



VOLUNTARY CARBON STANDARD 2007.1

VERIFICATION REPORT

**CHEMICAL RECOVERY PROJECT AT SATIA
INDUSTRIES LTD. (SIL), FORMERLY KNOWN AS
SATIA PAPER MILLS LIMITED VILLAGE RUPANA,
PUNJAB .**

**Monitoring Period: 2006-03-28 to 2008-10-31
(incl. both days)**

Report No: 53216608-08/474

Date: 2010-01-27

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

Name of Verification company:	Date of the issue:
TÜV NORD CERT GmbH	2010-01-27
Report Title:	Approved by:
Chemical Recovery project at Satia Industries Ltd. (SIL), formerly known as Satia Paper Mills Limited village Rupana, Punjab.	Rainer Winter
Client:	Project Title:
Satia Industries Ltd.	Chemical Recovery project at Satia Industries Ltd. (SIL), formerly known as Satia Paper Mills Limited village Rupana, Punjab.
Summary:	
The verification statement will be provided as part of the final verification report. Satia Industries Limited has commissioned the TÜV NORD JI / CDM Certification Program to carry out the verification of the Project "Chemical Recovery project at Satia Industries Ltd. (SIL), formerly known as Satia Paper Mills Limited village Rupana, Punjab" in Punjab, India with regard to the requirements of VCS 2007.1 Standard. The project activity involves < The purpose of this project activity is to recover Soda and utilize the same in the industry and compensate the soda purchase from the open market in the baseline. This project activity also resulted in recycling of white liquor used in the paper industry.>. Reporting period: From 28-03-2006 to 31-10-2008 In the course of the verification 3 Corrective Action Requests (CARs) were successfully closed. The verification is based on the draft monitoring report, revised monitoring report, the monitoring plan as set out in the validated PD, the validation report, emission reduction calculation spreadsheet and supporting documents 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 as follows:

Period	Emissions Reductions tCO2
March 06–December 06	14278
January07–December 07	22665
January08–October 08	19377
Total	56319

Emission reductions 56319 t CO2 equivalents

Work carried out by:	Number of pages:
Mr. Archak Pattanaik Mr. Pankaj Mohan Mr. Prakash Kumar Mishra Ms. Arshi Vimal Mr. Manoj Kumar Borekar	29

Abbreviations

BAU	Business as usual
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CO₂	Carbon dioxide
CO_{2e}	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
MP	Monitoring Plan
MR	Monitoring Report
QC/QA	Quality control/Quality assurance
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Voluntary Carbon Standard
VCS - PD	VCS - Project Description
VCU	Voluntary Carbon Unit
VVM	Validation and Verification Manual

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1 INTRODUCTION

The client M/s Satia Industries Limited has commissioned the TÜV NORD JI/CDM Certification Program to carry out the verification of the project:

“Chemical Recovery project at Satia Industries Ltd. (SIL), formerly known as Satia Paper Mills Limited village Rupana, Punjab”

with regard to the relevant requirements of the Voluntary Carbon Standard 2007.1^{/VCS/}. The verifiers have reviewed the implementation of the monitoring plan (MP) in the registered VCS project for the monitoring period 2006-03-28 to 2008-10-31,

The applied monitoring methodology is AMS III.M /Version 02: “Reduction in Consumption of Electricity by Recovering Soda from Paper Manufacturing Process.”

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 design document;
- to assess the implementation of the monitoring plan (MP) content in the VCS-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 design document^{/VCS-PD/}, the monitoring report^{/MR/}, emission reduction calculation spread sheet^{/XLS/}, supporting documents made available to the verifier and information collected

through performing interviews 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 VCS Project Description

1.3.1 Project Characteristics

Essential data of the project is presented in the following Table 1-1.

Table 1-1: Project Characteristics

Item	Data
Project title	Chemical Recovery project at Satia Industries Ltd. (SIL), formerly known as Satia Paper Mills Limited village Rupana, Punjab
Project owner	SATIA INDUSTRIES LIMITED
Any specific project categories	☐ Mega project ($> 10^6$ t CO _{2eq} / a) ☒ Micro project (< 5000 t CO _{2eq} / a) ☐ AFOLU project ☐ Grouped project ☐ No specific project category
VCS PD dated	Draft: 2009-07-21 Final: 2009-11-16
Applied Methodology	AMS III M Version 2
Project starting date	2006-03-02
Crediting period	☐ Renewable Crediting Period (7 y) ☒ Fixed Crediting Period (10 y)
Start of crediting period	2006-03-28

1.3.2 Project Location

The details of the project location are given in table 1-2:

Table 1-2: Project Location

No.	Project Location
Host Country	India
Region:	Punjab
Project location address:	SIL at Rupana village in Muktsar district in Punjab.
Latitude:	30° 28'43" North
Longitude:	74° 31'22" East

1.3.3 Technical Project Description

SIL is one of the leading integrated paper manufacturing unit in Punjab with daily production of 130 Tons per day (TPD) of paper. SIL, being an environmentally concerned organization has always been on the look out for protecting the environment from degradation. Thus the

proponent commissioned a chemical recovery plant in SIL's plant premises at Muktsar, Punjab with the ultimate objective to reduce the GHG emissions in the atmosphere.

The purpose of the project activity is to recover the caustic soda from waste black liquor generated at the pulping stage of the paper manufacturing process. Since the electricity consumption for the process of recovery of 1 tonne of soda is much lesser than that consumed in the production of fresh stock of soda.

The project would help curb the GHG emissions into the atmosphere. The electricity consumed at project activity is generated inhouse from biomass based power project.

The key parameters of the project are given in table 1-3:

Table 1-3a: Technical data of the project

Parameter	Unit	Value
Capacity	Ton/day	35
Annual working days	Days	330
Total Annual production	Ton/year	11550
Total Power Consumption	kWh/ton	800
Lime Requirement	Ton/Ton	1.50
FO consumption	Ton/Ton	0.2
Excess Steam Requirement	Ton/Ton	1.4

Table 1-3b: Parameters confirmed during verification

Parameter	Name	Unit	Value
Quantity of Soda recovered	Qsodarecovered	tons	7699, 11779, 10063
Quantity of fossil fuel consumed for thermal energy	Qffy	tons	549, 628, 457
Electricity consumed in producing soda by recovery process	Ept	kWh	5297906, 7213002, 5953494
Annual Electricity consumed by soda manufacturers	Ebt (ex-post)	kWh	2587, 2603, 2607
Quantity of Residues Produced by the Plant	Qresidue	tons	8445, 14745, 13404

1.3.4 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 1-4 below.

Table 1-4: Involved Personnel

	Name	Company	Function ¹⁾	Qualification Status ²⁾	Sectoral competence	Technical competence ⁴⁾	Host country Competence	Team Leading competence
☒ Mr. ☐ Ms.	Archak Pattanaik	TUV India	TL	A	☒		☒	☒
☒ Mr. ☐ Ms.	Pankaj Mohan	TUV India	TM	A	☒		☒	☒
☒ Mr. ☐ Ms.	Manoj Kumar Borekar	TUV India	TM	TE	☒	AE	☒	☒
☒ Mr. ☐ Ms.	Prakash Kumar Mishra	TUV India	TM	E	☒		☒	☐
☐ Mr. ☒ Ms.	Arshi Vimal	TUV India	TM	T	☐		☒	☐
☒ Mr. ☐ Ms.	Robert Cheong	TUV Malaysia	TR ³⁾	A	☒	AE	☐	☒
☒ Mr. ☐ Ms.	Samir Beqqal	TUV Nord Cert	TR ³⁾	E	☒		☐	☐
☒ Mr. ☐ Ms.	Rainer Winter	TUV Nord Cert	FA	SA	☒		☐	☒

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

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

³⁾ No team member

⁴⁾ As per S01-MU03 or S01-VA070 A2 (such as A, B, C.....)

1.4 Level of Assurance

The verification has been planned and organized to achieve a

☒ reasonable level of assurance

☐ limited level of assurance.

2 METHODOLOGY

The verification of the project consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers
- Publication of the monitoring report
- Desk review of the Monitoring Report^{/MR/} 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.

The sequence of the verification is given in the table 2.1 below:

Table 2.1: Verification sequence

Topic	Time
Assignment of verification	2008-11-10
On-site visit	2009-07-26 to 2009-07-28
Draft reporting finalised	2009-09-09
Technical review on draft reporting finalised	2009-09-10
Final reporting finalised	2010-02-01
Technical review on final reporting finalised	2010-09-16
Final corrections	-

The main verification steps are described below.

2.1 Review of Project Documentation

The VCS PD ^{/PD/} and supporting background documents related to the project design and baseline were reviewed.

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 section 5.

2.2 On-Site Assessment

2.2.1 Review of Performance Records

During The site visit by the verification team the calibration records of the flow meters, Electricity meters installed at site were verified and found that the monitoring period from 28-03-2006 to 31-10-2008 is covered by the calibration records. The log sheets and electricity bills are also properly maintained by the project proponent as checked by the verification team. The verification team also took the copies of calibration certificates, electricity bills, purchase orders of the equipments, baseline data records, log sheets and physically checked the project boundary as well. The records were found to be satisfactory.

2.2.2 Follow-up 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.

During verification the verification team has performed interviews to confirm selected information and to resolve issues identified in the document review. The main topics of the interviews are summarized in Table 2-2.

Table 2-2: Interviewed persons and interview topics

Interviewed Persons / Entities	Interview topics
Project proponent representatives Project consultant	- General aspects of the project - Technical equipment and operation - Changes since validation - Monitoring and measurement equipment - Remaining issues from validation / previous verifications - Calibration procedures - Quality management system

Interviewed Persons / Entities	Interview topics
	- 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 calculation - Procedural aspects of the verification - Maintenance - Environmental aspects - Editorial issues of the Monitoring Report -

A comprehensive list of all interviewed persons is part of section 5 'References'.#

2.2.3 Collection of Measurements

The metering arrangement for the project activity is systematic and operating at the site;

a) The monitoring system of the electricity consumed - is achieved by way of the calibrated meters . The metering equipment is maintained in accordance with the electricity standards and is calibrated annually. The Meter Readings taken at this metering system for each month as well whole monitoring period.

b) The monitoring system of Flow - is achieved through the calibrated meters installed at site along with data acquisition system(DAS). This is recorded in the log books and reporting is done on the daily / monthly basis. The meter is providing the flow data of machines, monitored as a real-time entity. DAS provides a snapshot of the daily/monthly flow, as metered at the project site. The log book monitoring and calibrated meters provides a back-up (fail safe measure) in case the monitoring is not carried out or fails to function through DAS.

2.2.4 Observation of established practices and testing of the accuracy of monitoring equipment

The established practice is that the project proponent is recording the data from the calibrated meters in the log book as observed during the site visit by the verification team. The accuracy of monitoring / measuring equipments installed at site were checked by checking the calibration certificates and obtaining the copies of the same.

2.3 Determination of the reductions in GHG emissions

The emission reductions are calculated on the basis of the meter readings at the project location. The electrical meters are locked and thus are tamper free. In order to ensure the highest levels of accuracy the monitoring instruments are calibrated yearly as per the manufacturers' specifications. Other than this, several documents were submitted by the project participant as evidence to determine emission reductions and to cross check the values. These values were cross checked and the verification team is satisfied with the quality of the evidence used to determine emission reductions. All the evidences are also listed in Appendix 5 as well.

2.4 Review of additional data from other sources if appropriate

IPCC 2006 data was used to calculate the Emission factor of the Furnace Oil.

2.5 Review of monitoring results and verification of the correct application of monitoring methodologies

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.

2.6 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 3 of this report.

3 VERIFICATION FINDINGS

In this section the assessments and findings from the desk review of the VCS PD, site visit, interviews and supporting documents as well as the final assessments are summarised. Table 3-1 includes an overview of all raised CARs, CLs and FARs.

Table 3-1: Overview of CARs, CLs and FARs issued

No.	Topic / Chapter	CAR	CL	FAR
3.1	Remaining issues, including any material discrepancy	-	-	-
3.2	Project implementation	1	-	-
3.3	Completeness of monitoring	1	-	-
3.4	Accuracy of emission reduction calculations	1	-	-
3.5	Quality of evidence to determine emission reductions	-	-	-
3.6	Management and operational system	-	-	-
-	SUM	3	0	0

3.1 Remaining issues, including any material discrepancy, from previous validation

Description

There are no remaining issues from the validation. This was checked from the validation report and final validated PD. Also this is the first verification.

[The discussion, findings and conclusion regarding the remaining issues from the validation/determination stage of the project should be summarised in this section.]

Related Findings

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

Final Assessment

There are no remaining issues from the validation. This was checked from the validation report and final validated PD. Also this is the first verification.

☐ ...

3.2 Project implementation

SIL is one of the leading integrated paper manufacturing unit in Punjab with daily production of 130 Tons per day (TPD) of paper.

The purpose of the project activity is to recover the caustic soda from waste black liquor generated at the pulping stage of the paper manufacturing process. Since the electricity consumption for the process of recovery of 1 tonne of soda is much lesser than that consumed in the production of fresh stock of soda.

The project has been implemented as described in the validated VCS Project Description^{/PD/}. However certain corrections were found in the actual project and the monitoring plan of the validated VCS PD^{/PD/}. This has been described in CAR 3.2-1. The PP made necessary correction hence the CAR was successfully closed.

[The discussion, findings and conclusion regarding the conformity of the actual project activity with the registered project design document should be summarised in this section.]

Related Findings

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

Finding:	3.2-1		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	A consolidated CAR has been raised for Project implementation. The Project details mention 130-150 tons of paper manufacturing but it is not as per the specifications and the pollution control board certificates checked during the site visit. Please justify and correct the same. As per the MR version 1 page number 3 the project diagram shown is not as checked during the site visit by the verifier. The lime mud is added as per the diagram this will result in some project emissions, Please Justify and correct the same.		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The plant capacity of paper manufacturing is 130 tons as per the PPCB certificates submitted to DoE during validation. Necessary changes have been incorporated in the revised Monitoring report (Version 2). The lime mud is a residue of the causticizing process, where the fresh lime is converted to lime mud (CaCO₃). Necessary changes have been made in project diagram in the revised Monitoring Plan (Version2). submitted to DoE during validation. Necessary changes have been incorporated in the revised Monitoring report (Version 2). The lime mud is a residue of the causticizing process, where the fresh lime is converted to lime mud (CaCO₃). Necessary changes have been made in project diagram in the revised Monitoring Plan (Version2).		
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>	The DOE has checked that the amount of paper, manufactured is corrected by PP in the revised Monitoring Report^{/MR2/}. PP has also corrected the diagram in the revised Monitoring Report^{/MR2/} now the diagram is showing lime mud as a residue coming out of the process.		
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the first periodic verification ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The project complies with the requirements		

Final Assessment

The project has been implemented as described in the validated VCS Project Description^{/PD/}. However certain corrections were found in the actual project monitoring report and the monitoring plan of the validated VCS PD^{/PD/}. This has been

described in CAR 3.2-1. The PP made necessary corrections in the monitoring report and this was found to be in accordance with the physical verification during site visit hence the CAR 3.2-1 was successfully closed.



3.3 Completeness of monitoring

The monitoring report^{/MR1/MR2/} has outlined the monitoring of the project over the period (28/03/2006 to 31/10/2008). The submitted monitoring report^{/MR1/MR2/} which forms the basis of the verification was prepared by summarizing consolidated data over the whole monitoring period in accordance with the monitoring plan of the validated VCS PD^{/PD/}. The report is in line with the requirements of the monitoring plan of the validated VCS PD^{/PD/} as well as with the applied methodology AMS III.M., Version 02^{/AMS.III.M/}.

The verification team has found that the start date of the crediting period is not as per the VCS guidelines in the Monitoring Report^{/MR1/}. Nevertheless the following CAR 3.3-1 was raised, and subsequently closed.

[The discussion, findings and conclusion regarding correct application of the monitoring methodologies and the completeness of the monitoring should be summarised in this section.]

Related Findings

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

Finding:	3.3-1		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The Start date of crediting period mentioned in MR is not as per VCS Guidelines. This is mentioned as 02-03-2006 on page 1, page 5, and page 12 of monitoring report version 1.		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The start date of the crediting period is 28th March 2006 as per the earliest Project Crediting Period Start Date under the VCS 2007.1 guidelines. The revised Monitoring Report (Version 2) has been updated with the correct VCS crediting date.		

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>	The DOE has checked that the Start Date of crediting period has been corrected every where in the Revised monitoring Plan/MR2/ as per the VCS 2007.1 Guidelines. Hence the CAR is closed successfully.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the first periodic verification ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The project complies with the requirements

Final Assessment

The verification team has found that the start date of the crediting period is not as per the VCS guidelines in the Monitoring Report^{/MR1/}. Hence CAR 3.3-1 was raised, and subsequently closed after checking the revised monitoring report provided by project proponent. This was also closed on the basis of on site interview with the project participant.



3.4 Accuracy of emission reduction calculations

The monitoring reports^{/MR1/MR2/} has been found to be in line with the validated VCS PD^{/PD/} and also uses the same parameters as mentioned in validated VCS PD. The calculated emission reductions of 56319 t CO₂e for the period between 28/03/2006 to 31/10/2008 (including both the days) has been verified and found to be true, real and accountable. The verification team has found that the Grid emission factor needs to be corrected as the emission factor mentioned in spreadsheet provided is not as per the tool version 1.1. Hence a consolidated CAR 3.4-1 was raised on the issue of grid emission factor and closed successfully after the correction was made in revised monitoring report.

[The discussion, findings and conclusion regarding spreadsheet formulas and connections, conversions, aggregations, consistent use of factors in line with the monitoring plan, possible manual transposition errors between data sets, uncertainty of technology (e.g. metering) and appropriateness of default data where specific source data is lacking should be summarised in this section.]

Related Findings

☐ No CARs, CLs or FARs have been identified in this context

☒ The following finding(s) have been addressed:

Finding:	3.4-1		
Classification	☐ CAR	☐ CL	☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	A consolidated CAR has been raised for the Accuracy of Emission Reduction Calculations. The Data mentioned in the spreadsheet is not matching with the data checked during site visit. Grid emission factor needs to be corrected by taking generation weighted average of simple operating margin over three years as prescribed by Tool to calculate the emission factor for an electricity system. The emission factor mentioned in spreadsheet provided is not as per the tool version 1.1.		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The Data mentioned in the spreadsheet and analyses mentioned in monitoring report has been revised and is in accordance with the data checked during site visit. CEA Version 4.0 CO2 baseline database has been used for calculating the Emission factor for grid. The generation weighted average of Simple Operating Margin over three years has been used to calculate the emission factor of the grid in the revised Monitoring Report.		
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>	The DOE has checked that the PP has taken generated weighted average cost of simple operating margin over three years as prescribed by Tool to calculate the emission factor for an electricity system in the revised ER sheet ^{ER2/} to calculate emission reductions. Hence the CAR was closed correspondingly.		
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the first periodic verification ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The project complies with the requirements		

Final Assessment

A consolidated CAR 3.4-1 was raised on the issue of grid emission factor and closed successfully after the correction was made in revised monitoring report.

☐

3.5 Quality of evidence to determine emission reductions

In order to ensure the highest levels of accuracy the monitoring instruments are calibrated regularly as per the manufacturers' specifications. The white liquor production, auxiliary power consumption, Furnace Oil consumption are recorded daily in the plant log books which are reviewed, verified and finally approved by the Director of the company. Other than this, several documents were submitted by the project participant as evidence to determine emission reductions and to cross check the values. These values were cross checked and the verification team is satisfied with the quality of the evidence used to determine emission reductions.

[The discussion, findings and conclusion related to that the evidence is of sufficient quantity and appropriate quality, the reliability of the evidence and the source and nature of the evidence (external/internal, oral, documented) should be summarised in this section.]

Related Findings

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

Final Assessment

In order to ensure the highest levels of accuracy the monitoring instruments are calibrated yearly as per the manufacturers' specifications. The white liquor production, auxiliary power consumption, Furnace Oil consumption are recorded daily in the plant log books which are reviewed, verified and finally approved by the Director of the company. Other than this, several documents were submitted by the project participant as evidence to determine emission reductions and to cross check the values. These values were cross checked and the verification team is satisfied with the quality of the evidence used to determine emission reductions.



3.6 Management and operational system

The suitability of the monitoring system was assessed first during the desk review, followed by site visit and the interviews. The management and operation of the project has been found to be sufficient as per the monitoring plan of the validated VCS PD^{/PD/}. The system is in place on site has been found to be satisfactory as it

ensures that the quality of the emission reductions achieved by the project is maintained.

The verification team can state with reasonable assurance that the management and operation system implemented for the project is adequate and in line with the validated VCS PD^{/PD/}.

[The discussion, findings and conclusions regarding the suitability of the management system for monitoring and reporting, i.e. organisational structure, responsibilities, competencies, non-conformance handling, internal audits and management review should be summarised in this section.]

Related Findings

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

Final Assessment

The verification team can state with reasonable assurance that the management and operation system implemented for the project is adequate and in line with the validated VCS PD^{/PD/}.

☐

4 VERIFICATION STATEMENT

The verification statement will be provided as part of the final verification report.

Satia Industries Limited has commissioned the TÜV NORD JI / CDM Certification Program to carry out the verification of the Project “Chemical Recovery project at Satia Industries Ltd. (SIL), formerly known as Satia Paper Mills Limited village Rupana, Punjab” in < Punjab, India > with regard to the requirements of VCS 2007.1 Standard.

The project activity involves < recovery of Soda and utilize the same in the industry and compensate the soda purchase from the open market in the baseline. This project activity also resulted in recycling of white liquor used in the paper industry.>.

Reporting period: From 26-03-2006 to 31-10-2008

In the course of the verification 3 Corrective Action Requests (CARs) and were successfully closed.

The verification is based on the draft monitoring report, revised monitoring report, the monitoring plan as set out in the validated PD, the validation report, emission reduction calculation spreadsheet and supporting documents 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.
- the monitoring plan is in accordance with the applied approved methodology ,ie, < AMS III.M /Version 02>
- the installed equipment essential for measuring parameters required for calculating emission reductions is calibrated yearly and appropriately.
- the monitoring system is in place and functional. The project has generated 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:

Period	Emissions Reductions tCO2
March 06-December 06	14278
January07-December 07	22665
January08-October 08	19377
Total	56319

Project emissions	0	t CO2 equivalents
Baseline emissions	56319	t CO2 equivalents
Emission reductions	56319	t CO2 equivalents

Essen, 2010-02-01



TÜV NORD JI/CDM Certification
Program

Mr. Archak Pattanaik

Verification Team Leader

Essen, 2010-09-16



TÜV NORD JI/CDM Certification
Program

Rainer Winter

Final Approval

5 REFERENCES

Table 5-1: Documents provided by the project participant

Reference	Document
/ADD/	- Land agreement - Proof for the insurance related investment. - Proof for the other cost involved in the operation and maintenance cost. - Punjab State Electricity Board Annual Report 2005- 2006
/CAL/	Calibration records for the key instruments and measuring devices: - Calibration certificate of Flow meter associated with CRP - Calibration certificate of Flow meter associated with CRP - Calibration certificate of Flow meter associated with CRP - Calibration procedure for Local control panel meter.
/CC/	Commissioning certificates of the VCS Project.
/CON/	The signed contract between TÜV NORD and SIL for carrying out Validation and verification of voluntary emission reduction dated 02-June-2009.
/PLF/	PLF documents.
/INS/	Insurance policies
/INV/	Sample invoice copies to cross check the Soda recovered.
/LL/	Land lease agreement.
/LOG/	Log books for the verification period 28 March 2006 – 31 Oct. 2008.
/LSC/	Invitation for local stakeholder meetings.
/MR1/	Monitoring Report “Chemical Recovery project at Satia Industries Limited (SIL), Punjab, India. for the period 2006 March 28 to 2008 Oct 31, version1 dt.12.05.2009

Reference	Document
/NOC/	No objection certificate.
/OM/	O and M agreement and O and M Cost
/PD/	Project Description for project: "Chemical Recovery project at Satia Industries Limited (SIL), Punjab, India. Version 4 dated 2009-11-16.
/PO/	Purchase order of all the equipments (Plant).
/PoT/	Proof of Title of the stakeholders:
/UND/	Undertaking that the project has not created another form of environmental credit
/XLS1/	Excel – Calculation sheets provided by the project participant (related to MR1).

Table 5-2: Background investigation and assessment documents

Reference	Document
/AMS III. M/	CDM methodology "AMS III. M, Reduction in Consumption of Electricity by Recovering Soda from Paper Manufacturing Process" Ver 02.
/CPM/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)
/IPPC/	1. 1996 IPCC Guidelines for National Greenhouse Gas Inventories: work book 2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories: work book
/ISO 14064/	Greenhouse gases -- Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals Greenhouse gases -- Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements Greenhouse gases -- Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions
/ISO14065/	Greenhouse gases -- Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition

Reference	Document
/AT/	Tool for the demonstration and assessment of additionality (Version 05.2; EB 39).
VCS	Voluntary Carbon Standard 2007.1
/VDS-PD-T/	VCS PD Template
/VVM/	Validation and Verification Manual (Version as per EB 51)

Table 5-3: Websites used

Reference	Link	Organisation
/cd4cdm/	www.cd4cdm.org	UNEP Riso Centre
/ipcc/	www.ipcc-nggip.iges.or.jp	IPCC publications
/vcs/	www.v-c-s.org	VCSA
/unfccc/	http://cdm.unfccc.int	UNFCCC

Table 5-4: List of interviewed persons

Reference	Mol ¹		Name	Organisation / Function
/IM01/	V	☒ Mr. ☐ Ms.	R. K. Bhandari	Director, Satia Paper Mills Ltd.
/IM01/	V	☒ Mr. ☐ Ms.	Jagannath Tiwari	Sr. Manager(CRP), Satia Paper Mills Ltd.
/IM01/	V	☒ Mr. ☐ Ms.	Ajay Jindal	Dy. Manager, Satia Paper Mills Ltd.

Reference	Mol ¹		Name	Organisation / Function
/IM02/	V	☒ Mr. ☐ Ms.	Naveen Pawar	Consultant
/IM02/	V	☒ Mr. ☐ Ms.	Kushal Sinha	Consultant
/IM03/	V	☒ Mr. ☐ Ms.	Akhilesh Prasad	Stakeholder
/IM03/	V	☒ Mr. ☐ Ms.	Naresh Prasad	Stakeholder
/IM03/	V	☒ Mr. ☐ Ms.	N. C. Subudhi Ray	Stakeholder

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