DR	It is indicated that no adverse comments have been received from stakeholders .	OK	OK
v. Has due account been taken of any stakeholder comments received?	-	DR	Refer above	-	OK

TABLE 3 BASELINES AND MONITORING METHODOLOGIES ACM0006

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
1. Baseline Methodology					
1. 1. Applicability					
1.1.1. Does the project activity uses no other biomass types other than biomass residues facility?	2	DR I	Yes. The Project uses bagasse.	OK	OK
1.1.2. Are these biomass residues are predominant fuels used in the project plant ?	2	DR I	Bagasse are the predominant fuels used in the project plant.	OK	OK
1.1.3 Are some fossil fuels co fired in the project plant?	2	DR I	No, fossil fuels are not co-fired in the project plant.	OK	OK
1.1.4. Shall the project 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;			No	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
1.1.5. Is the biomass used by the project facility stored for more than one year?			No the biomass used in the project facility is not stored for more than one year. However during off season there is a some biomass residue left..To be verified at site.	OK	OK
1.1.6 Is a significant energy quantity, except from transportation of the biomass, 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)?			No energy quantity is used for the preparation of biomass residue. To be verified at site.	OK	OK
1.1.7. Is the methodology for the combinations of project activities and baseline scenarios identified in Table 1 indicated in ACM 0006 Version 3.			Project uses applicable Baseline Scenario 12.	OK	OK
1.1.8 Is the baseline methodology used in conjunction with the approved consolidated monitoring methodology ACM0006 “Consolidated monitoring methodology for grid-connected electricity generation from biomass residues”.			Yes.Baseline methodology is used in conjunction with the approved consolidated methodology ACM 0006 Version 3	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
1.2. Identification of alternative baseline scenarios					
1.2.1. Is the baseline scenario chosen as per Table 1 of ACM0006 Version 3.	2	DR	Yes. Baseline scenario are chosen as per Table 1 of ACM 0006 Version 3 .	OK	OK
Are the realistic and credible alternatives separately determined with respect to: i. How power would be generated in the absence of CDM ii. What would happen to biomass in the absence of the project? iii. In case of cogeneration, how heat would be generated in absence of project.			a) The project would not have been taken up in the absence of CDM. b) PDD indicates present availablity of bio mass is sufficient for the current generation capacity. c) Refer above	OK	OK
1.2.2. Has the most plausible baseline scenario for the power generation indicated from P1 to P6?			P4 is considered most plausible base line scenario and is used for power generation.	OK	OK
1.2.3. In case the proposed project activity is the cogeneration of power and heat, have the project participants defined the most plausible baseline scenario for the generation of heat indicated from H1 to H8?	2	I	H4 is concluded to be most plausible scenario. Detailed evaluation of various scenario are evident.	OK	OK
1.2.4. For the use of biomass, are the alternatives chosen from B1 to B6 options?	2	DR	B2 is concluded to be most plausible scenario	OK	OK
1. 3. Project boundary					
1.3.1. Does the project boundary include the CO2 emissions from on-site fuel consumption of fossil fuels, co-fired in the biomass power plant?	2	DR	No. There is no fossil fuel used in Boilers.	OK	OK
1.2.2. Does the project boundary include the CO2	2	DR	Project boundary is to be defined including the end	CAR	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
emissions from off-site transportation of biomass that is combusted in the project plant.			user.		
1.2.3. Does the spatial extent of the project boundary encompasses the power plant at the project site the means for transportation of biomass to the project site (e.g. vehicles) and all power plants connected physically to the electrical system that the CDM power plant is connected to.			Bagasse is available in a radius of 25 Kms	OK	OK
1.2.3. Does the project boundary includes the emissions as per Table 2 of methodology.	2	DR	Yes the project boundary includes emissions as per Table 2 of methodology.	OK	OK
1.4. Additionality					
1.4.1. Was the additionality of the project activity demonstrated and assessed using the latest version of the "Tool for demonstration and assessment of addiotionality"?	2	DR	Yes. Additionality of the project activity is demonstrated transparently using the current version of "Tool for demonstration and assessment of addiotionality"	OK	OK
2. Emission Reduction: *It is assessed whether all material GHG emission sources are addressed and how sensitivities and data uncertainties have been addressed to arrive at conservative estimates of projected emission reductions.*					
2.1 Is the emission reduction is determined as per the formula given in the ACM 0006?			Yes	OK	OK
2.2. How are the emission factors determined? Are the values conservative?			Emission factor set / used by PP for emission reduction is not conservative. CEA emission factor published and publicly available for 2004-05 is 0.75 whereas EF used by PP is 0.924.	CAR-8	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
3. Project Emissions: *The validation of predicted project GHG emissions focuses on transparency and completeness of calculations.*					
3.1 Are the project emissions determined according to formula 2 of ACM 0006 Version 3	2	DR	Yes	OK	OK
3.2.a Does calculation include transportation of biomass ? 3.2 .b , Which is the option, considered ?		DR	Bagasse is available in a radius of 25 Kms	OK	OK
3.3.a. Is there any on-site consumption of fossil fuel? 3.3.b. Is the C02 emission calculation considered the tabl1?			OK	OK	OK
3.4.a Is there any Methane emission? 3.4.b. Is emission calculated as per ACM 006?			No methane emsiion	Ok	OK
4. Baseline Emissions: *The validation of predicted baseline GHG emissions focuses on transparency and completeness of calculations*					
Are the baseline boundaries clearly defined and do they sufficiently cover sources and sinks for baseline emissions?	-	DR	Yes. The baseline boundaries are clearly defined in Annex 3	OK	OK
Are the GHG calculations documented in a complete and transparent manner?	-	DR	GHG calculations are not attached with PDD but the formulae for calculations are described in PDD. The detailed GHG calculations need to be provided	CL 4	OK
Have conservative assumptions been used when calculating baseline emissions?	-	DR	Description and justification for conservative assumptions when calculating baseline emissions is evident in PDD. Same need to be verified by evaluation of GHG calculations	CL 4	OK
Are uncertainties in the GHG emission estimates	-	DR	Uncertainties in the GHG emission are not	CL 4	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
properly addressed in the documentation?			addressed.		
Have the project baseline(s) and the project emissions been determined using the same appropriate methodology and conservative assumptions?	-	DR	Yes. The project baseline(s) and the project emissions been determined using the same appropriate methodology.	OK	OK
Were the baseline emissions determined considering the efficiency of heat and power generation equipments?	2	DR	Yes. Efficiency of heat and power generation equipment is considered for base line emissions.	OK	OK
Were the Emissions Factor for displaced electricity calculated as in ACM0002?	2	DR	Yes. Emission factor for displaced electricity is calculated as per ACM0002.	OK	OK
Whether calculation considered the electricity consumption in the power plant?			Yes	OK	OK
Is the efficiency of electricity generation required to be considered?			Yes.	OK	OK
5. Leakage: *It is assessed whether there leakage effects, i.e. change of emissions which occurs outside the project boundary and which are measurable and attributable to the project, have been properly assessed.*					
5.1 Were the leakage emissions determined?	2	DR	Leakage emissions for the activities need not be considered as per the chosen scenario 12	Ok	OK
Are potential leakage effects beyond the chosen project boundaries properly identified?	-	DR	Discussions on leakage is included at various points e.g. ex-ante calculations appropriately. Monitoring of these need be evaluated during site visit. Formulae for Calculations are described but the calculations are not attached since the project is not commissioned.	CL	OK
Have these leakage effects been properly accounted for in calculations?	-	DR	Assumed to be no leakages as per scenario 12	-	OK
Does the methodology for calculating leakage	-	DR	Refer above	-	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
comply with existing good practice?					
Are the calculations documented in a complete and transparent manner?	-	DR	Calculations not provided with the PDD	CL	OK
Have conservative assumptions been used when calculating leakage?	-	DR	Refer above	-	OK
Are uncertainties in the leakage estimates properly addressed?	-	DR	Refer above	-	OK
3. Monitoring Methodology					
2.1. Applicability					
2.1.1. Is the monitoring methodology in conjunction with Consolidated Monitoring Methodology for grid connected electricity generation from biomass residues ACM0006 Version3?	2	DR I	Yes. Monitoring methodology is in conjunction with consolidated Monitoring Methodology for grid connected electricity generation from biomass residuee ACM 0006 Version 3.	OK	OK
2.2. Monitoring Methodology					
2.2.1. Is electricity generation from project activity being monitored?	2	DR	Yes	OK	OK
2.2.2. Is the monitoring of data evident for recalculation of operating margin as per ACM0002.?	2	DR	It is ex-ante determination of Emission factor. Hence it is not required to be monitored.	OK	OK
2.2.3. Is the monitoring of data evident for recalculation of build margin as per ACM0002?	2	DR	Data is taken from CEA and from Regional Electricity Board.	OK	OK
2.2.4. If applicable is the data needed to calculate, carbon dioxide emissions from fuel combustion due to co firing fossil fuels used in the project plant or in boilers operated next to the project plant or in boilers used in the absence of the project activity being monitored?	2	DR	Fossil fuel is not being used.	OK	OK
2.2.5. If applicable is the data needed to Calculate methane emissions from natural	2	DR	No. Data is not needed to be calculated for methane emissions.	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
Decay or burning of biomass in the absence of the project activity being monitored?					
2.2.6. If applicable is the data needed to calculate leakage effects from fossil fuel consumption outside the project boundary being monitored?			No data needed to calculate leakage effects from fossil fuel consumption outside the project boundary	OK	OK
2.3. Quality Control (QC) and Quality Assurance (QA) Procedures					
2.3.1. Did all measurements use calibrated measurement equipment that is regularly and checked for it's functioning?	2	DR	There is reference for use of the measurement through calibrated equipments. To be verified at site.	CL 2	OK
2.3.2. Are all parameters indicated in the QA/QC table as indicated in ACM 0006?			Yes, Some parameters are not indicated in the QA/QC table indicated in ACM0006.	CAR 6	OK
2.3.3 Is the exclusion of parameters not indicated for QA/QC justified?			Exclusion of parameters for QA/QC is not justified.	CAR 6	OK

Table 4 : Legal Requirements

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
1. Legal requirements					
1.1. Is the project activity environmentally licensed by the competent authority?	Consent to establish	DR	The consents from Uttar pradesh Pollution Control Board are obtained.	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
1.2. Are the conditions of the environmental license being met?	Consent to establish	DR	Verified and available	Ok	OK
1.3 Are the conditions of the Designated National Authority being met?	Approval by DNA	DR	DNA approval from host country India and United Kingdom are not available.	CAR 1	OK

TABLE 5 RESOLUTIONS OF CORRECTIVE ACTION AND CLARIFICATION REQUESTS

Draft report clarifications and corrective action requests by validation team	Ref. To checklist question in table ½/3/4/5	Summary of project owner response	Validation team conclusion
CAR 1 DNA approval from host country India and United Kingdom are not available**.**	**Table 2 Section A 3.5 & Table 5 Section 4.1.3**	The project has received the DNA approval from host country India and UK. The approvals have been sent to validators.	**DNA approval received. CAR is now closed.**
CAR 2 Unique identification of the project activity such as plot number is not indicated in PDD	**Table 2 Section A 4.1.4**	The khasra no. of the project activity has been put in section A.4.1.4 of the PDD.	**Revision done in PDD . CAR is closed satisfactorily.**

CAR-3 Grid system not identified in the project boundary.	**Table 2 B.3.3**	*"Under the proposed methodology the project boundary is drawn around the point of fuel supply to the electricity system (grid system) that the CDM project power plant is connected to.* *The Indian power grid system is split into five regions. The regional grids facilitate the transfer of electricity between states, which is supplied by state-owned and central sector power generating stations. Uttar Pradesh state falls within the Northern Region, hence grid based plants supplying electricity to the Northern Grid are chosen as the sample for the analysis of the grid emission coefficient".* The details are provided in section B.3	**Details provided in B.3 of PDD. CAR is now closed satisfactorily.**

CAR 4 Step 5 – Impact of CDM registration refers to investment barrier. However evidence for the same is not available in PDD	**Table 2 Section B 5**	The project uses barrier analysis to demonstrate additionality. CDM registration and the resulting revenue from CER sales will help the project to overcome the qualitative barriers outlined in Step 3 of section B.5 and reduce the risks of undertaking the project. The details have been mentioned in section B.5.	**This CAR was issued in line with Tool Version2,.** **Tool Version 3 does not require the same.**
CAR 5 Uncertainties in the GHG emission are not addressed	**Table 2 Section B.6.1.b.4**	There are no uncertainties related to the GHG emissions since data from reliable sources is used and strict procedures are followed for the monitoring of data. For details refer to sections B.6.3 and B.7.2.	

CAR 6 PDD is silent on QA/QC procedures to be employed	**Table 2 Section B 7.1.2**	The QA/QC procedures have been outlined. Refer section B.7.1.	**B.7.1 of PDD has now been amended to include relevant QA/QC procedures. CAR is now closed.**
CAR 7 Monitoring Plan indicated as Annex 4 is left blank and no justification for it is evident**.**	**Table 2 Section B 7.1.3**	The monitoring plan has been established in section B.7.2 with some more details in Annex 4.	**Relevant sections in PDD have now been amended. CAR is now closed.**
CAR-8 Emission factor set / used by PP for emission reduction is not conservative. CEA emission factor published and publicly available for 2004-05 is 0.75 whereas EF used by PP is 0.924.	**Table 3 Section 1.8.2**	Whilst the previous emission factor was determined as per the ACM0002 guidelines using published data, this has now been changed to the CEA published data for the purposes of calculating estimated CERs. However we do believe that whilst the CEA CEF is conservative it is not transparent. We therefore do not expect to be forced to follow a CEA number during the ex-post calculation of the CEF but saying this we are willing to use CEA or any other appropriate calculation by a national body if it is deemed to meet the requirements of the methodology and is acceptable to the DOE and EB at the time of verification.	**CEA DATA HAVE NOW BEEN CONSIDERED. CAR CLOSED**

CL 1 The technology employed is well established and widely used in India and will result in better performance. However evidence of its performance in sugar industry is not provided during the site visit	**Table 2 Section A 4.3.2**	*"The proposed project activity is a grid-connected bagasse based cogeneration power plant with a high-pressure steam-turbine configuration. The project involves the installation of a high-pressure (105 kg/cm^2) and high capacity (170TPH) boiler, supplying steam generated from combustion of bagasse to the newly installed double extraction-condensing type 30 MW capacity turbine.* *The generated steam will be used to run the newly installed turbine to generate power. The turbine is of extraction condensing type allowing for power generation both in the sugar season and off-season. The use of high pressure system allows for increased efficiency levels for electricity generation."* The details are provided in section A.4.3.	**A.4.3 now provides the relevant details. CL is now closed.**

CL 2 Company has planned to implement ISO 9001 system. System procedures need to be established	**Table 2 Section A 4.3.4 & A 4.3.5**	The DSM group is implementing Quality Management System (QMS). The intended structure and coverage of QMS has been outlined section B.7.2 and Annex 4. The details from the implementing agency have been provided to the validators.	**Action acceptable CL is now closed.**
CL 3 There are no national policies and circumstances relevant to the baseline of the project activity summarised. These need be described or referred in PDD.	**Table 2 Section B 2.3**	There are no national policies relevant to the baseline and the sugar factories in India are not required to install high pressure boilers for grid based electricity generation. This has been mentioned in section B.5. of PDD.	**Explanation acceptable CL is now closed.**
CL 4 GHG calculations are not attached with PDD but the formulae for calculations are described in PDD. The detailed GHG calculations to be provided	**Table 2 Section B 6.1 a.3.2**	The detailed GHG calculations have been provided to the validators.	**GHG calculations provided . CL is now closed.**
CL 5 Description and justification for conservative assumptions when calculating baseline emissions is evident in PDD. The detailed GHG calculations to be provided	**Table 2 Section B 6.1 a.3.3**	The detailed GHG calculations have been provided to the validators.	**GHG calculations provided . CL is now closed.**

CL 6 Authority and responsibility related to project management is not referred or described in PDD. This needs to be defined	**Table 2 Section B 7.2.5.1**	*"The management of the plant will designate one person to be responsible for the collation of data as per the monitoring methodology. The designated person will collect all data to be monitored as mentioned in this project design document (PDD) and will report to the head of the plant. The overall CDM project management responsibility will remain with the Plant Head."* This has been mentioned in section B.7.2 of the PDD.	**OK**

CL 7 Authority and responsibility for registration, monitoring, measurement and reporting is not clearly described. Needs to be defined	**Table 2 Section B 7.2.5.2**	*"The management of the plant will designate one person to be responsible for the collation of data as per the monitoring methodology. The designated person will collect all data to be monitored as mentioned in this project design document (PDD) and will report to the head of the plant. The overall CDM project management responsibility will remain with the Plant Head."* This has been mentioned in section B.7.2 of the PDD.	**PDD changes acceptable. CL closed.**
CL 8 The Project proponent is establishing ISO systems Evidences to be provided	**Table 2 Section B 7.2.5.3 to B 7.2.5.12**	The DSM group is implementing Quality Management System (QMS). The intended structure and coverage of QMS has been outlined section B.7.2 and Annex 4. The details from the implementing agency have been provided to the validators.	**PDD changes acceptable. CL closed.**

CL 9 Fixed crediting period is for the crediting length in years and months i.e. 10 years. Fixed crediting period starting date is indicated to be 15/02/2007 in C.2.2.1. of PDD. Considering the validation in Nov'06, the starting date needs review	**Table 2 Section C 2**	The starting date of the project activity is 31/03/2007 or the project registration date whichever is later. This has been mentioned in section C.2.2.1 of the PDD.	**PDD changes acceptable. CL closed.**

1. Guidelines for completing CDM- PDD, Version 06 dt July 28th 2006
2. APPROVED CONSOLIDATED METHODOLOGY ACM0006 – Version 4, 2nd November 2006

Appendix – B

CV's of Validators

Mr.R Seshapathy	BVQI India	GHG Lead Validator A B.Tech(Chemical) graduate with additional qualification of PG diploma in Environmental economics. A total 19 years of experience in Energy & Manufacturing industries. He has been involved in validation of more than 20 CDM projects
Mr. R.Sankaranarayanan	BVQI India	GHG Validator A B.Tech(Chemical) graduate 23 years of experience in manufacturing industries and 9 years in Management system auditing He has been involved in validation of more than 15 CDM projects
Mr. H B Muralidhar	BV India	Sector specialist A BE (Elec) graduate Total of 25 years of experience power generation and distribution related fields as well as in management system auditing. He has been involved in validation of more than 50 CDM projects.
Dr.Ashok Mammen	BVQI India	Internal Reviewer Ph.D (Oils & Lubricants),M.Sc(Analytical chemistry ,Over 20 years of experience in petrochemical sector. He has been involved validation / review of more than 50 CDM projects.

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