



Voluntary Carbon Standard 2007.1

VERIFICATION REPORT

Bundled Wind Project

6.2 MW Bundled Wind Project in Tamil Nadu, Rajasthan and Maharashtra by Interocean

**VERIFICATION PERIOD:
28th March 2006 to 1st August 2009**

Project No/ Rev. No.: V-3-I-01-S-0075-Ve/01

Verification Report

Name of Verification company:	Date of issue:
Perry Johnson Registrars CDM Inc.	2010-10-18
Report Title:	Approved by:
Verification report – “6.2 MW Bundled Wind Project in Tamil Nadu, Rajasthan and Maharashtra by Interocean”, India.	Mathsy Kutty
Client:	Project Title:
M/s Interocean Shipping (I) Pvt. Ltd. M/s Interocean Shipping Company	Monitoring report of “6.2 MW Bundled Wind Project in Tamil Nadu, Rajasthan and Maharashtra by Interocean”, India. Version : 04 Date : 2010-08-03
Summary:	
<p>M/s Interocean Shipping (I) Pvt. Ltd. and M/s Interocean Shipping Company has commissioned Perry Johnson Registrars Clean Development Mechanism Inc. (PJRCMD) for verification of the project – “6.2 MW Bundled Wind Project in Tamil Nadu, Rajasthan and Maharashtra by Interocean” under Voluntary Carbon Standard (VCS). The verification involves independent review of the implementation of project as per VCS project document (PD) and its monitoring plan.</p> <p>The project involves installation and operation of four (4) WTG’s at various locations in Maharashtra, Tamil Nadu and Rajasthan. The generated electricity is exported to the NEWNE and Southern regional electricity grid. The project activity has applied the tools of Clean Development Mechanism (CDM), the flexible mechanism under the United Nations Framework Convention on Climate Change (UNFCCC) and one of the VCS 2007.1 approved GHG Programs. The applied methodology is version 14 of AMS-I.D., Type I, Renewable Energy Projects, category I.D., <i>Grid Connected Renewable Electricity Generation</i>.</p> <p>In our opinion, the GHG emission reductions reported in the monitoring report version 04 dated 3rd August 2010 are fairly stated. Based on the assessment, PJRCMD is able to certify that the implementation of the project has resulted in GHG emission reduction of 28,955 tCO₂ equivalent during the period 28th March 2006 to 1st August 2009.</p> <p>PJRCMD’s opinion regarding the reported emission reductions for the period from 28th March 2006 to 1st August 2009 is based on the information sought and also reviews of publicly available information where applicable. ISO-14064 guidelines have been applied in principle to assess the key issues like accuracy, completeness and conservativeness of the information. PJRCMD’s verification/certification of GHG emissions is limited to this information evaluation.</p> <p>Issuance and utilization of certified GHG-emission reductions is beyond the scope of PJRCMD.</p>	
Report Number/ Revision Number	Number of pages
V-3-I-01-S-0075-Ve/01	24
Work carried out by:	Work Reviewed by:
Piyush J.Borkar	Mathsy Kutty

Abbreviations

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CL	Clarification Request
GHG	Greenhouse gas
IPCC	Intergovernmental Panel on Climate Change
KW	Kilo Watt
WP	Wind Power
PD	Project Document
PJRCDM	Perry Johnson Registrars Clean Development Mechanism Inc.
PP	Project Proponent
OM	Operating Margin
BM	Build Margin
CM	Combined Margin
CEA	Central Electricity Authority
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Voluntary Carbon Standard

Table of Contents

1	INTRODUCTION	5
1.1	Objective.....	5
1.2	Scope and Criteria	5
1.3	VCS project Description.....	6
1.4	Level of assurance.....	7
2	METHODOLOGY	8
2.1	General Approach.....	8
2.2	Means of Verification	8
2.3	Internal Quality Control.....	11
3	VERIFICATION FINDINGS.....	11
3.1	Remaining issues, including any material discrepancy, from previous validation. .	11
3.2	Project Implementation.....	11
3.3	Completeness of Monitoring.....	11
3.4	Accuracy of Emission Reduction Calculations	11
3.5	Quality of Evidence to Determine Emission Reductions.....	12
3.6	Management and Operational System	12
4	VERIFICATION CONCLUSION AND CERTIFICATION STATEMENT	13
	APPENDIX I: DOCUMENTS REVIEWED.....	14
	APPENDIX II: RESOLUTION OF CARs AND CLs	15
	APPENDIX III: LIST OF PARAMETERS.....	24

1 INTRODUCTION

M/s Interocean Shipping (I) Pvt. Ltd. and M/s Interocean Shipping Company, hereinafter referred to as the “client or project proponent or project developer” contracted Perry Johnson Registrars Clean Development Mechanism Inc. (PJRCDM) to perform verification of the project activity “6.2 MW Bundled Wind Project in Tamil Nadu, Rajasthan and Maharashtra by Interocean” under the Voluntary Carbon Standard (VCS) 2007.1 for the period (28th March 2006 to 1st August 2009). The report describes the verification work undertaken.

1.1 Objective

Verification under VCS is the independent ex-post quantification and certification of the greenhouse gas (GHG) emission reductions achieved by a project activity which has completed validation under VCS or registered under a VCS approved GHG program.

The above work is carried out through an independent assessment and a written assurance is provided on the GHG emission reductions achieved for the period specified.

1.2 Scope and Criteria

The scope of the verification covers independent objective review and ex-post determination of the monitored GHG emission reductions by the project activity “6.2 MW Bundled Wind Project in Tamil Nadu, Rajasthan and Maharashtra by Interocean”.

The specific scope of the verification work involves:

- To verify that the project activity is implemented as per the project details of the registered project design document (PDD)
- To assess whether the emissions reductions determined are in conformance with the monitoring plan of the VCS PD and the approved methodology.
- To express a conclusion whether reported data are accurate, complete, consistent, and transparent with a reasonable level of assurance and free of omission or material error, based on the review of the reported data and emission reduction calculations.

The project is assessed against the verification requirements of VCS2007.1 standard including the criteria that the emission reductions are real, measurable, transparent and conservative. The approach adopted by PJRCDM verification team is risk-based, drawing on an understanding of the risks associated with reporting of GHG emissions data and the controls in place to mitigate these.

The work carried out by PJRCDM is free from any conflict of interest.

Request for issuance of Voluntary Carbon Units (VCUs), verified and certified by PJRCDM, shall be made by the project proponent to the VCS registry in accordance with the most recent version of the “VCS Guidance Document: VCS Project Registration and VCU Issuance process”. In view of the above, PJRCDM’s responsibility is limited only to verification and certification of the GHG emission reductions achieved during the specified period.

1.3 VCS project Description

The project activity is implementation of four (4) number wind turbine generators (WTGs) of installed capacity 1 x 1.25 MW and 3 x 1.65 MW capacity for energy generation in different states as mentioned in table below. The generated electricity shall be evacuated to the regional grid through the locally available evacuation facility provided by the state utility (Maharashtra Electricity Distribution Energy Transmission Company Ltd., Tamil Nadu Electricity Board and Rajasthan Rajya Vidhyut Prasaran Nigam Limited.):

Project owner : M/s Interocean Shipping (I) Pvt. Ltd. & M/s Interocean Shipping Company

Location : As described in table below

Village	Districts	State	WTG No.	Capacity MW
Bharewadi	Sangli	Maharashtra	GP 10	1.65
Gomanagalampudur	Coimbatore	Tamil Nadu	HTSC No 787	1.65
Samugarengapuram	Tirunelveli	Tamil Nadu	HTSC No 2503	1.65
Satta	Jaisalmer	Rajasthan	R 42	1.25

Title of the PDD : 6.2 MW Bundled Wind Project in Tamil Nadu, Rajasthan and Maharashtra by Interocean

Methodology used : AMS I D, Version 14

VCS Crediting period : 1st April 2006 to 31st March 2016

Monitoring period under VCS : 28th March 2006 to 1st August 2009

The WTGs installed under the project activity have been supplied by M/s Suzlon Energy Ltd of S 66 of 1.25 MW (1 nos) and NEG Micon NM82 1.65 MW (3 nos). The project activity is a bundled wind power project with a total installed capacity of 6.2 MW. The electricity generated is sold to the grid.

During the site visit, PJRCMD also verified the unique identification numbers, and location of the WTGs as follows:

VCS VERIFICATION REPORT

Promoter	Capacity (MW)	Location	Unique Identification *
Interocean Shipping (I) Pvt. Ltd.	1 X 1.65	WTG No. – GP10 Gut (Survey) No.– 149, 150, 151 Village – Bharewadi Taluka – Shirala District – Sangli State – Maharashtra	N 17 07.500 E 73 59.130
Interocean Shipping Company	1 X 1.65	H.T SC. No.– 787 Gut (Survey) No.– 81/2C2 Village – Gomanagalampudur Taluka – Pollachi District – Coimbatore State – Tamil Nadu	N 10 36.906 E 77 10.217
Interocean Shipping Company	1 X 1.65	H.T SC. No.– 2503 Gut (Survey) No.– 913/5A Village – Samugarengapuram Taluka – Radhapuram District – Tirunelveli State – Tamil Nadu	N 08 19.440 E 77 40.141
Interocean Shipping (I) Private Limited	1 X 1.25	WTG No. – R42 Village – Satta District – Jaisalmer State – Rajasthan	N 29 62.835 E 67 74.970
Total			6.2

Further, in line with the VCS 2007.1, project monitoring start date has been considered after 28th March 2006. By implementing the project activity, the following GHG sources of emissions are reduced/ avoided:

Project Purpose	Equipment –	Baseline	Baseline GHG emission source reduced/ avoided
Wind Turbine Generator		Grid power import	NEWNE and Southern Grid

1.4 Level of assurance

In line with VCS 2007.1 requirements and as per ISO 14064-3:2006 para A.2.3.2, a reasonable level of assurance is defined for the verification of the project.

This implies that, based on the process and procedures conducted, PJRCMD should state whether the GHG assertion in the monitoring report

VCS VERIFICATION REPORT



- is materially correct and is a fair representation of the GHG data and information, and
- is prepared in accordance with VCS requirements, the registered CDM PDD and the approved methodology for information pertaining to GHG quantification, monitoring and reporting.

The verification work is carried out as per this requirement and details are presented in the Verification statement in section 4 below.

2 METHODOLOGY

2.1 General Approach

The project activity applies approved baseline and monitoring methodology AMS I D (version 14) categorised under sectoral scope 1 'Energy Industries (renewable/non renewable sources)'. For verification, PJRCMD's approach involves broadly three steps:

- 1) Completeness check and desktop review of the monitoring report
- 2) Onsite inspection and issuance of findings from the audit
- 3) Resolution of the findings and preparation of the verification report

The following team members from PJRCMD were involved in these steps :

Name	Role	Areas covered
T. Krishna	GHG auditor	Site visit
Piyush J Borkar.	Verifier	Completeness check of monitoring report, desk top review, Issuance and closure of findings, report preparation
Mathsy Kutty	Technical Reviewer	Independent review of the verification assignment.

2.2 Means of Verification

2.2.1 Review of Project Documentation

On receipt of the monitoring report from the client, the completeness of information made available as per VCS2007.1 standard requirements is reviewed. A desktop review is further carried out to assess the following:

- the validated VCS PD with the monitoring plan
- the emission reduction calculation method used in the applied methodology and the VCS PD
- the monitoring report, including frequency of monitoring and the calculation of emission reductions for the period
- the documented operation and maintenance manual furnished by the project

participant (where applicable)

- other external documents like grid emission factor, IPCC emission factor, etc. applied

A complete list of all documents reviewed is attached in Appendix I of this report.

2.2.2 Onsite Inspections

A site visit was conducted by PJRCMD team between August 2009 and September 2009 for physical inspection of the WTGs with representatives of project proponents and Operation & Maintenance personnel and to discuss issues identified during the desktop review of the documents submitted by the project proponents.

During the site visit, PJRCMD verified the actual operation of the project as described in the PD. The monthly records for joint meter readings were reviewed.

During the site visit, GHG auditor verified the actual operation of the project as described in the PD and also discussed the issues identified during the desktop review of the documents provided by the project proponent.

List of personnel interviewed and issues discussed during the site visit is as provided below:

Name / Designation / Company	Interviewed on
Mr. Vivek Rajmani Asst. Manager, Suzlon	Site operations, monitoring methodology and practices, billing schedule and joint meter reading exercise
Mr. Pandyarajan Asst. Manager–Service Enercon (India) Ltd.	
Mr. Umashankar CRM, NEG Micon	
Mr. Ananta Narayanan Asst. Manager, Suzlon	
Mr. Vishwa K Mathad Sr. Consultant Deloitte Touche Tohmatsu India Pvt. Ltd.	Determination of baseline, assessment of additionality

During the site visit, PJRCMD verified the actual operation of the project as described in the PD. The system of controller energy meters and joint energy meters used for monitoring the sale of electricity sale to grid were examined. The monthly records for joint meter readings were reviewed.

2.2.3 Review of Monitoring Results and Correct Application of Monitoring Methodology

Based on the site inspection and review of records including the monitoring plan, a list of non conformities, also called as Corrective Action Request (CAR) is raised. The non conformities could be related to lack of adherence to the VCS requirement,

the monitoring plan of the registered PDD or where evidence provided is found insufficient to prove conformity. They could also be mistakes in applying data/assumptions and in calculation of emission reductions.

If information made available is insufficient to transparently arrive at the stated conclusion, a Clarification request (CL) is raised and communicated to the project proponent.

Observations may also be raised which are for the benefit of future verification period. These, however, have no impact upon the completion of the current verification activity.

On receipt of response from the project developer, the adequacy with compliance with VCS requirements is checked along with a revised monitoring report. Closure of comments raised occurs only if the response provided and correction made fully complies with the stated requirements of the methodology applied.

The list of CARs/ CLs raised and the response provided and reasons for closure are provided Appendix-2.

Summary of findings: The list of CARs/ CLs raised and the response provided and reasons for closure are provided Appendix-1.

2.2.4 Determinations of the reductions in GHG Emissions

As per the applicable methodology, AMS-I.D., version 14, the emission reductions achievable by the project activity are calculated as a difference of baseline emissions (BE_y) project emissions (PE_y) and emissions due to leakage (L_y) determined as follows.

Baseline emissions: The baseline emissions are determined as a multiple of net electricity generated and supplied to the grid by the renewable energy technology (EG_y in MWh), and an electricity grid emission factor calculated as per CDM EB guidance.

As per the PD, the emission factor has been fixed *ex-ante* and for the current verification period, PJRCMD was able to verify the VER calculations based on the grid emission factor of 0.9272 tCO₂/MWh for the NWENE regional grid and 0.9062 tCO₂/MWh for the Southern regional grid.

Project emissions: As the project activity is wind power based power generation, the methodology does not require estimation of project emissions and hence they have been considered as zero.

Leakage: Similarly, no leakage has to be considered for the proposed project activity.

Emission reductions: $ER_y = BE_y - PE_y - L_y = BE_y$

During the current monitoring period, i.e. from 28th March 2006 to 01 August 2009, the project activity has delivered approximately 31.46 MWh of net electricity to the NEWNE grid and Southern regional grid combined. This was checked against the Joint Meter Readings, the source of data as confirmed against the validated

VCS VERIFICATION REPORT



monitoring plan in VCS PD. The net reduction in GHG emissions achieved by the project activity during the said monitoring period is equivalent to **28,955 tCO₂e**.

The above value of GHG emission reductions is based on completely monitored data, transparently presented, accurately measured and calculated, conservatively estimated and independently verified by PJRCDM.

2.2.5 Review of Additional Data from other Sources if appropriate

The validation report of the VCS registered project with reference VCS V-3-I-01-S-0075 (Perry Johnson Registrars CDM Inc.), version number 01 dated 18 November 2009 is reviewed for any issues to be taken into account during verification.

2.3 Internal Quality Control

On completion of the assessment by the GHG assessment team, the complete verification package including the verification report, monitoring report and supporting documents is sent to the Technical Reviewer. In this stage, the Technical Reviewer independently assesses the project with the VCS requirements before accepting/ rejecting the recommendation from the GHG assessment team.

3 VERIFICATION FINDINGS

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

No further issues are identified from the discussion, findings and conclusion from the validation report, dated 05 November 2009 version 2, of the VCS project.

3.2 Project Implementation

The project activity involves the installation and operation of four (4) WTGs at various locations in the state of Tamil Nadu, Rajasthan and Maharashtra, India by the clients. These WTGs are all manufactured by Suzlon Energy Ltd of 1.25 MW capacity and NEG Micon Ltd of 3 x 1.65 MW.

The implementation of the project activity as described in the PD was checked against supportive documents presented. PJR CDM was able to verify that there was no change in project design compared to the design presented.

3.3 Completeness of Monitoring

The GHG emission reductions are calculated based on the net electricity exported by the project activity to the grid. Export and import values measured by tri-vector meters (energy meters) installed on each WTG's interconnection point to grid. The monitoring plan indicated that the entire generation of the WTGs would be monitored which was confirmed during verification. The WTGs are connected to MSEDCL and JVVNL the monitoring of the generated electricity is carried on monthly basis from the meters installed at substation of the Wind firm. The net generation data has been cross verified with monthly JMRs and the monthly invoices. The joint meter reading is carried out once in a month in presence of both parties i.e. the project developer's representative and officials of MSEDCL & JVVNL. The WTGs supplying electricity

VCS VERIFICATION REPORT



to the TNEB is connected with single two way tri-vector meter at the output end of the WTG transformer. Individual metering is done for each WTG. The net export from individual WTGs can directly be obtained from the meters installed and the monitoring (JMR) is carried out by ESCOM in presence of project promoter's representative on monthly basis at the sending end (high voltage side) of the individual WTG transformer.

3.4 Accuracy of Emission Reduction Calculations

PJRCMD verified the power export is based on the monthly joint meter reading for Maharashtra and Rajasthan and Electricity Board Meter reading for Tamil Nadu prepared by the state electricity board personnel along with the Operations and Maintenance (O&M) contractor. The monitoring system consists of measuring energy generation at the individual wind turbine generator - by controller energy meters; and a joint meter at the substation end of the feeder where the power is exported to the grid. The meters are calibrated by the State Utility testing division annually. As per the guidelines "Guidelines for assessing compliance with the calibration frequency requirements" EB 52, Annex-60; Para 4(a) the correction factor is applied individually on import and export for the period where calibration certificates are not available. The correction factor applied for WTGs in Maharashtra and Rajasthan is 0.2 % and the for Tamilnadu correction factor applied as 0.5% which is cross verified from the available calibration certificates.

Emission factor was fixed ex-ante during the validation of the project and the same was used for ER calculations for the current monitoring period (MR Version 02). The parameter was derived from officially published database from Central Electricity Authority of India, a subsidiary of Ministry of Power, Government of India (Version 4.0 dated October 2008).

3.5 Quality of Evidence to Determine Emission Reductions

The source of net energy generation, as reported in the PD is the JMR sheets, and the same were used by the client to calculate EGy. PJRCMD was able to check and verify the values from Joint meter reading reports and Electricity Board meter reading. For Maharashtra and Rajasthan, the JMR sheets were used to verify the generation, while for Tamilnadu Machine no 787 electricity board meter reading is used for verification. The annual value of the energy exported was the summation of these monthly readings. The JMR sheets are deemed to be the most appropriate source of data for net energy exported, as the values denoted were jointly measured by the representatives of the PP and Government, officials from MSEDCL, JVVNL and TNEB for WTG machine no. GP 10, HTSC No 787 and 2503, R 42 respectively.

3.6 Management and Operational System

The clients have established and implemented procedures to monitor the project activity and its operation. These procedures cover management responsibilities, data monitoring and reviewing procedures and have provided with reports.

All the daily and monthly records are archived in electronic copy and paper format.

4 VERIFICATION CONCLUSION AND CERTIFICATION STATEMENT

Perry Johnson Registrars CDM Inc. has performed verification under VCS of the project “6.2 MW Bundled Wind Project in Tamil Nadu, Rajasthan and Maharashtra by Interocean”, India. The verification under VCS is sought for the period from 28th March 2006 to 1st August 2009. The project has applied the AMS I D small scale CDM methodology (version 14) and the emission reductions are as reported in the revised monitoring report dated 22nd September 2010.

PJRCDM’s approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate them. The assessment was based on the review of supporting evidences and information provided, including other explanations where necessary to enable PJRCDM to provide reasonable assurance that the reported amount of GHG emission reductions for the specified period is materially correct and fairly stated.

Certification statement:

PJRCDM confirms that the project activity has been implemented as per the VCS PD and that the emission reductions presented in the monitoring report version 06 dated 22nd September 2010 are correctly determined as per the VCS 2007.1 standard and AMS I D methodology, version 14. Based on the above information, PJRCDM confirms the following:

Name of the project	“6.2 MW Bundled Wind Project in Tamil Nadu, Rajasthan and Maharashtra by Interocean”, India
VCS PD details	VCS PD Version II and date 05 November 2009.

Reporting period (dd/mm/yyyy) : 28/03/2006 to 01/08/2009

Verified emission in the above reporting period:

<i>Project emissions</i>	<i>: 0</i>	<i>tCO₂ equivalents</i>
<i>Baseline emissions</i>	<i>: 28,955</i>	<i>tCO₂ equivalents</i>
<i>Emission reductions</i>	<i>: 28,955</i>	<i>tCO₂ equivalents</i>

Annual emission reduction achieved by project activity.

<i>Monitoring period</i>	<i>Emission reduction tCO₂ equivalents</i>
<i>28 March 2006 – 31 March 2007</i>	<i>4406</i>
<i>01 April 2007 – 31 March 2008</i>	<i>7320</i>
<i>01 April 2008 – 31 March 2009</i>	<i>10877</i>
<i>01 April 2009 – 01 August 2009</i>	<i>6353</i>

PJ Borke

Project Manager
PJRCDM

Q. dhyan

Site Program Manager
PJRCDM

APPENDIX I: DOCUMENTS REVIEWED

Sl. No.	Document reference
[01]	Monitoring Report. “6.2 MW Bundled Wind Project in Tamil Nadu, Rajasthan and Maharashtra by Interocean”, India. Version 04, dated 2010/08/03, and all previous versions.
[02]	Project Document: “6.2 MW Bundled Wind Project in Tamil Nadu, Rajasthan and Maharashtra by Interocean”, India. Version 02, dated 2009/11/05.
[03]	VCS Validation Report: “6.2 MW Bundled Wind Project in Tamil Nadu, Rajasthan and Maharashtra by Interocean”, India. Version 01, dated 2009/11/18.
[04]	Approved Small-scale Methodology –AMS I D (version 14) categorised under sectoral scope 1 ‘Energy Industries (renewable/non renewable sources)’
[05]	VCS Board: VCS Board, version 2007.1
[06]	Testing records for all WTGs
[07]	Joint meter readings for all the months between the 28th March 2006 to 1 st August 2009 for all WTGs involved in project activity.



APPENDIX II : RESOLUTION OF CARs AND CLs

Draft report clarification requests and corrective action requests by verification team	Ref. To the section of the monitoring report	Summary of project owner response	Verification team conclusion						
<p>CAR 1:</p> <p>As per monitoring report the emission reductions are based on the net electricity supplied by the individual WTG. PP is requested to provide the calibration certificate (accuracy 0.2% for MSEDCL & JVVNL meters and accuracy 0.5 % for TNEB meters) for each meters as per their start dates with mentioned frequency.</p> <table><tr><td>G 10</td><td rowspan="3">Certificates required from April 2006 to Sep 2009.</td></tr><tr><td>HTSC 787</td></tr><tr><td>2503</td></tr><tr><td>R 42</td><td>PP has provided the testing certificate, which is not acceptable, please provide the calibration certificates for April 2006 to Sep 2009</td></tr></table>	G 10	Certificates required from April 2006 to Sep 2009.	HTSC 787	2503	R 42	PP has provided the testing certificate, which is not acceptable, please provide the calibration certificates for April 2006 to Sep 2009	5.2	<p>For all the periods for which the PP failed to submit the calibration certificates to the DoE, as per the guideline “Guidelines for assessing compliance with the calibration frequency requirements” EB 52, Annex-60; Para 4(a) the net electricity exported by the WTGs for those periods have been corrected with the percentage of error as obtained from the immediate subsequent testing report and the maximum permissible error of the instrument (0.2-class of accuracy for MSEDCL & JVVNL meters and 0.5-class of accuracy for TNEB meters) has been applied to the measured values.</p> <p>PP 2nd Response:</p>	<p>PJRCDM 2 RESPONSE</p> <p>PP needs to justify is there any change in meter during the mentioned crediting period.</p> <p>PJRCDM 3 RESPONSE</p> <p>OK. The calibration certificate for 2009 has been received and the emission calculated by applying correction factor on import and export which is conservative. Also the calibration certificate is verified and found as no meter change in the monitoring period.</p> <p>For R 42 PP provided two certificates dated on 18/8/2008 and 22/3/2010.</p>
G 10	Certificates required from April 2006 to Sep 2009.								
HTSC 787									
2503									
R 42	PP has provided the testing certificate, which is not acceptable, please provide the calibration certificates for April 2006 to Sep 2009								

VCS VERIFICATION REPORT



Draft report clarification requests and corrective action requests by verification team	Ref. To the section of the monitoring report	Summary of project owner response	Verification team conclusion
<p>PP is requested to prepare a table in MR which clearly shows the Feeder Number, WTG connection period, Meter Number, Date for main meter and check meter of all WTGs. Along with the documented evidence, the same is to be submitted to PJRCDM.</p> <p>If the PP is not able to submit the calibration certificates, the PP would be required to correct the emission reduction as per maximum permissible error of meter (i.e. as $\pm 0.2\%$ for MSEDCL & JVVNL meters and $\pm 0.5\%$ for TNEB meters) in line with the guidance for assessing compliance with the calibration frequency.</p>		<p>According to the calibration certificates available there is no change in meters during the crediting period.</p> <p>PP has now provided calibration certificate for 2009 for all the energy meters and accordingly the net electricity exported by the WTG have been corrected with the percentage of error as obtained from the immediate subsequent testing report and the maximum permissible error of the instrument (0.2-class of accuracy for JVVNL meters) has been applied to the measured values. It is requested to kindly avoid the previous calibration certificates dated 18 /8/2008 and 22/3//2010.</p> <p>Calibration certificates for HTSC 2503 for the period 2007 and 2008, have been provide.</p>	<p>Please justify its consistency.</p> <p>For HTSC 787 PP has provided the latest calibration certificate and the export and import values have been adjusted in line with the Guidelines.</p> <p>As per monitoring report for HTSC 2503 calibration certificates are available for 2007 and 2008, Please provide the same.</p> <p>PJRCDM 3 RESPONSE</p> <p>For R 42 calibration certificate is provided with the date of 30 Jan 2009 and as per guideline the corrective action is applied on entire period.</p> <p>OK. The latest calibration certificate for the year 2010 for HTSC No 787 has been received by PJRCDM. PP has adjusted yje export and import values as per the guidelines and hence it is accepted.</p>

VCS VERIFICATION REPORT



Draft report clarification requests and corrective action requests by verification team	Ref. To the section of the monitoring report	Summary of project owner response	Verification team conclusion
			<p>For GP 10, the certificates are available for 27 Dec 2007, 13 March 2008, 24 Dec 2008 and 9 March 2009. As per guidelines the emissions are deducted on export and import up to Dec 2007.</p> <p>CAR 1 is closed.</p>
<p>CAR 2: The data measured and recorded (either electronically or as hard copies/log books) is to be provided to PJRCMD.</p>		<p>Relevant documents have been submitted to the Verifier.</p> <p>PP 2nd Response:</p> <p>Necessary modification have been made in the revised MR.</p>	<p>PJRCMD 2 RESPONSE</p> <p>PP needs to justify is there any apportioning in the emission reduction calculation; if yes mention it in monitoring report.</p> <p>PJRCMD 3 RESPONSE</p> <p>PP mentioned as the meter is common for the WTG considered under the project activity and other wind turbines that are not under this project activity, the apportioning of net</p>

VCS VERIFICATION REPORT



Draft report clarification requests and corrective action requests by verification team	Ref. To the section of the monitoring report	Summary of project owner response	Verification team conclusion
			<p>electricity is done based on electricity generated from individual wind turbines. Also it can be seen from the generation report as the start and end period of generation is within the monitoring period.</p> <p>CAR 2 is closed.</p>
<p>CL 1 PP is requested to rectify the following errors:</p> <p>WTG No. GP-10. Sub total found incorrect for period April 2009 to August 2009.</p> <p>WTG No. R-42 a) PP is requested to scan and send the break up sheet for Aug 2009 and JMR copy for March 2009.</p> <p>JMR copy is not available from Sep 2008 to Jan 2009, Please provide the same.</p> <p>Break up sheet is not available for Nov 2008 to Jan 2009, the same to be submitted to PJRCMD.</p>		<p>WTG No. GP-10. Subtotal for period April 2009 to August 2009 has been corrected.</p> <p>WTG No. R-42 a) The break up sheet for Aug 2009 and JMR copy for March 2009 has been provided to the DoE.</p> <p>JMR copies from Sep 2008 to Jan 2009 have been submitted to PJRCMD.</p>	<p>PJRCMD 2 RESPONSE</p> <p>WTG No. GP-10 OK. Subtotal for period April 2009 to August 2009 has been has been verified and found corrected.</p> <p>WTG No. R-42 OK. PJRCMD received the break up sheet for Aug 2009 and JMR copy for March 2009.</p> <p>OK. JMR copies from Sep 2008 to Jan 2009 have been received by PJRCMD.</p> <p>OK. Break-up sheet for Nov 2008 to</p>

VCS VERIFICATION REPORT



Draft report clarification requests and corrective action requests by verification team	Ref. To the section of the monitoring report	Summary of project owner response	Verification team conclusion
<p>The certificate for the share of electricity generated at the wind farm, includes only the developer name. Pls provide proofs that the WTGs numbers included in the project activity and PD, form a part of the WTGs mentioned in this certificate.”</p>		<p>Breakup sheet for Nov 2008 to Jan 2009 have been provided to the DoE.</p> <p>Letter of Undertaking from Suzlon as a proof for all the respective WTG numbers included in the project activity and PD to confirm that they form a part of the WTGs mentioned in this certificate will be submitted to DoE.</p> <p>PP 2nd Response: Letter of Undertaking from Suzlon as a proof for all the respective WTG numbers included in the project activity and PD to confirm that they form a part of the mentioned WTGs have been provided.</p>	<p>Jan 2009 have been received and verified by PJRCMD.</p> <p>Letter of Undertaking from Suzlon as a proof for all the respective WTG numbers included in the project activity and PD to confirm that they form a part of the mentioned WTGs is not yet received. PJRCMD 3 RESPONSE</p> <p>OK. The letter of undertaking from technology provider has been received by PJRCMD which clearly mentioned the Location number, capacity and sub station number.</p> <p>CL 1 is closed.</p>
<p>CL 2: HTSC 787.</p> <p>For each of the months: Jun 2006 and Jul 2006, PP has provided two invoices for same month and with</p>		<p>The final invoices for the month of Jun 2006 and Jul 2006 along with the</p>	<p>PJRCMD 2 RESPONSE</p> <p>It is requested to provide break up sheet for entire crediting period to</p>

VCS VERIFICATION REPORT



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<p>same initial and final reading dates. Please include the discussion why there are two invoices for each single month for the single machine.</p>		<p>supportive documents regarding the changes made have been submitted to Verifier.</p> <p>PP Response: The EB Meter Card statements for WEG HTSC No. 787 have been provided to the verifier.</p> <p>PP 3rd Response: For Jul 08 the date and unit of export value have been corrected.</p> <p>For period Feb 08, Apr 08 & Mar 09 (from the period 23.3.09 to 7.4.09) - breakup sheets have been provided.</p> <p>The export values for May 08 have been corrected.</p> <p>The import value for Dec 08 has been corrected.</p>	<p>PJRCDM which covers verification for net generation of June 2006 and July 2006. PJRCDM 3 RESPONSE</p> <p>For Jul 08 PP is requested to correct the date and unit of export value. Okay. The value is verified and found corrected.</p> <p>For period Feb 08, Apr 08 & Mar 09 (from the period 23.3.09 to 7.4.09) - breakup sheets are not available. PP is requested to provide the same. Okay. Break up sheets are submitted and found correct.</p> <p>PP is requested to correct the export value for May 08. Okay. The export value for May 2008 is corrected.</p> <p>PP is requested to correct the import value for Dec 08.</p>

VCS VERIFICATION REPORT



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		The generation data for Jan 09 have been corrected.	<p>Okay. The unit of import value is corrected.</p> <p>For the month Jan 09 data has been mentioned twice with different generation reading. The record is not available for data (with export 1500). PP is requested to check and correct the same.</p> <p>Okay. The value is corrected</p> <p>CL 2 is closed.</p>
CL 3: PI revises the row D35, of the VCU calculation sheet in the worksheet “GP-10”. The same needs to correct in table 13.1, of the monitoring report as well.		Necessary correction have been made in the VCU calculation sheet in the worksheet “GP-10” and the same have been correct in table 13.1, of the monitoring report.	<p>PJRCDM 2 RESPONSE</p> <p>The annual calibration and the entire correction factor are also applied as per annual calibration.</p> <p>CL 3 is closed.</p>
<p>CL 4: continued</p> <p>PP is requested to make the following changes:</p>		1) The start date of the monitoring period has been modified in line with the start date of the crediting period	1. OK. The start and the end date of the monitoring period has now been redefined. PJRCDM has

VCS VERIFICATION REPORT



Draft report clarification requests and corrective action requests by verification team	Ref. To the section of the monitoring report	Summary of project owner response	Verification team conclusion
<p>1) The start date of the monitoring period should be in line with the start date of the crediting period defined in the final validated PD. Furthermore, since the site visit was carried out on 6th August, the data upto 7th August can not be included in the current monitoring period. Hence the crediting period needs to be re-defined.</p> <p>2) PP is requested to correct the table 1 – project details as no of WTGs and capacity of machine.</p> <p>3) It was discussed that for all the WTGs who's billing cycle falls, before the end date of the monitoring period, due to unavailability of controller data, the PP would not claim any ERs, for the period between the billing cycle date and the end date of the crediting period. The PP is however, requested to clarify how the ERs would be considered for the subsequent monitoring period. The same needs to be clearly defined in the monitoring report as well. The PP is requested to mention clearly in the monitoring report, the period considered for each machine specifically.</p>		<p>defined in the final validated PD. Furthermore, since the site visit was carried out on 6th August, the data upto 1th August 2009 have been included in the current monitoring period for WTG No. HTSC 787. Accordingly the crediting period have been re-defined in the revised MR.</p> <p>2) Necessary correction have been incorporated in Table 1 of the revised MR.</p> <p>3) The VCUs for the project activity have been calculated from 28 Mar 2006 till 01 August 2009 and the project proponent shall claim VCUs for these WTGs only from the start date of crediting period till the end date of first monitoring period for all these WTGs and shall claim VCUs for the second monitoring period from 1st August 2009 onwards.</p>	<p>reviewed the same and found to be OK.</p> <p>2. The MR has now been corrected to include the correct number of machines and capacity of WTG. However, the ER calculation sheet still refers to the total capacity (in the worksheet – “ER SHEET”, as 11.5MW. <i>Pl correct the same.</i></p> <p>3. OK. The MR has now been corrected to include the justification for the same.</p> <p>4. OK. The emissions reductions have now been corrected to include data only for the current monitoring period. The PP intends to forgoe the generation for the following WTGs and period</p>

VCS VERIFICATION REPORT



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<p>4) PP is requested to make corrections to all the ER calculations specific to the in line with the revised monitoring period defined.</p> <p>5) The calibration frequency can not be defined as an either/or option. The PP needs to define the same specifically.</p>		<p>Crediting Period considered for each machine for the 1st Monitoring period has been mentioned in the revised MR.</p> <p>4) Necessary corrections to all the ER calculations specific to the in line with the revised monitoring period has been incorporated in the revised MR..</p> <p>5) The calibration of the meters are carried out annually by State Electricity Department and the same has been mentioned in the revised MR.</p>	<p>WTG Number Period (2009) GP 10: 30 July to 01 August HTSC 2503: 20 July to 01 August</p> <p>5. OK. The calibration frequency has now been clearly defined in the MR as Annual calibration.</p> <p>CL is closed.</p>

APPENDIX III: LIST OF PARAMETERS

List of parameters covered during the verification period under consideration (*mention the verification period*) and details regarding the monitoring and reporting practices.

S.No.	Monitoring and reporting practice/Parameter	Parameter 1
1.	Monitoring and reporting frequency as verified during the site visit.	Electricity supplied by the WTGs in the project activity to Tamil Nadu, Rajasthan and Maharashtra, grid, EG_y , is monitored daily, measured and reported monthly
2.	Monitoring equipment verified during the site visit.	Energy meters; both Main and Check Accuracy of main and check meter is 0.5 for TNEB and class 0.2% for MSEDCL & JVVNL
3	Calibration frequency and other details verified during the site visit.	Annual calibration of all the meters will be monitored annually and if any variation is observed and that is more than the maximum permissible limit all the meters re-tested and calibrated immediately.
4.	The above parameters are in line with the MP agreed in the registered PDD.	No but export and import electricity data is corrected with maximum error percentage applicable for the energy meters, hence acceptable.
5	The above parameters are in line with the monitoring methodology applied for the proposed project.	No export and import electricity data is corrected with maximum error percentage applicable for the energy meters, hence acceptable.
6	Calibration entity and if the same is in line with the monitoring plan as agreed in the registered PDD.	The calibration entities are MSCDCL, JVVNL and TNEB for respective states as Maharashtra, Rajasthan and Tamil Nadu. The same has been mentioned in VCE PD.