



VCU VERIFICATION/ CERTIFICATION REPORT

VOLUNTARY CARBON STANDARD 2007



VERIFICATION OF SHIBEISHAN WIND POWER GENERATION PROJECT IN HUILAI COUNTY, GUANGDONG PROVINCE CHINA

REPORT No. 2008-1354

REVISION No. 01

DET NORSKE VERITAS



VCU VERIFICATION/ CERTIFICATION REPORT

Date of first issue: 2008-09-01	Project No.: 63608029
Approved by: Hendrik W. Brinks Technical Director for CDM	Organisational unit: DNV Certification, International Climate Change Services
Client: Zhuhai Hunter Energy Resources Development Co., Ltd	Client ref.: Mr, Wang Hui

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Summary:

Det Norske Veritas Certification AS (DNV) has performed a verification of emission reductions reported for 'Shibeishan Wind Power Generation Project in Huilai County, Guangdong Province China' (SWPP), managed by Guangdong Yudean Shibeishan Wind Power Development Co., Ltd. for the period from 31 March 2006 to 30 August 2008.

The project activity under consideration is already registered (UNFCCC Ref no.: 1627) under VCS approved CDM program with the CDM crediting period starting from 17 September 2008 to 16 September 2015. However, since the plant started its operations on 28 September, 2005, the project developer has claimed the emission reductions that occurred prior to the registration of the project as a CDM project. In accordance with the "Policy announcement for VCS association" dated 19 March 2008, the emission reductions occurring prior to the registration of the project as CDM project activity are eligible as VCU under VCS program.

In DNV's opinion, the emission reductions reported for the "Shibeishan Wind Power Generation Project in Huilai County, Guangdong Province China" (SWPP) in the VCU monitoring report dated 3 September 2008 are fairly stated. DNV is able to certify that the emission reductions from the "Shibeishan Wind Power Generation Project in Huilai County, Guangdong Province China" during the period from 31 March 2006 to 30 August 2008 amount to 270 648 tonnes of CO₂ equivalent.

DNV does not assume any responsibility towards the issuance and utilization of VCUs hereby verified and certified. Request for issuance of VCUs shall be made by the project proponent to an approved VCS Program Registry based on the requirements set out under the most recent version of the VCS Program Guidelines clause on VCS Registration. The verification of reported emission reductions is based on the information made available to DNV and the engagement conditions detailed in this report. Hence, DNV cannot be held liable by any party for decisions made or not made based on this report.

Report No.: 2008-1354	Subject Group: Environment
Report title: Verification of Shibeishan Wind Power Generation Project in Huilai County, Guangdong Province China	
Work carried out by: Peng Huang, Tao Li, Tim Kuo	
Work verified by: Anjana Sharma	
Date of this revision: 2008-11-19	Rev. No.: 01
Number of pages: 12	

Indexing terms

Key words Climate Change Kyoto Protocol Validation Clean Development Mechanism	Service Area Verification
	Market Sector
	Process Industry
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**Abbreviations**

BM	Build Margin
CEF	Carbon Emission Factor
CEA	Central Electricity Authority of India
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
CSPG	China Southern Power Grid
DNV	Det Norske Veritas
GHG	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
MP	Monitoring Plan
MVP	Monitoring and Verification Plan
N ₂ O	Nitrous oxide
NGO	Non-governmental Organisation
ODA	Official Development Assistance
OM	Operating Margin
PD	VCS Project Description
PDD	CDM Project Design Document
PPA	Power Purchase Agreement
UNFCCC	United Nations Framework Convention for Climate Change
VCS	Voluntary Carbon Standard
VCU	Voluntary Carbon Units
VER	Verified Emission Reductions



1 INTRODUCTION

Zhuhai Hunter Energy Resources Development Co., Ltd has commissioned Det Norske Veritas Certification AS (DNV) to carry out the verification of emission reductions generated by the “Shibeishan Wind Power Generation Project in Huilai County, Guangdong Province China” for the period from 31 March 2006 to 30 August 2008. The verification of emission reductions was carried out as per Voluntary Carbon Standard (VCS) version 2007 /17/. This report contains the findings from the verification and a statement for the verified emission reductions.

1.1 Objective

Verification of “pre-registration” emission reductions from a project activity is the independent review and *ex-post* determination by a Verification Entity or Designated Operational Entity (DOE) of the monitored reductions in GHG emissions that have occurred as a result of the implementation of an already registered CDM project activity during the period from the date when the project started to operate until the date when the project was actually registered as a CDM project activity by the CDM Executive Board (EB) and thus the start date of the CDM project activity.

Certification is the written assurance by a Certification Entity that, during a specific period in time, a project activity achieved the emission reductions as verified. According to the Verification Protocol and criteria of the IETA’s Voluntary Carbon Standard, the Certification Entity is defined as an entity which has been accredited as a DOE by the CDM Executive Board for the particular scope into which the project falls or has been accredited as an approved Certification Entity by the VCS Steering Committee. DNV is an accredited DOE for the particular scope into which the project falls.

1.2 Scope and Criteria

The Verification scope is:

- Verify whether the reductions generated by the project are in line with the Voluntary Carbon Standard Verification Protocol and the information provided by the project participants contains all the necessary information to evidence the project’s compliance with all criteria in the Voluntary Carbon Standard.
- Verify that the project was implemented as described in the Project Design Document (PDD) during the verification period.
- Confirm that the monitoring system was implemented and fully functional to generate voluntary emission reductions (VER/VCU^{*}) without any double counting during the whole verification period.
- Review of the calculation of the relevant grid carbon emission factor for the China Southern Power Grid (CSPG) and the additionality of the project activity.
- To verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan for the project activity,

^{*} As per VCS, Verified Emission Reductions (VERs) are considered to be VCUs only after successful registration in an approved VCU Registry.



- To evaluate the GHG emission reduction data and express a conclusion with a high level of assurance about whether the reported GHG emission reduction data is free from material misstatement,
- To verify that the reported GHG emission data is sufficiently supported by evidence.

According to the VCS, the verification also includes an independent third party assessment of the project design. In particular, the project baseline, monitoring plan and the project's compliance with relevant applicable protocols and criteria (i.e. UNFCCC, VCS, host Party and others) are to be validated in order to confirm that the project design, as documented, is sound and reasonable and meets the applicable criteria.

However, in accordance with the "Policy announcement by VCS association" dated 19 March 2008, since the project is already registered (UNFCCC ref no.: 1627) under VCS approved GHG program i.e. CDM, it has been assumed by DNV that the project design, project baseline, monitoring plan and additionality of the project has already been validated and acceptable by UNFCCC. Hence, validation scope for the period under consideration (31 March 2006 to 30 August 2008) will focus mainly on specific requirements for the projects that apply for registration under two GHG programs. This is in line with the above mentioned Policy announcement.

1.2.1 Validation Criteria for requirements not covered by the CDM validation

As established by the current VCS 2007 "Policy Announcement from the VCS Association - Further Guidance for Projects that are Registered in Two GHG Programs", as the project has already been validated under the CDM, a further validation shall be completed of clauses 1.12, 1.13, 1.14, 8.1 and 8.2 of the VCS Project Description template (<http://v-c-s.org/docs/VCS%20PD.doc>). This validation can be completed when the project proponent undergoes a VCS Program verification of achieved emissions reductions or removals.

Therefore, the following clauses must be satisfied:

"1.12 Demonstration to confirm that the project was not implemented to create GHG emissions primarily for the purpose of its subsequent removal or destruction."

"1.13 Demonstration that the project has not created another form of environmental credit (for example renewable energy certificates)."

If the project has created another form of environmental credit, the proponent must provide a letter from the program operator that the credit has not been used and has been cancelled from the relevant program."

"1.14 Project rejected under other GHG programs (if applicable):"

Projects rejected by other GHG programs, due to procedural or eligibility requirements where the GHG program applied have been approved by the VCS Board; can be considered for VCU but project proponents for such a project shall:

- *clearly state in its VCS PD all GHG programs for which the project has applied for credits and why the project was rejected, such information shall not be deemed commercially sensitive information; and*
- *provide the VCS verifier and Registry with the actual rejection document(s) including explanation; and*
- *have the project validated against VCS program requirements."*

**“8.1 Proof of Title:**

Provide evidence of proof of title through one of the following:

- *A legislative right;*
- *A right under local common law;*
- *Ownership of the plant, equipment and/or process generating the reductions/removals;*
- *A contractual arrangement with the owner of the plant, equipment or process that grants all reductions/removals to the proponent”*

“8.2 Projects that reduce GHG emissions from activities that participate in an emissions trading program (if applicable):

Project proponents of projects that reduce GHG emissions from activities that:

- *are included in an emissions trading Program; or*
- *take place in a jurisdiction or sector in which binding limits are established on GHG emissions;*

shall provide evidence that the reductions or removals generated by the project have or will not be used in the Program or jurisdiction for the purpose of demonstrating compliance. The evidence could include:

- *a letter from the Program operator or designated national authority that emissions allowances (or other GHG credits used in the Program) equivalent to the reductions/removals generated by the project have been cancelled from the Program; or national cap as applicable or;*
- *purchase and cancellation of GHG allowances equivalent to the reductions/removals generated by the project related to the Program or national cap.”*

DNV requested to project participants to provide and include in the VER/VCU Monitoring Report additional information in order to satisfy the clauses 1.12, 1.13, 1.14, 8.1 and 8.2 of the VCS Project Description template (<http://v-c-s.org/docs/VCS%20PD.doc>), as per the “Policy Announcement from the VCS Association - Further Guidance for Projects that are Registered in Two GHG Programs”

The requested additional information was provided and included in the VER/VCU Monitoring Report of dated 3 September 2008. The detailed description is provided in Appendix B of this report.

1.2.2 Verification Criteria

According to the requirements and guidance of VCS 2007, the criteria of this verification include the relevant applicable rules and steps for CER verification under the CDM excluding:

- The public availability of the VER/VCS Monitoring Report;
- The public availability the Verification Report and VCU Certification Statement.



1.3 VCS Project Description

The project is located in Jinghai Town, Huilai County, Jieyang City, Guangdong Province of China. The project is a wind farm power plant. The proposed installed capacity is 100.2 MW consisting 167 sets of 600 kW turbines. The details of the turbines with respect to their numbers, type and model of the machines have been verified to be as per details provided in the PD and registered CDM PDD.

The electricity generated is supplied to CSPG (which is dominated by coal-fired power plants) under Power Purchase Agreements (PPAs) /4/.

The project has accounted for emission reductions generated by the proposed project from 31 March 2006 to 30 August 2008. The projects emission reductions are determined by multiplying the net amount of electricity generated by the project by an estimated *ex-ante* fixed grid emission coefficient of 0.8913 tCO₂e/MWh.

Title of the project activity:	Shibeishan Wind Power Generation Project in Huilai County, Guangdong Province China
Location of the project activity:	Jinghai Town, Huilai County, Jieyang City, Guangdong Province of China
VCU Verification period:	31 March 2006 to 30 August 2008
Project Operation start date:	28 September 2005

1.4 Level of assurance

As the VCS 2007 only recognizes verified emission reductions, DNV has focused on providing the highest level of assurance that the emission reduction calculation methodology used is appropriate and correctly applied, and that emission reductions have been accurately monitored.

For verifying/certifying VCUs, the desired level of assurance was based on the combined quantitative assessment of the accuracy of monitoring project performance and the identification of material risks.

2 VERIFICATION METHODOLOGY

The verification of the emission reductions has assessed all factors and issues that constitute the basis for emission reductions from the project according to the applicable consolidated CDM methodology ACM0002 version 06, including,

- The review of the calculation of the carbon emission factor for the CSPG
- The net electricity supplied by the project activity to CSPG

Verification Team:

Mr. Peng Huang	DNV Certification Beijing	Team leader, CDM Validator
Mr. Tao Li	DNV Certification Beijing	GHG Auditor
Mr. Tim Kuo	DNV Certification Beijing	Verifier
Mr. Michael Lehmann	DNV Certification Oslo	Sector Expert
Mrs. Anjana Sharma	DNV Certification Bangalore	Technical Reviewer.

**Duration of verification:**

Preparation – (monitoring report review baseline grid factor estimations etc.)	: 21-24 August 2008
Site visit	: 26-27 August 2008
Desk interview	15 September 2008
Reporting	: 1 September ~19 November 2008

2.1 Review of Documentation

The monitoring report /1/ and the monthly electricity generation receipts from Jieyang Power Bureau of Guangdong Power Grid Company Limited on behalf of CSPG were assessed as a part of the verification. In addition the VCS Project Description /2/, in particular the baseline estimations and the monitoring plan contained in the PD, the registered CDM PDD and the project test and joint inspection report /5/ were also assessed.

2.2 Site Visit and Desk Interview

In the period of 26-27 August 2008, DNV performed a site visit at Shibeishan Wind Power Generation Project in Huilai County, Guangdong Province China. During this visit, DNV verified the actual implementation of the project as described in the PD /2/ and the registered CDM PDD /3/. The electricity meters and calibration records of the meters /10/ were checked and found to be in order. The electricity generated is hourly measured, monthly recorded and the net electricity generation is cross checked by the receipt from Jieyang Power Bureau of Guangdong Power Grid Company Limited /9/ to be correct.

On 15 September 2008, DNV performed a desk interview at DNV Beijing office. During this desk interview DNV verified the Document indicating the number of kWh indicated by the meter from Jieyang Power Bureau of Guangdong Power Grid Company Limited 31 July 2008 to 30 August 2008, and the electricity sales receipt of 31 July 2008 to 30 August 2008 to be correct.

3 VERIFICATION FINDINGS**3.1 Remaining issues, including any material discrepancy, from previous validation**

Based on the validation report the verification team identified no missing steps, open issues or material discrepancy.

3.2 Project Implementation

The project has been implemented as planned. DNV was able to verify the total capacity of the turbines to be 100.2 MW. DNV was also able to verify the project test and joint inspection report dated 15 March 2007 /5/ which also includes the details regarding the accuracy tests of the meters prior to their installation.

The commissioning date of the turbines is 28 September 2005 and hence, the project started generating emission reductions from this date onwards. However, in accordance with VCS 2007, the earliest crediting period can be either:

- 28 March 2006 or
- Two years prior to the validation completion whichever is later.



For the project, the validation was completed by DNV on 31 August 2008. Hence, for the current verification, the project developer has selected 31 March 2006 as the start date of the crediting period. The emission reductions have been claimed for this period.

The electricity generation details for this period (31 March 2006 to 30 August 2008) have been verified from the Form 'Power Station Running Recording' /11/ and as certified by the Jieyang Power Bureau of Guandong Power Grid Company Limited for receipts /9/. The meter test reports of the project have been verified and found to be in order.

3.3 Completeness of Monitoring

The reporting procedures reflect the content of the monitoring plan. The monitoring mechanism is effective and reliable.

The monitoring indicator, i.e., the net electricity generation, has been monitored with calibrated energy meters as described in the monitoring plan of the PD, the registered CDM PDD and monitoring report.

3.4 Accuracy of emission reduction calculations

DNV assessed the different areas that can affect the final emission reduction calculations. All the possible areas were assessed thoroughly to check the accuracy of calculations:

- Electricity generation readings:

- a) *Accuracy of the Meters:* It has been verified by DNV that the electricity generated, electricity imported from the grid and also the net supply to the grid is monitored using the energy meters. An electricity meter, which can measure the electricity supplied to the grid and self consumed at the same time, is installed by Jieyang Power Bureau of Guandong Power Grid Company Limited. The ownership of the meter have after commissioning been transferred to Jieyang Power Bureau of Guandong Power Grid Company Limited for future maintenance. The type of the meter is Changsha Weishang DTSD341 and the permissible limit for the meter is 0.5% accuracy class. The meter is jointly inspected and sealed on behalf of the parties and is not interfered with by either party except in the presence of the other party or its accredited representatives. The general conditions set out for metering, recording, meter readings, meter inspections, test & checking and communication are as per the PPA (power purchase agreement) /4/ with Jieyang Power Bureau of Guandong Power Grid Company Limited. Test and joint inspection reports have been verified.
- b) *Date recording:* Monthly meter readings are taken jointly by the parties on the second last day of the every month at 19:00. At the conclusion of each meter reading an appointed representative of the Jieyang Power Bureau of Guandong Power Grid Company Limited on behalf of CSPG and Guangdong Yudean Shibeishan Wind Power Development Co., Ltd. sign a document indicating the number of kWh indicated by the meter /14/. This is then forwarded by Jieyang Power Bureau of Guandong Power Grid Company Limited to Guangdong Yudean Shibeishan Wind Power Development Co., Ltd.



- **Grid emission factor:** As per the registered PDD and also the VCS PD, the grid emission factor for China Southern power grid has been fixed *ex-ante* and the same will be used during this verification period.

Based on the above discussion, DNV is of the opinion that for the current verification period (31 March 2006 to 30 August 2008), the project developer has taken sufficient steps to ensure the accuracy of reported emission reductions.

3.5 Quality of evidence to determine emission reductions

The emission reductions ER_y by the project activity during the crediting period is the difference between baseline emissions (BE_y), project emissions (PE_y) and emissions due to leakage (L_y), as follows:

- 1) Baseline emissions: Baseline emissions (BE_y in tCO_2) are the product of the baseline emissions factor (EF_y in tCO_2/MWh) times the electricity supplied by the project activity to the grid (EG_y in MWh).
- 2) Project emissions: The project emissions are regarded as zero.
- 3) Leakage: No leakage has to be considered for the proposed project activity.
- 4) Emission reductions: $ER_y = BE_y - PE_y - L_y = BE_y$.

For the calculation of the OM emission factor, the simple OM emission factor calculation method is selected because low cost must run projects constitute less than 50% of the total grid generation and data is not available for applying the dispatch data analysis.

The OM is calculated to be 0.9998 tCO_2/MWh as a generation-weighted average for the three years,

The BM is calculated as 0.5658 tCO_2/MWh .

The weights ω_{OM} and ω_{BM} are selected as 0.75 and 0.25, respectively, as stipulated for wind farm project by ACM0002 version 6. The combined margin of 0.8913 tCO_2e/MWh is fixed *ex-ante* for the first crediting period.

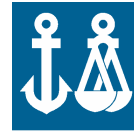
The last data used to calculate OM is derived from China Energy Statistical Yearbooks 2000 to 2005; the BM calculation is derived from China Power Electric Power Yearbooks 2003 to 2005.

The GHG calculations are complete and transparent, and their accuracy has been verified.

The total electricity generated is 306 095MWh and the captive power by the project is 2 438 MWh. The net amount of electricity is 303 657MWh. The same was verified from the presented electricity generation receipts /9/of Jieyang Power Bureau of Guandong Power Grid Company Limited. Based on this net electricity generation and the ex- ante fixed grid emission factor, the emission reductions resulting from the proposed project during the period from 31 March 2006 to 30 August 2008 have been calculated as 270 648 tCO_2e .

The detailed information regarding the energy generated and emission reductions claimed for the proposed period are as shown in the following table:

Period	Power Generated MWh	Power Consumed MWh	Net Power Supplied MWh	ER factor (tCO_2/MWh)	Emission Reductions (tCO_2)
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2006.03.31- 2006.12.30	57 328	1 188	56 140	0.8913	50 037
2006.12.31- 2007.12.30	148 579	729	147 850	0.8913	131 778
2007.12.31- 2008.08.30	100 188	521	99 667	0.8913	88 833
Total	306 095	2 438	303 657		270 648

3.6 Management System and Quality Assurance

Monitoring and reporting of electricity generation is part of normal operations of Guangdong Yudean Shibeishan Wind Power Development Co., Ltd. The quality of meter readings is assured through calibration of electricity meters /10/ and through cross checking of readings between the meter and the receipts.



4 VERIFICATION STATEMENT

Det Norske Veritas Certification AS has performed a verification of emission reductions reported for the “Shibeishan Wind Power Generation Project in Huilai County, Guangdong Province China” managed by Guangdong Yudean Shibeishan Wind Power Development Co., Ltd. from 31 March 2006 to 30 August 2008. The project is registered as CDM project activity ((UNFCCC Registration Ref. No. 1627).

Guangdong Yudean Shibeishan Wind Power Development Co., Ltd. is responsible for the collection of data in accordance with the validated monitoring plan and the reporting of GHG emissions reductions from the project.

It is DNV’s responsibility to express an independent verification statement on the reported GHG emission reductions from the project.

In DNV’s opinion the GHG emissions reductions reported for the project in the monitoring report of 3 September 2008 are fairly stated and the project design meets all VCU Verification Criteria.

The GHG emission reductions were calculated correctly on the basis of the baseline and monitoring methodology, ACM0002 version 06 and the monitoring plan provided in the PD. The emission reductions are claimed as Voluntary Carbon Units (VCU) under the Voluntary Carbon Standard (VCS).

Det Norske Veritas Certification AS is able to certify that the emission reductions from the ‘Shibeishan Wind Power Generation Project in Huilai County, Guangdong Province China’, managed by Guangdong Yudean Shibeishan Wind Power Development Co., Ltd. during the period from 31 March 2006 to 30 August 2008 amount to 270 648 tCO₂e.

DNV does not assume any responsibility towards the issuance and utilization of the VCUs hereby verified and certified. Request for issuance of VCUs shall be made by the project proponent to an approved VCS Program Registry based on the requirements set out under the most recent version of the VCS Program Guidelines clause on VCS Registration.

The verification of reported emission reductions is based on the information made available to us and the engagement conditions detailed in this report. Det Norske Veritas Certification AS cannot guarantee the accuracy or correctness of this information. Hence, Det Norske Veritas Certification AS cannot be held liable by any party for decisions made or not made based on this report.



Reporting period: from 31 March 2006 to 30 August 2008

Verified emissions in the above reporting period: Emission reductions 270 648 tCO₂e

Beijing, 10 November 2008



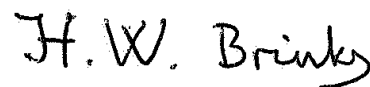
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CDM Validator

Climate Change Services

***DET NORSKE VERITAS CERTIFICATION AS
AS***

Oslo, 19 November 2008



Hendrik W. Brinks

Technical Director for CDM

Climate Change Services

DET NORSKE VERITAS CERTIFICATION



REFERENCES

Category 1 Documents:

Documents provided by the Project Participants that relate directly to the GHG components of the project. These have been used as direct sources of evidence for the initial verification conclusions, and are usually further checked through interviews with key personnel.

- /1/ Monitoring Report of Shibeishan Wind Power Generation Project in Huilai County, Guangdong Province China dated 3 September 2008.
- /2/ VSC PD of Shibeishan Wind Power Generation Project in Huilai County, Guangdong Province China, Version 1, 22 August 2008.
- /3/ PDD for Shibeishan Wind Power Generation Project in Huilai County, Guangdong Province China Version 4.0 of 15 August 2008.
- /4/ Power Purchase Agreement between Guangdong Yudean Shibeishan Wind Power Development Co., Ltd. and Jieyang Power Bureau of Guandong Power Grid Company Limited on behalf of CSPG, dated 23 September 2005.
- /5/ Project Test and Joint Inspection Report of 15 March 2007
- /6/ Validation Report Version 01, by DNV dated 5 September 2008.
- /7/ Emission Reduction calculation spreadsheet 3 September 2008
- /8/ Business License of the project owner, Registered No. 001601
- /9/ Sales receipts from 31 March 2006 to 30 August 2008.
- /10/ Electricity meter calibration reports dated 12 September 2006 and 18 September 2007.
- /11/ Power station running recording from 31 March 2006 to 30 August 2008.
- /12/ The FSR (feasibility study report) of Shibeishan Wind Power Generation Project in Huilai County, Guangdong Province China in November 2003 and the approval letter by the National Development and Reform Commission on 29 January 2004.
- /13/ The EIA of Shibeishan Wind Power Generation Project in Huilai County, Guangdong Province China in July 2006 and the approval letter by the Environmental Protection Bureau of Guangdong Province on 8 August 2006.
- /14/ Document indicating the number of kWh indicated by the meter from Jieyang Power Bureau of Guandong Power Grid Company Limited 31 March 2006 to 30 August.

Category 2 Documents:

Background documents related to the design and/or methodologies employed in the design or other reference documents. Where applicable, Category 2 documents have been used to cross-check project assumptions and confirm the validity of information given in the Category 1 documents and in verification interviews.



- /15/ International Emission Trading Association (IETA) & the World Bank's Prototype Carbon Fund (PCF): *Validation and Verification Manual*. <http://www.vvmanual.info>
- /16/ ACM0002 – Approved Consolidated baseline and monitoring methodology Date 19 May 2006.
- /17/ Voluntary Carbon Standard 2007 (VCS 2007), 19 November 2007.
- /18/ The guidance for deviation in use of methodology AM0005 by several project activities in China by EB. <http://cdm.unfccc.int/Projects/Deviations>.
- /19/ The statistics by State Electricity Regulatory Commission (SERC) on newly built thermal plants in 10th "Five-Year Plan" period 2000-2005, and NDRC official website <http://cdm.ccchina.gov.cn/WebSite/CDM/UpFile/2006/20061215144747182.pdf>.
- /20/ The declaration letter from the project owner announces that all carbon credits for the period of 1 April 2006 to the date of CDM registration(17 September 2008) will only sell it once as VCS credits.

Persons interviewed:

Persons interviewed during the initial verification, or persons contributed with other information that are not included in the documents listed above.

- /21/ Mr. Wang hui, department manager of Zhuhai Hunter Energy Resources Development Co., Ltd
- /22/ Mr. Shen Ying, project manager of Zhuhai Hunter Energy Resources Development Co., Ltd
- /23/ Mr. Xie Biao, general manager, Guangdong Yudean Shibeishan Wind Power Development Co., Ltd.
- /24/ Mr. Zhang Youjun, project manager, Guangdong Yudean Shibeishan Wind Power Development Co., Ltd.
- /25/ Dr. Zhao Ruihong, Specialist of PD and MR, consultant, Beijing MD Energy Technology Co.,Ltd

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APPENDIX A

VERIFICATION CHECKLIST



Table 1: Data Management System/Controls

The project operator's data management system/controls are assessed to identify reporting risks and to assess the data management system's/control's ability to mitigate reporting risks. The GHG data management system/controls are assessed against the expectations detailed in the table. A score is assigned as follows:

- Full - all best-practice expectations are implemented.
- Partial - a proportion of the best practice expectations is implemented
- Limited - this should be given if little or none of the system component is in place.

Expectations for GHG data management system/controls	Score	Verifiers Comments (including <i>Forward Action Requests</i>)
A. Defined organisational structure, responsibilities and competencies		
A.1. Position and roles <i>Position and role of each person in the GHG data management process is clearly defined and implemented, from raw data generation to submission of the final data. Accountability of senior management must also be demonstrated.</i>	Full	During the on site visit, the CDM Monitoring manual for Shibeishan Wind Power Generation Project in Huilai County, Guangdong Province China, was provided. Position and the role of the CDM inspector in the GHG data management process are clearly defined and implemented. Accountability of senior management, including CDM project manager, general manager and management representative, is also demonstrated, mainly responsible for resource arrangement and final approval of the CDM project.
A.2. Responsibilities <i>Specific monitoring and reporting tasks and responsibilities are included in job descriptions or special instructions for employees.</i>	Full	Specific monitoring and reporting tasks and responsibilities are included in the CDM Monitoring manual for Shibeishan Wind Power Generation Project in Huilai County, Guangdong Province China, and the relevant operational working instructions are defined in the quality. These descriptions had been verified during the on site visit and found to be clear.



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Expectations for GHG data management system/controls	Score	Verifiers Comments (including <i>Forward Action Requests</i>)
A.3. Competencies needed <i>Competencies needed for each aspect of the GHG determination process are analysed. Personnel competencies are assessed and training programme implemented as required.</i>	Full	Competencies of the personnel in charge of monitoring and calculation process deem sufficient. The training needs and training programme are defined in the CDM Monitoring manual for Shibeishan Wind Power Generation Project in Huilai County, Guangdong Province China. During the on site visit, all the training records and the certificates related to key operation had been verified, the interview and the running records show that, the operation personnel are understand the responsibility of their position and also they were finished their monitoring job as CDM Monitoring manual mentioned.
B. Conformance with monitoring plan		
B.1. Reporting procedures <i>Reporting procedures should reflect the monitoring plan content. Where deviations from the monitoring plan occur, the impact of this on the data is estimated and the reasons justified.</i>	Full	Reporting procedures addressed in the monitoring plan of the registered PDD is obtained on site and integrated into the CDM Monitoring manual.
B.2. Necessary Changes <i>Necessary changes to the monitoring plan are identified and changes are integrated in local procedures as necessary.</i>	Full	No changes were identified to the monitoring plan.



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Expectations for GHG data management system/controls	Score	Verifiers Comments (including <i>Forward Action Requests</i>)
C. Application of GHG determination methods		
C.1. Methods used <i>There are documented description of the methods used to determine GHG emissions and justification for the chosen methods. If applicable, procedures for capturing emissions from non-routine or exceptional events are in place and implemented.</i>	Full	Integral part of the methods used to determine GHG emissions are documented properly. The baseline emission is the emission factor times the annual power supplied to grid. The emission factor is the 0.75 of the operating margin (OM) and 0.25 of build margin (BM) which was properly determined <i>ex-ante</i>. The only monitored parameter is the power supplied to grid, which is monitored continuously and recorded monthly. No deviation from the monitoring plan was detected.
C.2. Information/process flow <i>An information/process flow diagram, describing the entire process from raw data to reported totals is developed.</i>	Full	An information/process flow was included in the CDM Monitoring Manual for Shibeishan Wind Power Generation Project in Huilai County, Guangdong Province China”
C.3. Data transfer <i>Where data is transferred between or within systems/spreadsheets, the method of transfer (automatic/manual) is highlighted - automatic links/updates are implemented where possible. All assumptions and the references to original data sources are documented.</i>	Full	Guangdong Yudean Shibeishan Wind Power Development Co., Ltd. applies process control system (DCS) system, which can judge, select and record the applicable data automatically, which well avoid the data transfer mistake. There are no material mistake was found of data transfer.
C.4. Data trails <i>Requirements for documented data trails are defined and implemented and all documentation are physically available.</i>	Full	All necessary raw/intermediate data is maintained properly. Any non-routine event has been recorded and maintained and is found effective to demonstrate transparency.



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Expectations for GHG data management system/controls	Score	Verifiers Comments (including <i>Forward Action Requests</i>)
D. Identification and maintenance of key process parameters		
D.1. Identification of key parameters <i>The key physical process parameters that are critical for the determination of GHG emissions (e.g. meters, sampling methods) are identified.</i>	Full	The key physical parameters are identified as the reading records of electricity meter.
D.2. Calibration/maintenance <i>Appropriate calibration/maintenance requirements are determined.</i>	Full	Calibration for the measurement equipment has been conducted based on the procedure.
E. GHG Calculations		
E.1. Use of estimates and default data <i>Where estimates or default data are used, these are validated and periodically evaluated to ensure their ongoing appropriateness and accuracy, particularly following changes to circumstances, equipment etc. The validation and periodic evaluation of this is documented.</i>	Full	The carbon emission factor is used as combined margin (CM), determined as combination of operating margin (OM) and build margin (BM) and calculated <i>ex-ante</i> in the registered PDD.
E.2. Guidance on checks and reviews <i>Guidance is provided on when, where and how checks and reviews are to be carried out, and what evidence needs to be documented. This includes spot checks by a second person not performing the calculations over manual data transfers, changes in assumptions and the overall reliability of the calculation processes.</i>	Full	There is no material error on calculation and reporting.
E.3. Internal verification <i>Internal verifications include the GHG data management systems, to ensure consistent application of calculation methods.</i>	Full	It is fully understood by the relevant personnel.



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Expectations for GHG data management system/controls	Score	Verifiers Comments (including <i>Forward Action Requests</i>)
E.4. Internal validation <i>Data reported from internal departments should be validated visibly (by signature or electronically) by an employee who is able to assess the accuracy and completeness of the data. Supporting information on the data limitations, problems should also be included in the data trail.</i>	Full	Data used for calculation do not include any mistake and the current validation mechanism seems to be effective.
E.5. Data protection measures <i>Data protection measures for databases/spreadsheets should be in place (access restrictions and editor rights).</i>	Full	Data protection measures for databases/spreadsheets have been clearly included in the CDM Monitoring Manual for Shibeishan Wind Power Generation Project in Huilai County, Guangdong Province China, which has been verified in place.
E.6. IT systems <i>IT systems used for GHG monitoring and reporting should be tested and documented.</i>	Full	IT systems used for monitoring and reporting the electricity generated and delivered to the grid have been maintained properly.



Appendix B

Clarification of clauses 1.12, 1.13, 1.14, 8.1 and 8.2 of the VCS PD

The proposed project has been registered as a CDM project on 17 September 2008 and the reference number is 1627. As the VCS came into force on 19 November 2007, this monitoring period shall be verified against the VCS2007 in terms of the VCS 2007. This clarification is annexed to cover all the requirements set out in the VCS2007 for project validation together with the validated PDD (version 4.0, dated 15 August 2008), according to the Policy Announcement from the VCS Association.

(<http://www.v-c-s.org/documents.html>)

Clarification of clauses 1.12, 1.13, 1.14, 8.1 and 8.2 of the VCS PD are as follows:

1.12 Demonstration to confirm that the project was not implemented to create GHG emissions primarily for the purpose of its subsequent removal or destruction.

Clarification: As a wind energy project, the proposed project will produce clean electricity using wind power resources and will generate GHG emission reductions by avoiding CO₂ emissions from electricity generation of fossil fuel fired power. Operation of this project does not lead to GHG emissions. It is confirmed that the project was not implemented to create GHG emissions primarily for the purpose of its subsequent removal or destruction.

1.13 Demonstration that the project has not created another form of environmental credit (for example renewable energy certificates).

Clarification: The project is located in China and is developed and operated by Zhuhai Hunter Energy Resources Development Co., Ltd, which is a Chinese Investment Enterprise. There is no other environmental credit (for example renewable energy certificate) which has or will be produced by or obtained for the project /20/.

1.14 Project rejected under other GHG programs (if applicable):

Clarification: The proposed project is a registered CDM project, which does not fall into rejected projects under other GHG programs.

8.1 Proof of Title:

Clarification: Evidence of proof of title has been demonstrated via documentation proving ownership of the plant and equipment at the site. The owner has also obtained all relevant permits for to the proposed project including a Business License /8/FSR (Feasibility Study Report) approval /12/, EIA approval /13/ and PPA /4/. The project's design and implementation has been carried out in compliance with all relevant and national legislation in China.



8.2 Projects that reduce GHG emissions from activities that participate in an emissions trading program (if applicable):

The proposed project has been registered as a CDM project on 17 September 2008 and the reference number is 1627, for which a renewable crediting period of 3×7 years will be used under the CDM GHG Program and the first crediting period is from 17 September 2008 to 16 September 2015. Therefore, GHG emission reductions generated by the proposed project during the CDM crediting period will be verified as unique CERs during the CDM crediting period. Only GHG emission reductions achieved from 31 March 2006 to 30 August 2008 will be considered as VCU under the VCS 2007.