

1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milk food Limited (MFL) in Patiala (Punjab) & Moradabad (U.P) Districts

Report No.: 8107526922 – 11/68



TÜV NORD CERT GmbH
JI/CDM Certification Program
Langemarckstraße, 20
45141 Essen, Germany
Phone: +49-201-825-3335
Fax: +49-201-825-3290
www.tuev-nord.de
www.global-warming.de

Project Title	1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milk food Limited (MFL) in Patiala (Punjab) & Moradabad (U.P) Districts
Version	01

Report Title	1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milk food Limited (MFL) in Patiala (Punjab) & Moradabad (U.P) Districts
Client	Milkfood Limited
Pages	39
Date of Issue	14-December 2011
Prepared By	TÜV NORD CERT GmbH
Contact	TÜV NORD CERT GmbH JI/CDM Certification Program Langemarckstraße, 20 45141 Essen, Germany Phone: +49-201-825-3335 Fax: +49-201-825-3290 www.tuev-nord.de www.global-warming.de
Approved By	Mr. Rainer Winter
Work Carried Out By	Mr. Abhishek Kumar Srivastava, TL Mr. Archak Pattanaik, TM (till 2011-10-07) Mr. Pankaj Mohan, TM Mr. Lokesh Chandra Dube, TM Ms. Arshi Vimal, TM Mr. Vishnu Patidar, TM (till 2011-09-09) Ms. Kiran Nayak, OT

Summary:

Milkfood Limited has commissioned the TÜV NORD JI/CDM Certification Program to carry out the first periodic

verification of the project “1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milk food Limited (MFL) in Patiala (Punjab) & Moradabad (U.P) Districts”, with regard to the relevant requirements of VCS standard version 03.

The VCS project undertaken is a bundle of two cogeneration plants of capacity 1.0 MW (with 14TPH steam generation) and 0.6 MW ((with 12 TPH steam generation) located at Bahadurgarh, Patiala in the state of Punjab and Mugalpur, Moradabad in the state of Uttar Pradesh respectively in India. The project activity involves utilization of rice husk (renewable biomass) available in the regions for thermal and electrical power generation for captive consumption, thereby reducing the baseline emissions.

Reporting period: From 2009-05-06 to 2011-05-31 (incl. both days)

In the course of the verification three (03) Corrective Action Requests (CARs) and four (04) Clarification Request (CLs) were raised and successfully closed and Two (02) Forward Action Requests (FARs) will be verified during each periodic verifications.

The verification is based on the draft monitoring report^{/MR1/}, revised monitoring report^{/MR2/}, emission reduction calculation spreadsheet^{/XLS/}, the monitoring plan as set out in the validated PD^{/PD/}, the validation report^{/VAL/}, and supporting documents^{/LOG//CAL//TRG//AUDIT/} made available to the TÜV NORD JI/CDM CP by the project participant.

As the result of the 1st periodic verification, the verifier confirms that the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner. TÜV NORD JI/CDM CP herewith confirms that the project has achieved emission reductions in the above mentioned reporting period (2009-05-06 to 2011-05-31, incl. both days) as follows:

Year 2009: 40931 t CO2 equivalent

Year 2010: 65258 t CO2 equivalent

Year 2011: 24421 t CO2 equivalent

Total Emission reductions 130610 t CO2 equivalents

Abbreviations

AFBC	Atmospheric fluidised bed combustion
BAU	Business as usual
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CO₂	Carbon dioxide
CO₂e	Carbon dioxide equivalent
CP	Certification Program
CL	Clarification Request
DNA	Designated National Authority
EB	CDM Executive Board
EIA	Environmental Impact Assessment
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
LUCS	Levellized unit cost of steam
MoEF	Ministry of Environment and Forest
MFL	Milkfood Limited
NCV	Net calorific value
NABL	National Accreditation Board for Testing and Calibration Laboratories
NATCOM	National Communication (India)
PEDA	Punjab Energy Development Authority
QC/QA	Quality control/Quality assurance
UNFCCC	United Nations Framework Convention on Climate Change
VT	Validation Team
VVM	Validation and Verification Manual
VCS	Voluntary Carbon Standard

Table of Contents

Table of Contents 5

1 INTRODUCTION 6

1.1 Objective 6

1.2 Scope and Criteria 6

1.3 Level of assurance 6

1.4 Summary Description of the Project..... 7

1.4.1 Project Characteristics 7

1.4.2 Project Location 7

1.4.3 Technical Project Description 8

2 VALIDATION PROCESS, FINDINGS AND CONCLUSION 9

2.1 Validation Process..... 9

2.2 Validation Findings..... 9

2.2.1 Gap Validation 9

2.2.2 Methodology Deviations..... 9

2.2.3 New Project Activity Instances 9

2.3 Validation Conclusion 9

3 VERIFICATION PROCESS 9

3.1 Method and Criteria 9

3.2 Document Review 12

3.3 Interviews..... 12

3.4 Site Inspections 13

3.5 Resolution of Any Material Discrepancy 13

4 VERIFICATION FINDINGS..... 15

4.1 Project Implementation Status..... 15

4.2 Accuracy of GHG Emission Reduction or Removal Calculations 26

4.3 Quality of Evidence to Determine GHG Emission Reductions or Removals 29

4.4 Management and Operational System..... 29

5 VERIFICATION CONCLUSION 30

1 INTRODUCTION

The Milkfood Limited has commissioned the TÜV NORD JI/CDM Certification Program to carry out the verification of the project:

“1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milk food Limited (MFL) in Patiala (Punjab) & Moradabad (U.P) Districts”

with regard to the relevant requirements of the Verified Carbon Standard; VCS version 03^{VCS/}. The verifiers have reviewed the implementation of the monitoring plan (MP) in the validated VCS project for the monitoring period 2009-05-06 to 2011-05-31 (incl. both days).

The applied monitoring methodologies are:

AMS.I.C, Version 18: Thermal Energy production with or without electricity

AMS.I.D, Version 16: Grid connected renewable electricity generation

1.1 Objective

The purpose of this verification, by independent checking of objective evidence, is as follows:

- to verify that the project is implemented as described in the project document^{/PD/};
- to assess the implementation of the monitoring plan (MP) content in the VCS PD^{/PD/}.
- to assess the project's compliance with other relevant rules, including the host country (India) legislation;
- to confirm that the monitoring system is implemented and fully functional to generate voluntary emission reductions (VERs / VCU's) without any double counting; and
- to establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation.

1.2 Scope and Criteria

The verification of this project is based on the validated project document^{/PD/}, the monitoring report^{/MR1//MR2/}, emission reduction calculation spreadsheet^{/XLS/}, supporting documents^{/LOG//CAL//AUDIT/} made available to the verifier and information collected through performing interviews^{/IM01//IM02/} and during the on-site assessment. Furthermore publicly available information was considered as far as available and required.

The TÜV NORD JI/CDM CP has employed a risk-based approach in the verification, focusing on the identification of significant risks and reliability of project monitoring and generation of emission reductions.

1.3 Level of assurance

The verification has been planned and organized to achieve a

reasonable level of assurance

 limited level of assurance.

1.4 Summary Description of the Project

1.4.1 Project Characteristics

Essential data of the project is presented in the following Table 1-4.1, Table 1-4.2 and Table 1-4.3.

Table 1-4.1: Project Characteristics

Item	Data
Project title	1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milk food Limited (MFL) in Patiala (Punjab) & Moradabad (U.P) Districts
Project owner	Milkfood Limited
Any specific project categories	<input type="checkbox"/> Mega project ($> 10^6$ t CO _{2eq} / a) <input checked="" type="checkbox"/> Project (5000 t CO _{2eq} / a to 10^6 t CO _{2eq} / a) <input type="checkbox"/> Micro project (< 5000 t CO _{2eq} / a) <input type="checkbox"/> AFOLU project <input type="checkbox"/> Grouped project <input type="checkbox"/> No specific project category
VCS MR dated	Draft: 2011-08-04 Final: 2011-12-08
Applied Methodology	AMS.I.C Version 18 and AMS.I.D Version 16
Scope/Technical area	01/1.1: Thermal energy generation, 1.2: Renewable Energies
Project starting date	2009-05-06
Crediting period	<input type="checkbox"/> Renewable Crediting Period (7 y) <input checked="" type="checkbox"/> Renewable Crediting Period (10 y)
Start of crediting period	2009-05-06

1.4.2 Project Location

The details of the project location are given in Table 1-4.2:

Table 1-4.2: Project Location

Table 1-4.2-1: Project I

No.	Project Location
Host Country	India
Region:	Punjab
Project location address:	District: Patiala, P.O: Bahadurgarh
Latitude:	30°21'55.23" N
Longitude:	76°28'17.59" E

Table 1-4.2.2: Project II

No.	Project Location
Host Country	India
Region:	Uttar Pradesh
Project location address:	Village: Mugalpur urf Agwanpur Mustakam,

No.	Project Location
	Dist.: Moradabad
Latitude:	28° 57'43.34" N
Longitude:	78° 54'20.65" E

1.4.3 Technical Project Description

The VCS project activity is a bundle activity of two cogeneration plants of capacity 1.0 MW and 0.6 MW located at Bahadurgarh, Patiala in the state of Punjab and Mugalpur, Moradabad in the state of Uttar Pradesh respectively.

The key parameters of the project are given in table 1-4.3:

Table 1-4.3a: Technical data of the project

Table 1-4.3a.1: Technical data of the project activity-1

Parameter	Unit	Value
Boiler Type	-	Rice husk fired FBC boiler
Steam generation capacity	TPH	14.0
Steam outlet parameters	kg/cm ² (g)	45
Steam outlet Temperature	°C	420
Electricity generation capacity	MW	1

Table 1-4.3a.2: Technical data of the project activity-2

Parameter	Unit	Value
Boiler Type	-	Rice husk fired FBC boiler
Steam generation capacity	TPH	12.0
Steam outlet parameters	kg/cm ² (g)	32
Steam outlet Temperature	°C	400
Electricity generation capacity	MW	0.6

Table 1-4.3b: Parameters confirmed during verification

Table 1-4.3b.1: project activity-I

Parameter	Name	Unit	Value
Boiler Type	Rice husk fired FBC boiler	-	-
Steam generation capacity	-	TPH	14.0
Steam outlet parameters	-	kg/cm ² (g)	45
Steam outlet Temperature	-	°C	420
Electricity generation capacity	-	MW	1
	-		

Table 1-4.3b.2: project activity-II

Parameter	Name	Unit	Value
Boiler Type	-	-	Rice husk fired FBC boiler
Steam generation capacity	-	TPH	12.0

Parameter	Name	Unit	Value
Steam outlet parameters	-	kg/cm ² (g)	32
Steam outlet Temperature	-	°C	400
Electricity generation capacity	-	MW	0.6

2 VALIDATION PROCESS, FINDINGS AND CONCLUSION

Validation process is not applicable as this is a verification report.

2.1 Validation Process

NA

2.2 Validation Findings

NA

2.2.1 Gap Validation

NA

2.2.2 Methodology Deviations

NA

2.2.3 New Project Activity Instances

NA

2.3 Validation Conclusion

NA

3 VERIFICATION PROCESS

3.1 Method and Criteria

The verification of the project consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers
- Desk review of the Monitoring Report^{MR1/} submitted by the client and additional supporting documents.
- Verification planning,
- On-Site assessment,

- Background investigation and follow-up interviews with personnel of the project developer and its contractors,
- Draft verification reporting
- Resolution of corrective actions (if any)
- Final verification reporting
- Technical review
- Final approval of the verification.

Verification is based on the criteria laid down by VCS version 03.

The sequence of the verification is given in the table 3.1 below:

Table 3.1: Verification sequence

Topic	Time
Assignment of verification	2010-12-17
On-site visit	2011-08-08
Draft reporting finalised	2011-08-12
Final reporting finalised	2011-10-18
Technical review on final reporting finalised	2011-11-29
Final corrections	2011-12-14

The main verification steps are described below.

3.2 Appointment of team members and technical reviewer

On the basis of a competence analysis and individual availabilities a verification team was appointed. Furthermore also the personnel for the technical review and the final approval was determined.

The list of involved personnel, the tasks assigned and the qualification status are summarized in the table 3.2-1 below.

Table 3.2-1: Involved Personnel

	Name	Company	Function ¹⁾	Qualification Status ²⁾	Scheme competence ³⁾	Technical competence ⁴⁾	Verification competence ⁵⁾	Host country Competence	On-site visit
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Archak Pattanaik*	TUV India Private Limited	TM ^{A)}	LA	<input checked="" type="checkbox"/>	1.1 & 1.2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Pankaj Mohan	TUV India Private Limited	TM ^{A)}	SA	<input checked="" type="checkbox"/>	1.1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Abhishek Kumar Srivastava	TUV India Private Limited	TL	LA	<input checked="" type="checkbox"/>	1.2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Vishnu Patidar**	TUV India Private Limited	TM ^{A)}	A	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms.	Arshi Vimal	TUV India Private Limited	TM ^{A)}	A	<input checked="" type="checkbox"/>	1.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Lokesh Chandra Dube	TUV India Private Limited	TM ^{A)}	A	<input checked="" type="checkbox"/>	1.2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms.	Kiran Nayak	TUV India Private Limited	OT ^{B)}	-	<input type="checkbox"/>	-	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Katja Beyer	TUV NORD CERT GmbH	TR ^{B)}	LA	<input checked="" type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>	-
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Rainer Winter	TUV NORD CERT GmbH	TR/FA ^{B)}	SA	<input checked="" type="checkbox"/>	1.1 & 1.2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	-

1) TL: Team Leader; TM: Team Member, TR: Technical review; OT: Observer-Team, OR: Observer-TR; FA: Final approval

2) GHG Auditor Status: A: Assessor; LA: Lead Assessor; SA: Senior Assessor; T: Trainee; TE: Technical Expert

3) GHG auditor status (at least Assessor)

4) As per S01-MU03 or S01-VA070-A2 (such as 1.1, 1.2, ...)

5) In case of verification projects

- A) Team Member: GHG auditor (at least Assessor status), Technical Expert (incl. Host Country Expert or Verification Expert), not ETE
- B) No team member
- * Till 2011-10-07
- ** Till 2011-09-09

3.3 Document Review

The validated VCS PD^{/PD/}, VCS MR^{/MR1//MR2/}, emission reduction calculation spreadsheet^{/XLS/} and supporting background documents^{/LOG//AUDIT//CAL//TRG/} related to the project implementation, project design, monitoring and baseline were reviewed.

The project proponent furnished performance records of the project in form of data logs registers^{/LOG/}, review and internal audit reports^{/AUDIT/}, training records^{/TRG/} and calibration certificates^{/CAL/} etc. VER calculation sheet^{/XLS/} was checked thoroughly by the verification team for correctness of calculation approach. Data input values were also checked from the records maintained by the project proponents. Result of calculations reported in the monitoring report^{/MR1//MR2/} was checked against data values as available from the project proponent in VER calculation sheet^{/XLS/}. These data values and other information related to project performance including calibrations details are available in the form of data logs and records duly archived and maintained as per the quality assurance/quality control procedure specified as a part of monitoring plan given in the validated PD^{/PD/}.

Furthermore, the verification team used additional documentation by third parties like host party legislation, technical reports referring to the project design or to the basic conditions and technical data.

The references used in the course of this verification are summarized in Annex 2.

3.4 Interviews

The verification team has carried out interviews in order to assess the information included in the project documentation and to gain additional information regarding the compliance of the project with the relevant criteria applicable for the VCS.

Before and during the on-site visit, verification team performed interviews with the representative of project participant to confirm selected information and to resolve issues identified in the document review.

Representatives of Milkfood Limited including the operational staff of the plant were interviewed. Details of the interviewed persons are included in Table: Annex 2.4. The main topics of the interviews are summarised in Table 3-4.1.

Table 3-4.1: Interviewed persons and interview topics

Interviewed Persons / Entities	Interview topics
1. Projects & Operations personnel from MFL ^{/IM01/} (Reff.: Table: Annex 2.4)	<ul style="list-style-type: none"> - General aspects of the project - Technical equipment and operation - Changes since validation - Monitoring and measurement equipment - Calibration procedures

Interviewed Persons / Entities	Interview topics
	<ul style="list-style-type: none"> - Quality management system - Involved personnel and responsibilities - Training and practice of the operational personnel - Implementation of the monitoring plan - Monitoring data management - Data uncertainty and residual risks - GHG emission reduction calculation - Procedural aspects of the verification - Maintenance - Environmental aspect

3.5 Site Inspections

As most essential part of the verification exercise, it is indispensable to carry out an inspection on site in order to verify that the project is implemented in accordance with the applicable criteria. Furthermore the on-site assessment is necessary to check the monitoring data with respect to accuracy to ensure the calculation of emission reductions. The main tasks covered during the site visit include, but are not limited to:

- The on-site assessment included an investigation of whether all relevant equipment is installed and works as anticipated.
- The operating staff was interviewed and observed in order to check the risks of inappropriate operation and data collection procedures.
- Information processes for generating, aggregating and reporting the selected monitored parameters were reviewed.
- The duly calibration of all metering equipment was checked.
- The monitoring processes, routines and documentations were audited to check their proper application.
- The monitoring data were checked completely.
- The data aggregation trails were checked via spot sample down to the level of the meter recordings.

Mr. Archak Pattanaik having technical expertise for the Renewable Energies projects and a CDM Lead Assessor (Mr. Abhishek Kumar Srivastava) and CDM Assessor (Mr. Vishnu Patidar) attended the site visit.

3.6 Resolution of Any Material Discrepancy

Material discrepancies identified in the course of the verification are addressed either as CARs, CLs or FARs.

A **Corrective Action Request (CAR)** is established where:

- mistakes have been made in assumptions, application of the methodology or the project documentation which will have a direct influence the project results,

- the requirements deemed relevant for verification of the project with certain characteristics have not been met or
- there is a risk that the project would not be registered or that emission reductions would not be able to be verified and certified.

A **Clarification Request (CL)** will be issued where information is insufficient, unclear or not transparent enough to establish whether a requirement is met.

A **Forward Action Request (FAR)** will be issued when certain issues related to project implementation should be reviewed during the first verification.

A detailed list of the CARs CLs and FAR raised and discussed in the course of this verification is included in the next section 4 of this report.

4 VERIFICATION FINDINGS

In this section the assessments and findings from the desk review of the VCS V01 MR, site visit, interviews and supporting documents as well as the final assessments are summarised. Table 4-1 includes an overview of all raised CARs, CLs and FARs.

Table 4-1: Overview of CARs, CLs and FARs issued

No.	Topic / Chapter	CAR	CL	FAR
4.1	Project Implementation Status	02	03	02
4.2	Accuracy of GHG Emission Reduction or Removal Calculations	01	01	-
4.3	Quality of Evidence to Determine GHG Emission Reductions or Removals	-	-	-
4.4	Management and Operational System	-	-	-
-	SUM	03	04	02

4.1 Project Implementation Status

4.1.1 Implementation status of the project activity

The project proponent i.e. Milkfood Limited has successfully commissioned project I (part of VCS project activity) on 2009-05-06 followed by project II (part of VCS project activity) on 2009-06-04, since then project is operation at full capacity with planned shutdowns.

The phase wise commissioning dates of project I and project II have been addressed in the Annex 2 and confirmed from the commissioning certificates^{/CC/}. Project activity was operational during the first monitoring period with minor shutdowns. Shutdown/outages details were included in section 5.2 of monitoring report^{/MR2/} and same are checked and verified from the Plant records^{/LOG/} as well.

As per the onsite assessment, observations, interviews^{/IM01//IM02/} and collected evidences, it is concluded that project activity has been implemented as described in the project document^{/PD/} validated as per VCS 2007.1^{/VCS/}. There is no change in the key equipments as described in Table 1-4.3a of this report. During the monitoring period covering 2009-05-06 to 2011-05-31 (both days included), the VCS project activity displaced 20422.41 MWh of NEWNE grid in India as well displaced the thermal energy generation equivalent to an amount of 971.02 TJ from coal based thermal energy boiler. .This was verified by the verification team during the on site visit by checking the recorded steam generation data and net electricity data^{/LOG/}, plant records and review and internal audit reports^{/AUDIT/}.

4.1.2 Implementation status of the monitoring plan and the completeness of monitoring

The project activity monitoring procedures are in compliance with the monitoring plan of validated VCS PD^{/PD/}.

Description:

- The monitoring and reporting procedures reflect the requirements of the monitoring plan of the validated PD^{/PD/}. The monitoring parameters are recorded as per the monitoring plan and methodology^{/AMS.I.C/}.
- Following metering and measurement was verified during onsite visit dated 2011-08-08 (VCS Verification site visit) as per section 3.3 and 3.4 of validated VCS PD^{/PD/}:
 1. Net electricity generated by project I and project II, being monitored at the sent out point of the project activity to the processing unit
 2. Quantity and quality (temperature and pressure) of steam generated from project activity biomass boilers
 3. Quantity and quality (temperature and pressure) of steam monitored at high pressure (after conjunction point of direct and bleed steam)-Project I
 4. Quantity and quality (temperature and pressure) of steam monitored at high pressure-Project II
 5. Quantity and quality (temperature and pressure) of steam monitored at exhaust extracted from the turbine at low pressure
 6. Temperature of the feed water in the boiler.
 7. Quantity of rice husk
 8. Net Calorific Value of biomass residue (rice husk).
- Verification team has interviewed with the operation and maintenance team^{/IM01/} and confirms that, situation which leads to complete blackout (non-availability of electricity from project activity co-generation plants as well from grid supply to the boiler and power house) were not arised, hence, it was ensure that DG sets were not operated during entire 1st monitoring period. Also, verification team has checked the plant log records^{/LOG/} for the same.
- Based on on-site assessment and interviews^{/IM01/}, verification team confirms that pre-project coal based boiler was dismantaled and thus not operated during the 1st monitoring period.
- Hourly and Daily plant log books are also found to be archived.
- Invoices^{/BIO/} raised by biomass (rice husk) suppliers were available for verification, which was used for comparisons with the rice husk consumed during the 1st monitoring period and records are archived properly^{/LOG/}.
- The submitted monitoring report^{/MR1//MR2/} which forms the basis of the verification was observed to be prepared by summarizing consolidated daily steam quality and quantity data^{/LOG/} and net electricity supplied to the milk processing units over the whole monitoring period in accordance with the monitoring plan.
- All necessary monitoring instruments are found to be installed. The measuring devices are well known to the personnel^{/IM01/} and calibrated and tested by authorised agency^{/CAL/} at the time of installation.

- The calibration records of all the installed energy meters and other monitoring equipments i.e. seam flow meters, temperature and pressure gauge were made available to the verification team^{/CAL/}. None of monitoring equipments were replaced during the said monitoring period. The details of the calibrations is found to be provided in section 3.2 of the monitoring report^{/MR2/}. No abnormality was observed in the metering.
- The reporting procedures reflect the requirements of the monitoring report^{/MR1//MR2/}.
- Archiving is found to be appropriate during the whole monitoring period^{/LOG/}. The hourly, daily plant log records and monthly reports were found to be cross checked by the top management to weed out any anomaly.
- Periodic Internal audits once in every three months for VCS data monitoring, QA/QC (calibrations, generation records etc.) have been evidenced^{/AUDIT/}.
- The personnel involved have been found to be given training which also involved skill development in operations-maintenance as well data monitoring. During the interviews it was known that further training was planned^{/TRG/}.
- The verification team has verified the monthly review reports^{/AUDIT/}, Plant log books^{/LOG/}, invoices for biomass^{/BIO/} and found they are recorded and maintained in line with monitoring plan of the validated PD^{/PDD/}, methodology AMS.I.C version 18 and AMS.I.D Version 16. Thus the DOE confirms the completeness of the monitoring in the key areas.

Furthermore, there is one open/pending issues (i.e. FARs) indicated in the validation report (Report No. 8107526922-11/67)^{/VAL/}, dated 2011-05-03 issued by the DOE i.e. TÜV NORD CERT GmbH, which would be addresses during the course of each periodic verification.

However the following CARs were raised on the transparent description of monitoring in the monitoring report and were closed successfully.

Related Findings

- No CARs, CLs or FARs have been identified in this context
- The following finding(s) have been addressed:

Finding:	4.1.2-1		
Classification	<input type="checkbox"/> CAR	<input type="checkbox"/> CL	<input checked="" type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The PP has provided undertaking dated 2011-02-11 that no claim will be made for emission reductions under two GHG programs for the same monitoring period. In order to minimize the risk of double counting, the DOE will check at the time of each verification that emission reductions are not claimed or intended to claim for the same monitoring period in other GHG program (CDM) (see FAR 3.1.4-1 of FValR).		

<p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>In line with response of FAR 3.1.4-1 of FVaR and undertaking submitted during VCS validation process, it here by confirmed that we do not have claimed emission reductions achieved in current monitoring period in any other GHG programs.</p> <p>Moreover, same project is under CDM validation process and will provide all the information regarding CDM status of project activity during course of verifications.</p>
<p>DOE Assessment #1 <i>The assessment shall encompass all open issues. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>With refer to FAR 3.1.4-1 of validation report of VCS project^{/VAL/}, the project activity is also under the CDM validation process and not yet registered with CDM EB as verified from the web search at UNFCCC^{/unfccc/}. Also, PP has provided undertaking dated 2011-02-11 that no claim will be made for emission reductions under two GHG programs for the same monitoring period^{/UND/}.</p> <p>Thus, verification team has ensured that no double counting of emission reductions were accounted during the 1st monitoring period.</p> <p>However, In order to minimize the risk of double counting in periodic verifications, the DOE will check at the time of each verification that emission reductions are not claimed or intended to claim for the same monitoring period in other GHG program (CDM).</p>
<p>Conclusion <i>Tick the appropriate checkbox</i></p>	<p><input checked="" type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements</p>

<p>Finding:</p>	<p>4.1.2-2</p>		
<p>Classification</p>	<p><input checked="" type="checkbox"/> CAR</p>	<p><input type="checkbox"/> CL</p>	<p><input type="checkbox"/> FAR</p>
<p>Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p>Following consolidated CARs have been raised on incompleteness according to guideline i.e. Monitoring Report: VCS Version 3:</p> <ol style="list-style-type: none"> 1. As per the guideline provided in the VCS MR template all instructions, including the introductory text should be deleted from the final document. The same was not found deleted in the MR Version 01. 2. In the title page and other pages of submitted MR (version 1), at places font size and font type does not follow the instructions laid 		

	<p>down in the MR template.</p> <ol style="list-style-type: none"> 3. As per the VCS MR template Roles and Responsibilities of the PP need to be included in the section 2.3 of the VCS MR. The same was found missing in the MR version 01. 4. As per the VCS MR template PP shall specify date of start and end of the Crediting Period in the section 1.6 of the MR. The same was found missing in the MR version 01. 5. As per the VCS MR template PP shall provide information regarding the operation of the Project activity during the Monitoring period under consideration, including information on events that may impact the ERs. The same was found missing in the submitted MR^{MR1/}.
<p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<ol style="list-style-type: none"> 1. Monitoring report is now improved as per the guideline provided in the VCS MR template and all instructions/ introductory text are deleted in the final MR. 2. Standard font type and font size as prescribed by MR template is now used throughout final MR. 3. roles/responsibilities for the project proponent have been included in section 1.3 of final MR. 4. Start and end date of the Crediting Period are now included in section 1.6 of the final MR. 5. Information's on the implementation and operation status of the Project activity during the Monitoring period have been included in section 2.1 of final MR.

<p>DOE Assessment #1 <i>The assessment shall encompass all open issues. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<ol style="list-style-type: none"> 1. As per indicated guidelines in the Monitoring report: VCS Version 3 template, all instructions/ introductory text are now deleted in the revised MR^{/MR2/}. The finding is closed. 2. As per instructions provided in the Monitoring report: VCS Version 3 template, type of font and font size are now kept as per the template guideline in the revised MR^{/MR2/}. The finding is closed. 3. Roles and responsibilities of the project proponent have been found included in section 1.3 of revised MR^{/MR2/} and responsibilities of monitoring and QA/QC is included in detailed in section 3.3. Verification team has discussed and interviewed the project proponent^{/IM01/} and checked various documents i.e. plant log records, monthly review reports, internal audit report^{/LOG/AUDIT/} to ensure the identification of roles and responsibilities of each of the involved personnel's. The finding is closed. 4. As per instructions provided in the Monitoring report: VCS Version 3 template, start and end date of the crediting period are now included in section 1.6 of the revised MR^{/MR2/}. The finding is closed. 5. Section 2.1 of Revised MR^{/MR2/} is improved in-line with the Monitoring report: VCS Version 3 template. Verification team has checked the planned operation and maintenance schedule and detailed reports as well checked the minor breakdown records^{/BR/}. Also, as interviewed and discussed with operation and maintenance team^{/IM01/}, verification team got to know that all equipments i.e. TG, Boilers and other accessories are undergone daily 2 hour maintenance and project activity doe not faced any major breakdown during the 1st verification period. The finding is closed.
<p>Conclusion <i>Tick the appropriate checkbox</i></p>	<p> <input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements </p>

<p>Finding:</p>	<p>4.1.2-3</p>		
<p>Classification</p>	<p><input checked="" type="checkbox"/> CAR</p>	<p><input type="checkbox"/> CL</p>	<p><input type="checkbox"/> FAR</p>
<p>Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<ol style="list-style-type: none"> 1. As per the section 4.3 of the VCS MR Version 01, the project activity is procuring and utilizing biomass available within the 75 Km radius from Milkfood Limited. Hence leakage for this part is considered as Zero. The PP is requested to substantiate the same with verifiable 		

	<p>evidences for both the project locations.</p> <p>2. In the section 4.4 of the VCS MR Version 01, quantification of net GHG emission reductions are found missing.</p>
<p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>1. PP has procured and utilized biomass (rice husk) available in surplus quantity within the 50 km radius from project sites (for both project I & II). Please find enclosed here with the sample invoices raised by the suppliers as well the data shows the surplus rice husk availability within the region of project I and Project II provided by the rice miller's association.</p> <p>2. Quantification of net GHG emission reductions are included in section 4.4 of the final MR.</p>
<p>DOE Assessment #1 <i>The assessment shall encompass all open issues. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>1. Verification team has assessed the demonstration of procurement of biomass (rice husk) within 75 Km from the both project sites of MFL through interviews with the biomass suppliers^{/IM02/} during the on-site visit. Also, verification team has verified the distance/places of rice husk procurement from invoices^{/BIO/}. In addition to this, based on third party biomass assessment study conducted during March 2009 as well by verification of rice husk generation in nearby rice mills^{/BIO/}, verification team ensure the surplus rice husk availability in the nearby region (within 75 km) and hence procurement within the 75 km is evidenced. Hence, thus, raised finding is closed successfully.</p> <p>2. Section 4.4 of revised MR^{/MR2/} includes the quantification of net GHG emission reductions. The total emission reductions of 1,30,610 tCO₂e are achieved by project activity during the 1st monitoring period.</p>
<p>Conclusion <i>Tick the appropriate checkbox</i></p>	<p><input type="checkbox"/> To be checked during the first periodic verification</p> <p><input checked="" type="checkbox"/> Appropriate action was taken</p> <p><input checked="" type="checkbox"/> Project documentation was corrected correspondingly</p> <p><input type="checkbox"/> Additional action should be taken</p> <p><input checked="" type="checkbox"/> The project complies with the requirements</p>

Finding:	4.1.2-4		
Classification	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR

<p>Description of finding Describe the finding in unambiguous style; address the context (e.g. section)</p>	<ol style="list-style-type: none"> 1. In the section 1.2 of the VCS MR version 1^{/MR1/} sectoral scope mentioned does not match with VCS Sectoral Scope name. Also, UNFCCC reference is provided. Please clarify. 2. The language in section 1.3 of the VCS MR version 1^{/MR1/} uses words that imply that the project participant is yet not finalized. Please clarify. 3. In the section 1.8 of the VCS MR^{/MR1/}, the reference of applied methodology- Grid connected renewable electricity generation was found incorrect. 4. Please clarify what does the statement not applicable as there is no deviation taken in the Monitoring plan implies in the section 2.2 of the MR^{/MR1/}.
<p>Corrective Action #1 This section shall be filled by the PP. It shall address the corrective action taken in details.</p>	<ol style="list-style-type: none"> 1. Section 1.2 is corrected by referring the sectoral scope defined by VCS. 2. Grammatical errors in section 1.3 are corrected now. 3. Reference of the applied methodology is now corrected in section 1.8 of final MR. 4. No deviation was taken from the monitoring plan of VCS Validated PD during the 1st monitoring plan. Sentence is rephrased in section 2.2 of final MR.
<p>DOE Assessment #1 The assessment shall encompass all open issues. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</p>	<ol style="list-style-type: none"> 1. Section 1.2 of the revised MR^{/MR2/} includes sectoral scope as defined in VCS Sectoral Scope. The finding is closed. 2. The sentence in section 1.3 of MR^{/MR2/} is rephrased and corrected. As per the VCS validated PD^{/PD/}, the project proponent is Milkfood Limited. The finding is closed. 3. Reference of applied methodology AMS.I.D, Version 16 is found corrected. The finding is closed. 4. Description under section 2.2 is now more clear and transparent, stating that deviations were not taken from the monitoring plan of VCS Validated PD^{/PD/} during the 1st monitoring plan. The finding is closed.
<p>Conclusion Tick the appropriate checkbox</p>	<ul style="list-style-type: none"> <input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

Finding:	4.1.2-5		
Classification	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<ol style="list-style-type: none"> 1. In the section 3.2 most of the information provided under the Description of measurement methods and procedures as well as QA/QC procedures were found written in future tense. However, the information on what was followed during the monitoring period was found missing in the MR^{MR1/}. 2. Serial number of monitoring equipments and their calibration details were found missing the VCS MR Version 01. 3. Internal audit procedure followed during the monitoring period was found missing in section 3.3 of VCS MR/MR1/. Details shall be provided in the MR and records of the same shall be submitted to the DOE. 		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<ol style="list-style-type: none"> 1. Actual procedures followed for monitoring and QA/QC of the monitored data for all parameters are now included in section 3.2 of MR. 2. Serial number of all monitoring equipments and calibration details (energy meters, steam flow meters and temperature/pressure gauge) are now included for respective parameters in section 3.2 of MR. 3. Monthly report of the cogeneration plant performance parameters were submitted to the top management for review and regular internal audits were conducted by the top management in every three months. No, ambiguities/NC were detected during the internal audits. Same is now included in section 3.3 of MR. Internal audit reports and monthly reviewed reports are being submitted along with this submissions. 		

<p>DOE Assessment #1 <i>The assessment shall encompass all open issues. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<ol style="list-style-type: none"> 1. The section 3.2 of MR^{/MR2/} is revised incorporating actual procedures followed for monitoring and QA/QC of the monitored data for all parameters. Section 3.2 is assessed based on on-site interviews/observations^{/MO1/}, verification of various documents i.e. plant log records, calibration records etc.^{/LOG//AUDIT//CAL/} and found in compliance with section 3.3 and 3.4 of validated VCS PD^{/PD/} and AMS.I.C, version 18. The finding is closed. 2. Details about the monitoring equipments i.e. serial number of all monitoring equipments and calibration dates/validity (energy meters, steam flow meters and temperature/pressure gauge) are now included for respective parameters in section 3.2 of revised MR^{/MR2/}. The finding is closed. 3. Details of QA/QC check i.e. information's on Internal audit and monthly review conducted during the 1st monitoring period are found included in section 3.3 of revised MR^{/MR2/}. Evidences of the internal audits and monthly review reports were checked during on-site visit and records of the same^{/AUDIT/} are submitted to verification team. The finding is closed.
<p>Conclusion <i>Tick the appropriate checkbox</i></p>	<p> <input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements </p>

<p>Finding:</p>	<p>4.1.2-6</p>		
<p>Classification</p>	<p><input type="checkbox"/> CAR</p>	<p><input checked="" type="checkbox"/> CL</p>	<p><input type="checkbox"/> FAR</p>
<p>Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p>In the section 3.2 of the VCS MR Version 01, for some of the monitoring parameters e.g. T_{steam,HP,I}, value monitored is found provided for either Project I or II only. For some monitoring parameters e.g. T_{FW} only one value is provided without specifying project I or II. Please clarify.</p>		
<p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>Monitored value for all the parameters (for both Project I and Project II) were included as applicable according to the monitoring plan of VCS PD.</p>		
<p>DOE Assessment #1 <i>The assessment shall encompass all open issues. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>Monitored value for all the parameters are clear and distinguished for among Project I and Project II are included in revised MR^{/MR2/}. All values are checked and confirmed from the plant log records^{/LOG/}. Hence, the raised finding is closed out.</p>		

<p>Conclusion Tick the appropriate checkbox</p>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements
--	--

Finding:	4.1.2-7		
Classification	<input type="checkbox"/> CAR	<input type="checkbox"/> CL	<input checked="" type="checkbox"/> FAR
<p>Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<ol style="list-style-type: none"> The excel sheet with the biomass data has to be provided. The annually monitored values for the NCVs have to be provided in the MR as well as in the excel sheet. 		
<p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<ol style="list-style-type: none"> Since there was no use of biomass data in the calculation of emission reduction, same has not been maintained and provided to DOE. However the total consumption as per the company records has been furnished in the MR. Only once test of NCV has been carried out for both the plants. However since the same has not been used for emission reduction calculation, application of correction factor will not result any change in the amount of emission reduction. 		
<p>DOE Assessment #1 <i>The assessment shall encompass all open issues. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<ol style="list-style-type: none"> Though there is no requirement of biomass data in the emission reduction calculation, it should have been done as per the approved monitoring plan. And accordingly PP is requested to either monitor the biomass data regularly in the future monitoring period or revise the PD. Since, NCV has not been used in the emission reduction calculation and this parameter does not vary a lot with time, the ignorance of NCV test is accepted by the verification team. However again the PP is requested to further monitor the NCV as per the approved monitoring plan for future verification period. 		
<p>Conclusion Tick the appropriate checkbox</p>	<input checked="" type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements		

Final Assessment

The project is found to be implemented and being monitored as described in validated PD^{/PD/}.

4.2 Accuracy of GHG Emission Reduction or Removal Calculations

Description

- The approved CDM baseline and monitoring methodology AMS.I.C, version 18^{/AMS.I.C/} and AMS.I.D version 16^{/AMS.I.D/}, is applied to the project activity. GHG emission reduction is calculated as baseline emission minus project emission minus leakage.
- The formula and emission factor used in the calculations of emission reductions are in accordance to the approved methodology AMS.I.C, version 18^{/AMS.I.C/} and AMS.I.D version 16^{/AMS.I.D/} and Annex 1 of the validated PD^{/PD/}.
- Baseline emission is sum of net electricity delivered and thermal energy generation by the VCS project activity to the milk processing units for their captive consumptions and multiplied with respective emission factor (EF), in compliance with AMS.I.C, version 18^{/AMS.I.C/} and AMS.I.D version 16^{/AMS.I.D/}. EF is calculated *ex-ante* as 0.84 tCO₂e/MWh and 95.81 tCO₂/ TJ for electricity and coal respectively.
- As referred in section 3.2, the calibration frequency is defined as once in three year. The calibration certificates of all the equipments were checked and calibrations & testing were found to be conducted at the time of installations.
- The plant log records^{/LOG/} was found to be of adequate quality.
- The outage detail during the monitoring period was also checked^{/BR/} and is found to be appropriately recorded.
- Verification team has checked the value of enthalpy of superheated steam form standard Mollier Chart (Steam Table) and found correct.
- The set of calculations for the actual emission reduction of the 1st verification period (2009-05-06 to 2011-05-31 (incl. both days) are transparently computed and presented in the spread sheet of VER calculation^{/XLS/} with the reference sources of data. A correct and appropriate emission factors in accordance validated PD^{/PD/} is applied. The sources of project specific net electrical energy generation data and thermal energy calculations (based on quantity and quality of steam) were checked^{/LOG/AUDIT/} and found to be correctly applied.

Related Findings

- No CARs, CLs or FARs have been identified in this context
- The following finding have been addressed:

Finding:	4.2-1		
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR

<p>Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p>Emission reduction calculation sheet is not submitted by the PP. The same including monitoring data of each monitoring parameter is required for the verification.</p>
<p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>Emission reduction calculation spreadsheet with daily consolidated monitored data is now submitted for your perusal.</p>
<p>DOE Assessment #1 <i>The assessment shall encompass all open issues. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>The ER calculation spreadsheet^{/XLS/} including monitoring data of each monitoring parameter during 1st verification is well prepared and formulas/algorithms are provided and calculations of intermediate parameters is completely traceable in calculation spreadsheet and hence the raised finding is closed out.</p>
<p>Conclusion <i>Tick the appropriate checkbox</i></p>	<p> <input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements </p>

Finding:	4.2-2		
<p>Classification</p>	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR
<p>Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<ol style="list-style-type: none"> 1. Values of baseline emissions as given in the section 4.1 of the VCS MR version 01 are exactly matching with the ex ante values provided in the approved VCS PD^{/PD/}. Please clarify is these values based on monitoring data. 2. PI clarifies what is meant by a Total Baseline Emission Reduction mentioned in the section 4.1 of the VCS MR^{/MR1/}. 3. As per the section 4.2 of the VCS MR version 1, for ex-post calculation, project emission (in case of coal used as a fuel in stand by boiler) will be calculated and for the ex-ante estimation, project emission from this source is taken as zero. Please clearly state if there was any project emission during the monitoring period under consideration. 		

<p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<ol style="list-style-type: none"> 1. Baseline emission calculations in section 4.1 of MR are now represented as per actual monitored data obtained during the 1st monitoring period. Emission reduction calculation spreadsheet with daily consolidated monitored data is now submitted for your perusal. 2. Proper correction has been done in section 4.1 of the final MR 3. During 1st monitoring period, no anthropogenic emissions by sources of greenhouse gases within the project boundary are identified. Coal fired boiler at project I was scrapped out and DG sets were not used specifically for the project activity I and Project activity II.
<p>DOE Assessment #1 <i>The assessment shall encompass all open issues. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<ol style="list-style-type: none"> 1. As per interviewed with PP^{/IM01/}, a wrong version draft monitoring report^{/MR1/} contained the data for all monitoring parameters ex-ante as represented in VCS PD^{/PD/} mistakenly submitted to verification team. A revised MR^{/MR2/} and related monitoring data and spreadsheets were submitted and assessed based on the supportive documents i.e. plant log records, calibration records etc.^{/LOG/CAL/}. Verification team has checked the calculation and information flow in the ER calculation sheets^{/XLS/} and found calculated correctly in-line with AMS.I.C, version 18 and section 4 of validated VCS PD^{/PD/}. The finding is closed. 2. Sentence id rephrased and corrected in section 4.1 of the revised MR^{/MR2/}. The finding is closed. 3. Verification team has interviewed with the operation and maintenance team^{/IM01/} and confirms that, situation which leads to complete blackout (non-availability of electricity from project activity co-generation plants as well from grid supply to the boiler and power house) were not arised, hence, it was ensure that DG sets were not operated during entire 1st monitoring period. Also, verification team has checked the plant log records^{/LOG/} for the same. In addition to this, based on on-site assessment and interviews^{/IM01/}, coal based boiler was scrapped and no more in used. Thus, fossil fuels leads to anthropogenic emissions of greenhouse gases within the project boundary were identified. Hence, the finding is closed.
<p>Conclusion <i>Tick the appropriate checkbox</i></p>	<ul style="list-style-type: none"> <input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

Final Assessment

The emission reduction spread sheet is transparent and clearly referenced. The excel sheets were rigorously cross checked with the archived monitored data and no discrepancies were found. All the formulae have been found to be correctly applied in the emission reduction calculations. Thus, the verification team is confident that the ER calculation is correct and accurate.

4.3 Quality of Evidence to Determine GHG Emission Reductions or Removals

Description

- Several documents were submitted by the project proponent as evidence to determine emission reductions which form apart of Annex 2.
- All third party calibration reports are also found valid in the current verification period. These documents were verified through site visit interviews^{/IM01//IM02/} and found to be authentic.
- Furthermore competent employees are recruited, who are found knowledgeable not only about the plant operations but also ensuring the quality of the data and recording and maintaining^{/IM01/}.
- The verification team finds the quality to be of adequate level to assure confidence in the accurate quantification of the emission reductions.

Related Findings

- No CARs, CLs or FARs have been identified in this context
- The following finding(s) have been addressed:

Final Assessment

Documents used as evidences for input values of ER calculation were assessed and found to be reliable and authentic. The verification team concludes that the evidence and the data are of an acceptable level of quality.

4.4 Management and Operational System

Description

- During the verification site visit it was found that the operational structure is in operation as stated in the monitoring plan of the VCS PD^{/PD/} and the monitoring report^{/MR1//MR2/}.
- Moreover the competent staff is employed to ensure the data quality as discussed in section 4.3.
- An operational structure is established with responsibilities identified. Personnel are also undergone training as against the identified requirements^{/TRG/}.
- Data collection, measurement, calibration, recording and archiving was found to be carried out as per the monitoring plan as described in section 3.3 and 3.4 of validated PD^{/PD/}.
- The monthly review reports and internal audit reports are being submitted to the top management for their feedback.
- The verification team is satisfied with the management and operational system.

Related Findings

- No CARs, CLs or FARs have been identified in this context
- The following finding(s) have been addressed:

Final Assessment

An organogram describing the hierarchy of management and operation system related to the project activity GHG monitoring and QA/QC has been included and no other discrepancy was identified from the designed management and operation system as described in the validated PD^{/PD/}. The monitoring report^{/MR2/} clearly describes the management and operational system for the current monitoring period.

5 VERIFICATION CONCLUSION

The conclusions can be summarised as follows:

- All operations of the project are implemented and installed as planned and described in the validated project description^{/PD/} and project activity confirms with the verification criteria for project and their GHG emission reductions or removals set out in the VCS rules i.e. VCS 2007.1 and VCS version 03.
- The monitoring plan is in accordance with the applied approved methodology, i.e., AMS.I.C version 18^{/AMS.I.C/} and AMS.I.D version 16^{/AMS.I.D/} and monitoring plan as sought out in section 3.3 and 3.4 of validated project description^{/PD/}.
- The installed equipments essential for measuring parameters (quality and quantity of steam and energy meters) required for calculating emission reductions are calibrated appropriately.
- The monitoring system is in place and functional. The project has generated verifiable GHG emission reductions.

As the result of the 1st periodic verification, the verifier confirms that the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner. TÜV NORD JI/CDM CP herewith confirms that the project has achieved emission reductions in the above mentioned reporting period as follows.

Reporting period: From 2009-05-06 to 2011-05-31 (incl. both days)

Verified GHG emission reductions or removals in the above reporting period:

GHG Emission Reductions or Removals	tCO ₂ e
Baseline Emissions	130,610
Project Emissions	0
Leakage	0
Net GHG emission reductions or removals	130,610

Annex 1

VERIFICATION STATEMENT

Milkfood Limited has commissioned the TÜV NORD JI/CDM Certification Program to carry out the first periodic verification of the project “1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milk food Limited (MFL) in Patiala (Punjab) & Moradabad (U.P) Districts”, with regard to the relevant requirements of VCS standard version 03.

The VCS project undertaken is a bundle of two cogeneration plants of capacity 1.0 MW (with 14TPH steam generation) and 0.6 MW ((with 12 TPH steam generation) located at Bahadurgarh, Patiala in the state of Punjab and Mugalpur, Moradabad in the state of Uttar Pradesh respectively in India. The project activity involves utilization of rice husk (renewable biomass) available in the regions for thermal and electrical power generation for captive consumption, thereby reducing the baseline emissions.

Reporting period: From 2009-05-06 to 2011-05-31 (incl. both days)

In the course of the verification three (03) Corrective Action Requests (CARs) and four (04) Clarification Request (CLs) were raised and successfully closed and Two (02) Forward Action Requests (FARs) will be verified during each periodic verifications.

The verification is based on the draft monitoring report^{/MR1/}, revised monitoring report^{/MR2/}, emission reduction calculation spreadsheet^{/XLS/}, the monitoring plan as set out in the validated PD^{/PD/}, the validation report^{/VAL/}, and supporting documents^{/LOG//CAL//TRG//AUDIT/} made available to the TÜV NORD JI/CDM CP by the project participant.

In detail the conclusions can be summarised as follows:

- All operations of the project are implemented and installed as planned and described in the validated project description^{/PD/} and project activity confirms with the verification criteria for project and their GHG emission reductions or removals set out in the VCS rules i.e. VCS 2007.1 and VCS version 03.
- The monitoring plan is in accordance with the applied approved methodology, i.e. AMS.I.C version 18^{/AMS.I.C/} and AMS.I.D version 16^{/AMS.I.D/} and monitoring plan as sought out in section 3.3 and 3.4 of validated project description^{/PD/}.
- The installed equipments essential for measuring parameters (quantity and quality of steam as well energy meters) required for calculating emission reductions are calibrated appropriately.
- The monitoring system is in place and functional. The project has generated verifiable GHG emission reductions.

As the result of the 1st periodic verification, the verifier confirms that the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner. TÜV NORD JI/CDM CP herewith confirms that the project has achieved emission reductions in the above mentioned reporting period (2009-05-06 to 2011-05-31, incl. both days) as follows:

Year 2009: 40931 t CO2 equivalent

Year 2010: 65258 t CO2 equivalent

Year 2011: 24421 t CO2 equivalent

Total Emission reductions 130610 t CO2 equivalents

New Delhi, 2011-12-14



Abhishek Kumar Srivastava
TUV India Pvt. Ltd.
Verification Team Leader

Essen, 2011-12-14



Ingo Klein
TÜV NORD JI/CDM Certification Program
Final Approval

Annex 2

Table: Annex 2.1: Documents provided by the project participant

Reference	Document
/AUDIT/	<ol style="list-style-type: none"> 1. Monthly review report 2. Internal audit reports
/BEFF/	<ol style="list-style-type: none"> 1. Third party engineering certificate from Industrial Boilers Limited showing the coal fired boiler's thermal efficiency, dated 2010-12-20. 2. Techno-commercial offer for supply of 14 TPH, 45Kg/cm² pressure, 440±10°C SH for coal fired and rice husk based boiler from Cheema Boilers Limited, dated 2007-02-15.
/BIO/	<ol style="list-style-type: none"> 1. Proof of use of renewable biomass –rice husk (Invoices and receipts of purchasing of rice husk) 2. Biomass assessment report based on survey conducted by third party i.e. Advance Energy System in Tehsil Muradabad, Uttar Pradesh during March 2009. 3. Biomass assessment report based on survey conducted by third party i.e. Advance Energy System in state of Punjab during March 2009. 4. Statement showing the custom Milled Rice up to 2010-03-31 to 2010-07-31 in district Patiala (Punjab), issued by District Manager, Punjab State Civil Supplies Corporation Limited.
/BR/	Breakdown / Outage detail records
/CAL/	<ol style="list-style-type: none"> 1. List of calibrated instrument installed in Boiler and Turbo-generator. 2. Calibration certificate of following monitoring equipments: <ol style="list-style-type: none"> I. Pressure sensor for project 1 dated 2011-04-12 II. Pressure sensor for project 2 dated 2011-06-01 III. Energy meter for project1 dated 2011-04-23. IV. Energy meter for project2 dated 2011-06-01 V. Steam flow meter project 1 dated 2011-04-11 VI. Steam flow meter project 2 dated 2011-06-01 VII. Temperature controller project 1 dated 2011-04-13 VIII. Temperature controller project 2 dated 2011-06-01 IX. Weighbridge for project 1 dated 2011-04-26 X. Weighbridge for project 2 dated 2011-02-24
/CC/	<p><u>(Project activity-I).</u></p> <ol style="list-style-type: none"> 1. Commissioning certificates of project activity 14 TPH, 45 kg/cm² Fluidized bed Combustion Boiler commissioned on 2009-05-06 at Milkfood Limited, Patiala, issued by M/s Cheema Boilers Pvt. Ltd. Dated 2009-05-11. <p><u>(Project activity-II).</u></p>

Reference	Document
	2. Commissioning certificates of project activity 12 TPH, 32 kg/cm ² Fluidized bed Combustion Boiler commissioned on 2009-06-04 at Milkfood Limited, Muradabad, issued by M/s Cheema Boilers Pvt. Ltd. Dated 2009-06-08.
/CON/	The signed contract between TUV NORD Cert GmbH and Milkfood Limited for carrying out VCS validation and first periodic verification of the proposed project activity.
/LOG/	Data Log Registers
/LSC/	Stakeholder consultation process evidences: <ol style="list-style-type: none"> 1. News paper Invitation dated 2009-07-17. 2. Attendance records of stakeholder's meeting held at Milkfood Limited, Bahadurgarh Patiala on dated 2009-07-27. 3. Attendance records of stakeholder's meeting held at Milkfood Limited, Muradabad on dated 2009-07-30. 4. Minutes of stakeholder's meeting 5. Photographs of Stakeholder consultation process
/MD/	Extract of Minutes of Meeting of Board of Director (BOD) held on 2007-06-06 at Nehru Place, New Delhi for the discussions of Husk fired boiler and steam turbine (Cogeneration Unit) at Muradabad and Patiala Plant.
/MR1/	Draft monitoring report entitled "1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milkfood Limited in Patiala (Punjab) & Moradabad (U.P) Districts, version 01, dated 2011-08-04.
/MR2/	Final monitoring report entitled "1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milkfood Limited in Patiala (Punjab) & Moradabad (U.P) Districts, version 02, dated 2011-12-08
/OFFER/	Techno-commercial offer for supply of 14 TPH, 45Kg/cm ² pressure, 440±10°C SH for coal fired and rice husk based boiler from Cheema Boilers Limited, dated 2007-02-15.

Reference	Document
/PD/	Project document entitled "1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milkfood Limited in Patiala (Punjab) & Moradabad (U.P) Districts, version 02, dated 2011-03-15.
/PFR/	Project feasibility report for Installation of Biomass based cogeneration Unit at Muradabad Plant and Patiala Plant prepared by by third party i.e. Advance Energy System during March 2007.
/PHOTO/	Photos of all project activity monitoring equipments
/PLF/	<ol style="list-style-type: none"> 1. Third party chartered engineer certificate (Ref. No. NK/MF/CE/0510/02) stating the Plant load factor and working life of 1.0 MW turbo generator at Bhadurgarh plant, dated 2010-05-18 (Project activity-I). 2. Third party chartered engineer certificate (Ref. No. NK/MF/CE/0510/01) stating the Plant load factor and working life of 0.6 MW turbo generator at Moradabad Plant, dated 2010-05-18 (Project activity-II).
/PO/	<ol style="list-style-type: none"> 1. Purchase order issued to M/s Cheema Boilers Pvt. Ltd. Dated 2007-07-10 for supply of 14TPH, 45 Kg/cm² FBC rice husk boiler. 2. Purchase order issued to M/s Industrial Boiler Ltd. Dated 2007-07-25 for supply of 12TPH, 32 Kg/cm² FBC rice husk boiler. 3. Purchase order issued to M/s I.B. Turbo Pvt. Ltd. For supply of back pressure turbine dated 2007-07-25. 4. Purchase order issued to Pentagon Turbines Pvt. Ltd. For supply of 1MW back pressure turbine dated 2007-08-16.
/PT/	Certificate of Incorporation No. 6545/1972-73 issued by Registrar of Companies issued on 1973-03-31
/PT/	Certificate of incorporation of the project proponent i.e. Milkfood Limited under companies act 1956, issued by Registrar of Companies.
/SC/	<ol style="list-style-type: none"> 1. Boiler inspection certificate issued from Director of Boiler, Punjab, valid for the period from 2009-07-17 to 2010-07-15. 2. Consent to operate under section 21 of Air (Prevention and Control of Pollution) Act 1981, dated 2008-04-27 issued by Punjab Pollution Control Board. 3. Electrical safety certificate dated 2008-05-30 issued by Assistant Director, Electrical Safety, U.P. 4. Consent to operate under section 21 of Air (Prevention and Control of Pollution) Act 1981 and Water act 1974, dated 2008-04-21 issued by U.P. Pollution Control Board.

Reference	Document
/SD/	Proof of start date of the project: Purchase order issued to M/s Cheema Boilers Pvt. Ltd. Dated 2007-07-10 for supply of 14TPH, 45 Kg/cm ² FBC rice husk boiler.
/TD/	<ol style="list-style-type: none"> 1. Purchase order issued to M/s Cheema Boilers Pvt. Ltd. Dated 2007-07-10 for supply of 14TPH, 45 Kg/cm² FBC rice husk boiler. 2. Purchase order issued to M/s Industrial Boiler Ltd. Dated 2007-07-25 for supply of 12TPH, 32 Kg/cm² FBC rice husk boiler.
/TR/	Test report of Net Calorific Value (Kcal/Kg) of rice husk conducted by third party i.e. Delhi Test House, dated 2010-06-02.
/TRG/	Training Records
/UND/	<ol style="list-style-type: none"> 1. A certificate of undertaking stating that the proposed project activity does not involve any O.D.A. (Official Development Assistance) Funds, dated 2009-09-30. 2. Undertaking by the PP stating that project is not rejected under any other GHG programs 3. Undertaking by the PP stating that project has not created another form of environment credit
/VAL/	Validation report (Report No. 8107526922–11/67), dated 2011-05-03 issued by the TÜV NORD CERT GmbH
/XLS/	Initial Emission reduction calculation spread sheet provided by the project participant , dated 2011-08-14.

Table: Annex 2.2: Background investigation and assessment documents

Reference	Document
/AMS.I.C/	Thermal Energy production with or without electricity , Version 18
/AMS.I.D/	Grid connected renewable electricity generation, Version 16.
/BEE/	Chapter 1 Fuels and combustion, Book 2 of Bureau of Energy Efficiency

Reference	Document
/CPM/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)
/GCP/	UNFCCC: Guidelines for completing CDM-PDD and CDM-NM
/IPCC-GP/	IPCC Good Practice Guidance & Uncertainty Management in National Greenhouse Gas Inventories, 2000
/IPPC-RM/	Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual
/ISO 14064/	<p>Greenhouse gases -- Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals</p> <p>Greenhouse gases -- Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements</p> <p>Greenhouse gases -- Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions</p>
/ISO14065/	Greenhouse gases -- Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition
/KP/	Kyoto Protocol (1997)
/MA/	Decision 3/CMP. 1 (Marrakesh – Accords & Annex to decision (17/CP.7))
/TA/	Tool for the demonstration and assessment of additionality (Ver. 4 – Ver. 5.2).
/VVM/	Validation and Verification Manual (Version 1.1, Annex 3; EB 51)
/VDS-PD-T/	VCS PD Template

Reference	Document
/VCS/	Voluntary Carbon Standard 2007.1

Table: Annex 2.3: Websites used

Reference	Link	Organisation
/dna-i/	http://www.cdmindia.nic.in/	National CDM Authority (DNA of India)
/cd4cdm/	www.cd4cdm.org	UNEP Riso Centre
/cheema/	http://www.cheemaboilers.com/	Cheema Boilers Limited
/dth/	http://www.delhitesthouse.com/	Delhi Test House (Laboratory)
/ibl/	http://www.indboilers.com/	Industrial boilers Limited
/mfl/	http://www.milkfoodltd.com/	Milkfood Limited
/gzdt/	http://www.gov.cn/gzdt/2005-12/30/content_142048.htm	Guiding List on Energy Industry Restructure
/ipcc/	www.ipcc-nggip.iges.or.jp	IPCC publications
/natcom/	http://www.natcomindia.org/natcomreport.htm	India's National Communication to UNFCCC
/punsup/	http://punsup.gov.in/	Punjab State Civil Supplies Corporation Limited
/unfccc/	http://cdm.unfccc.int	UNFCCC

Table: Annex 2.4:

Reference	Mol ¹		Name	Organisation / Function
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Amar Baljeet Singh	Vice President, Milkfood Limited
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	R. Sapra	Finance President, Milkfood Limited
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Sudheer Awasthi	Finance, Director, Milkfood Limited
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	B.M. Katyal	G.M. Commercial, Milkfood Limited
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Sanjay Kothjala	G.M. Accounts, Milkfood Limited
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Bharat Bhushan	Vice President, Milkfood Limited Moradabad
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Manjeet Singh	Boiler Attendant, Milkfood Limited, Patiala
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Amrit Singh	Turbine Operator, Milkfood Limited, Patiala
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Surendar Pandey	A.F. Boiler Milkfood Limited, Muradabad
/IM02/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Rahul Sami	Biomass Supplier
/IM02/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Sukhwinder Singh	Biomass Supplier

1) Means of Interview: (Telephone, E-Mail, Visit)