

# VCS VERIFICATION REPORT FOR GUOHUA RONGCHENG PHASE II WIND FARM PROJECT



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**Summary:**

China Classification Society Certification Company(CCSC), commissioned by Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd., has performed a Verification of the Guohua Rongcheng Phase II Wind Farm Project (hereafter referred to as “the project”), on the basis of requirements of Verified Carbon Standard (VCS) Version 3.4.

The project is developed and operated by Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd, which is located in Chengshan Town, Rongcheng City, Shandong Province, People’s Republic of China. The project is a newly built wind farm project. The total installed capacity of the project is 49.5MW which consists of 33 wind turbines with unit capacity of 1500kW. The project is intended to reduce CO<sub>2</sub> emissions through displacing the electricity generated by mostly fossil fuel based power plants connected to the North China Power Grid (NCPG).

The Project has been validated and registered as a CDM project (UNFCCC reference No. 4882) under approved CDM methodology ACM0002 version 12.1.0: “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” with the renewable crediting period starting from 25/06/2011, which is within 2 years after the Project start date, i.e. date of starting operation on 30/06/2010. The crediting period for the Project under the VCS is from 30/06/2010 to 21/06/2011 (incl. both days).

As the Project has been validated and registered under the CDM, a gap validation is carried out in accordance with the requirements in Para. 3.11.9 of VCS Standard (Version 3.4). The validation was undertaken and accompanied by a validation representation. The verification scope encompasses an

independent and objective review and ex-post determination of the monitored reductions in GHG emissions by the CCSC.

The purpose and scope of this verification is to ensure that the reported emission reductions are complete and accurate and in accordance with applicable VCS requirements.

The verification process includes three phases:

- 1) Desk review of documents;
- 2) On-site visit and follow-up interviews;
- 3) Resolution of outstanding issues and the issuance of the final verification report and opinion.

CCSC appointed a qualified verification team in accordance with internal procedures to perform the verification. In the course of the verification, 0 Corrective Action Request (CAR) and 1 Clarification Request (CL) was raised and successfully closed.

As a result of this verification, the verification team confirms that:

- All operations of the project are implemented and installed as planned and described in the validated project design document (under CDM);
- The approved MP is in accordance with the applied approved CDM methodology ACM002 version 12.1.0;
- The installed equipment for measuring parameters required for calculating emission reductions are calibrated appropriately;
- The monitoring system is in place and functional;

Based on the information observed and evaluated, the verification team confirms that the emission reductions are correctly calculated in the MR version 2.0 dated 06/05/2014.

In conclusion, it is CCSC's opinion that the project activity "Guohua Rongcheng Phase II Wind Farm Project", as described in the Monitoring Report version 2.0 dated 06/05/2014, meets all relevant requirements for VCS and all relevant host Party criteria. Hence, CCSC is able to certify that the emission reductions from the project during the monitoring period from 30/06/2010 to 21/06/2011 (both days included, 357 days) amount to 88,413 tCO<sub>2</sub>e and requests issuance of the equivalent VCUs.

**Table of Contents**

1 Introduction..... 5

1.1 Objective ..... 5

1.2 Scope and Criteria ..... 5

1.3 Level of assurance..... 6

1.4 Summary Description of the Project ..... 6

2 Verification Process ..... 7

2.1 Method and Criteria ..... 7

2.2 Document Review..... 7

2.3 Interviews ..... 8

2.4 Site Inspections ..... 9

2.5 Resolution of Findings..... 10

2.6 Eligibility for Validation Activities..... 11

3 Validation Findings..... 12

3.1 Participation under Other GHG Programs ..... 12

3.2 Methodology Deviations..... 15

3.3 Project Description Deviations..... 15

3.4 Grouped Project..... 15

4 Verification Findings..... 16

4.1 Project Implementation Status..... 16

4.2 Accuracy of GHG Emission Reduction or Removal Calculations..... 21

4.3 Quality of Evidence to Determine GHG Emission Reductions or Removals..... 25

4.4 Non-Permanence Risk Analysis ..... 27

5 Verification conclusion ..... 27

6 Reference..... 29

Appendix A: Resolution of Corrective Action Requests and Clarification Requests ..... 31

APPENDIX B: CERTIFICATES OF COMPETENCE ..... 32

## 1 INTRODUCTION

### 1.1 Objective

Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd. has commissioned CCSC to carry out gap validation in accordance with the requirements in Para. 3.11.9 of VCS Standard (Version 3.4) and to verify and provide a verification statement of the emission reductions for the registered CDM project “Guohua Rongcheng Phase II Wind Farm Project” for the monitoring period from 30/06/2010 to 21/06/2011, prior to the start of its first CDM crediting period. Guohua Rongcheng Phase II Wind Farm Project, owned by Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd, is located in Chengshan Town, Rongcheng City, Shandong Province, People’s Republic of China.

CCSC as the validation/verification body (VVB) of the Project has been accredited as a DOE by UNFCCC and also meets the competence requirements as set out in ISO 14065:2007.

Verification of “pre-CDM” emission reductions from a project activity is the independent review and ex post determination by VVB of the monitored reductions in GHG emissions during the period from the project start date until the date when the Project got registered by CDM EB (the Project was registered as a CDM project by CDM EB on 22/06/2011, and its first CDM credit period started from 25/06/2011). The objectives of verification are to:

- a) Ensure that the project activity has been implemented and operated as per the VCS project description (VCS-PD) and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- b) Ensure that the monitoring report and other supporting documents provided are complete in accordance with the latest applicable version of *Registration and Issuance Process 171* and in accordance with the additional requirements stated by the VCS Association (VCSA);
- c) Ensure that actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved methodology;
- d) Evaluate the data recorded and stored as per the monitoring methodology.

### 1.2 Scope and Criteria

As the project has been validated and registered under the CDM, gap validation was carried out in accordance with the requirements in Para. 3.11.9 of VCS Standard (Version 3.4) /6/. The validation was undertaken and accompanied by a validation representation.

The verification scope encompasses an independent and objective review and ex-post determination of the monitored reductions in GHG emissions by the CCSC. The verification scope covers the relevant documents (e.g. the VCS-PD, the monitoring plan, the VCS monitoring report (VCS-MR), the emission reduction calculation spreadsheet, supporting documents available to the verifiers and information collected through performing interviews and during the on-site assessment, VCAS's requirements publicly available, relevant rules, including the host country legislation, etc.) to be independently reviewed, the project geographical locations to be visited on-site, the related project local stakeholders to be interviewed with, and the processes that are necessary to acquire objective evidence for the evaluation of the project compliance to the VCS requirements, CDM approved methodology ACM0002 version 12.1.0, UNFCCC rules and associated interpretations.

The above verification activities are conducted according to the VCSA requirements. In doing so, the principles of accuracy and completeness, relevance, reliability and credibility were followed.

The verification is not meant to provide any consulting service towards the client. However, the stated requests for clarifications and/or corrective actions may provide input for improvement of the project.

### **1.3 Level of assurance**

CCSC has undertaken a reasonable assurance engagement in accordance with VCS Standard (Version 3.4) /6/. It requires a reasonable level of assurance in verification that GHG assertions are free of material errors, omissions and misrepresentations. The verification conclusion is based on the VCS-PD, VCS-MR, CDM-PDD, supporting evidences made available to the verifiers and information collected through performing interviews and during the on-site inspection.

### **1.4 Summary Description of the Project**

The project is a newly built wind farm project and located in Chengshan Town, Rongcheng City, Shandong Province, People's Republic of China. The total installed capacity of the project is 49.5MW which consists of 33 units of wind turbines with capacity of 1500kW each unit. The project is intended to reduce CO<sub>2</sub> emissions through displacing the electricity generated by mostly fossil fuel based power plants connected to the North China Power Grid (NCPG). As per registered PDD /4/, the operational lifetime of the project is designed as 20 years, net electricity of 102,337MWh is supplied to NCPG via 110kV Substation plus one back up line for emergence case, and 97,240 tCO<sub>2</sub>e emission reductions are acquired per year.

The project has been registered as a CDM project (UNFCCC reference No. 4882) under approved CDM methodology /27/ ACM0002 version 12.1.0 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" with the renewable crediting period starting from 25/06/2011. The project start date is 30/06/2010, when the first unit of turbine generator started electricity generation. The crediting period for the Project under the VCS is from 30/06/2010 to 21/06/2011.

The construction of the project started on 18/12/2009 /29/. The first water turbine and generator units started operation on 30/06/2010 /26/.

During the monitoring period from 30/06/2010 to 21/06/2011, the total net electricity supplied to the grid by the Project is 93,047.912 MWh, thus the total VCUs achieved by the Project were 88,413 tCO<sub>2</sub>e.

## 2 VERIFICATION PROCESS

### 2.1 Method and Criteria

The overall verification, from Contract Review to Verification Report & Opinion, was conducted using CCSC internal procedures.

CCSC verified the Project against the requirements set in VCS/6/ /7/ /9/ and other relevant VCS requirements.

The following sections outline each step in more detail.

### 2.2 Document Review

A desk review of the VCS-PD, monitoring plan, the validation report, the applied monitoring methodology, VCS monitoring report (VCS-MR) and supporting documents was conducted by the

verification team. The aim of the desk review of the documentation is to verify the completeness of the data and the information presented, to carry out the compliance check of the VCS-MR with respect to the monitoring plan and the applied methodology. Particular attention was given to the frequency of measurements, the quality of the metering equipment including calibration requirements, and the quality assurance and quality control procedures. The evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions was also conducted.

To address the CCSC’s clarification requests, the VCS-MR was revised and resubmitted by PP. The final verification conclusion presented in this report is based on the revised VCS-MR version 2.0 dated 06/05/2014 /1/.

Section 6 of this report contains a complete list of all documents and proofs reviewed by the verification team.

### 2.3 Interviews

On 15/04/2014, CCSC performed an on-site assessment at the physical site of the project located in Chengshan Town, Rongcheng City, Shandong Province, People’s Republic of China.

The verification team verified that the actual implementation of the project was as described in the VCS-PD version 2.0 dated 06/05/2014 /3/ and registered PDD /4/. This included the review of the project operation based on the evidence of on-site observation and presented documents.

During the on-site assessment, the verification team has interviewed with key personnel from the project owner (the project participant) and the consultancy.

The assessment content and topics/the persons interviewed at the on-site assessment were provided in the below table.

Date: 15/04/2014	
Interview topics	Interviewed Organizations and persons
--The status of VCS project implementation -- Any changes of the VCS project. -- The project on-site inspection —The evidences of construction status and operation of key equipment, parameters monitoring and data processing activities, monitor equipment and calibration. -- Monitoring data --Quality Management; organizational structure, responsibilities and competencies	Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd (the project owner) 1. Mr. Liu XinGuang, Leader of the power plant; 2. Mr. Wei Wei, Manager of the Guohua Shangdong Branch. 3. Ms, Jiang Xue, Manager of the operation depoartment 4. Mr. Song Xiaoliang, Manager of the operation department

<b>Date: 15/04/2014</b>	
<b>Interview topics</b>	<b>Interviewed Organizations and persons</b>
Internal QA/QC Management procedures and document control (QA/QC) -- Environmental Impacts --Compliance with National Laws and Regulations	5. Mr. Wang Haiwei, Manager of the operation department
--Preparation of Project Description, Monitoring Report -- Compliance of the monitoring plan with the monitoring methodology -- Compliance of monitoring with the monitoring plan -- Assessment of data and calculation of GHG emission reductions	Carbon Asset Center of Shenhua Guohua Energy Investment Co., Ltd. (Consulting Company): 1. Ms. Guan Xiaoqing, Project manager of Carbon Asset Center of Guohua,

## 2.4 Site Inspections

The on-site assessment involved following activities,

- 1) An assessment of the implementation and operation of the project activity as per the VCS-PD;
- 2) A review of information flows for generating, aggregating and reporting the monitoring parameters;
- 3) Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the approved monitoring plan;
- 4) A cross-check between information provided in the monitoring report and data from other sources such as operational records or similar data sources;
- 5) A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the VCS-PD, VCS-MR and the selected methodology;
- 6) A review of calculations and assumptions made in determining the GHG data and emission reductions;
- 7) An identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

## 2.5 Resolution of Findings

During the verification of the project activity, to identify issues that need to be further elaborated upon, researched or added to in order to confirm that the project activity meets the VCSA requirements and can achieve credible emission reductions, the verification team will issue a Corrective Action Request (CAR), a Clarification Request (CL) or a Forward Action Request (FAR) depending on different situations.

The objective of this phase of the verification is to resolve issues related to the monitoring, implementation and operations of the registered project activity that could impair the capacity of the registered project activity to achieve emission reductions or influence the monitoring and reporting of emission reductions prior to CCSC's positive conclusion on the GHG emission reduction calculation.

Findings established during the verification can either be seen as a non-fulfilment of criteria ensuring the proper implementation of a project or where a risk to deliver high quality emission reductions is identified.

A Corrective Action Request (CAR) will be raised if one of the following occurs:

- (a) Non-compliance with the monitoring plan or methodology are found in monitoring and reporting and has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient;
- (b) Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants;
- (c) Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;
- (d) Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project participants.

A Clarification Request (CL) will be raised if information is insufficient or not clear enough to determine whether the applicable VCS requirements have been met.

A Forward Action Request (FAR) will be raised, for actions if the monitoring and reporting require attention and/or adjustment for the next verification period.

To guarantee the transparency of the verification process, all findings raised in the course of the verification are documented in more detail in Appendix A.

### **2.5.1 Forward Action Requests**

No FAR was raised during the verification.

### **2.6 Eligibility for Validation Activities**

CCSC, who has undertaken validation activities as part of the verification, holds accreditation for validation the relevant sectoral scope of VCSA.

### 3 VALIDATION FINDINGS

#### 3.1 Participation under Other GHG Programs

Guohua Rongcheng Phase II Wind Farm Project has been registered as a CDM project.

UNFCCC Ref. no.: 4882

Applied methodologies: ACM0002 version 12.1.0: “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”

Registration date: 22/06/2011

Start date of crediting period: 30/06/2010

##### 3.1.1 Gap Validation

The project has been validated and registered under the CDM with reference No. 4882 /27/. In accordance with the item 1) of section 3.11.9 of VCS Standard version 3.4 /6/, the cover page and sections 1.2, 1.3, 1.5, 1.6, 1.7, 1.9, 1.10, 1.12.1, 1.12.2, 1.12.3, 1.12.4 and 1.13 of the VCS Project Description Template have been correctly completed in the project description /3/, and the verification team also have undertaken a validation of same to validate the project’s compliance with the VCS rules as following:

Item	Reference	Validation Opinion
Cover Page	VCS-PD PD Template PDD	The cover page of the VCS project description of the project /3/ is verified to be completed in line with the VCS Project Description Template /8/ and the project title is same as the title of the registered CDM project /4/.
Section 1.2 Sectoral Scope and Project type	VCS-PD UNFCCC website	Based on the registered PDD /4/ and UNFCCC website /27/, as a newly built wind farm project, the project is confirmed to fall in the sectoral scope 1: energy industries (renewable-/non-renewable sources), which has been correctly described in the VCS-PD version 2.0 dated 06/05/2014 /3/. In addition, the project is verified to be a single registered CDM project activity through checking UNFCCC website /27/, thus the project can be considered not to be a grouped project.
Section 1.3 Project Proponent	VCS-PD PDD Business License Interview	The project proponent described in the VCS-PD version 2.0 dated 06/05/2014 /3/ is Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd who is the same as the project owner demonstrated in the registered PDD /4/. By means of reviewing its business license /19/, the name of Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd is consistent with VCS-PD version 2.0 dated 06/05/2014 /3/.  In addition, based on the on-site interview with the management representative of Guohua Resourceful

		(Rongcheng) Wind Power Generation Co., Ltd, it was confirmed that Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd agrees to join the VCS project and the contact information described in the VCS-PD version 2.0 dated 06/05/2014 /3/ is complete and correct as well.
Section 1.5 Project Start Date	VCS-PD VCS Standard Daily meter reading records Daily operation & maintenance logs	The Project start date defined in the section 1.5 of VCS-PD version 2.0 dated 06/05/2014 /3/ is 30/06/2010. This project start date is verified by the verification team to be consistent with the definition specified in VCS Standard version 3.4 /6/ through checking Daily operation & maintenance logs /26/, and Daily meter reading records /12/.
Section 1.6 Project Crediting Period	VCS-PD PDD UNFCCC website	The Project start date is defined as 30/06/2010 in VCS PD version 2.0 dated 06/05/2014 /3/ and according to project information on the UNFCCC website /27/ the starting date of crediting period for the CDM project is 25/06/2011.  Since 30/06/2010, the data have been monitored and collected following the monitoring procedure in the registered PDD /4/. Therefore, the starting date of crediting period for this VCS project is 30/06/2010. The VCS crediting period is from 30/06/2010 to 21/06/2011, which does not overlap with the CDM crediting period starting from 25/06/2011.
Section 1.7 Project scale and Estimated GHG Emission Reductions or Removals	VCS-PD PDD VCS program definitions	By means of checking the registered PDD /4/, the annual estimated GHG emission reductions are 97,240 tCO <sub>2</sub> e. In accordance with the VCS program definitions version 3.5 /9/, the project is not defined as the large project that generates 300,000 tons CO <sub>2</sub> e or more of GHG emissions reductions or removals per year. Thus, it is validated that the scale of the project with estimated emission reductions less than 300,000 tons CO <sub>2</sub> e is “project”.
Section 1.9 Project Location	VCS-PD PDD	The project is located in Chengshan Town, Rongcheng City, Shandong Province, People’s Republic of China, which is consistent with the registered PDD /4/. Also, the central geographical coordinates of 122°26'-122°31'E and 37°20'-37°23'N for the project has been verified on site by the verification team.
Section 1.10 Conditions Prior to Project Initiation	VCS-PD PDD	The registered CDM-PDD /4/ was checked and found that the conditions prior to project initiation is that electricity would be supplied by the fossil-fuel based power plants dominated in North China Power Grid (NCPG), and the Project has not been implemented to generate GHG emissions for the purpose of their subsequent reduction, removal or destruction.
Section 1.12.1 Right of use	VCS-PD FSR approval EIA approval Business license PPA	The Approval of FSR /17/ issued by Development and Reform Commitment of Shandong Province and the Approval of EIA /18/ issued by Environmental Protection Bureau of Shandong Province were checked and found that Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd was authorized to carry out the

		project activity. Further, business license /19/ and PPA /25/ were also checked to confirm its ownership of the project.
Section 1.12.2 Emissions Trading Programs and Other Binding Limits	VCS-PD UNFCCC website	Via UNFCCC website /27/, the project was registered as CDM project activity with UNFCCC Ref. No.4882, indicating the first 7 years CDM crediting period starting from 25/06/2011, thus the GHG emission reductions generated from the reporting period from 30/06/2010 to 21/06/2011 will not be used for compliance with the CDM trading program. In addition, it is demonstrated by going through the public website that it is not found that it is used for compliance with another emission trading program than CDM or to meet binding limits on GHG emissions other than VCS.
Section 1.12.3 Other Forms of Environmental Credit	VCS-PD Interview	During the on-site visit, the management representative, i.e. Mr Liu Xinguang, was interviewed and confirmed that no other form of GHG-related environmental credit for GHG emission reductions or removals has been or will be claimed during the VCS monitoring period from 30/06/2010 to 21/06/2011. In addition, it is not found by going through public website that other forms of GHG related environmental credit is related to the VCS project.
Section 1.12.4 Participation under Other GHG Programs	VCS-PD UNFCCC website	The project was registered as CDM project activity with UNFCCC Ref. No. 4882, indicating the first renewable 7 years CDM crediting period starting from 25/06/2011, details as shown in the UNFCCC website /27/. The net GHG emission reductions generated from the reporting period from 30/06/2010 to 21/06/2011 could be verified as VCU's under the VCS program.
Section 1.12.5 Projects Rejected by Other GHG Programs	VCS-PD UNFCCC website	The Project was registered as CDM project activity with UNFCCC Ref. No. 4882, on 22/06/2011 /27/
Section 1.13 Additional Information Relevant to the Project	VCS-PD PDD CDM validation report ACM0002 version 12.1.0 Interview	<p><u>For Eligibility Criteria</u> In accordance with the registered PDD /4/ and validation report /5/ of the project, the project is not a grouped project, thus this item is not applicable to the project.</p> <p><u>For Leakage Management</u> In accordance with the applied methodology ACM0002 version 12.1.0 and the registered PDD /4/, the leakage can be not considered, thus this item is not applicable to the project.</p> <p><u>For Commercially Sensitive Information</u> As confirmed from the project owner, no commercially sensitive information has been excluded from VCS-PD version 2.0 dated 06/05/2014 /3/</p>

		<p><b>For Further Information</b>          As reported in the CDM validation report /5/ of the project, the CDM validation DOE issued a positive opinion to the project for requesting registration. No further information is provided in the VCS PD version 2.0 dated 06/05/2014 /3/.</p>
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**3.1.2 Validation Conclusion**

In conclusion, CCSC can confirm that the Project is eligible to participate under the VCS Program.

**3.2 Methodology Deviations**

No methodology deviation has been applied to the Project.

**3.3 Project Description Deviations**

No project description deviation has been identified during the validation and verification.

**3.4 Grouped Project**

Not applicable since the project is a non-grouped project

## 4 VERIFICATION FINDINGS

### 4.1 Project Implementation Status

During the verification a site visit was carried out on 15/04/2014. On the basis of this site visit and the reviewed project documentation it can be confirmed that with regarding to the realized technology, including the project equipment, the monitoring and metering equipment, the project has been implemented and operated as described in the registered CDM-PDD /4/ and the VCS-PD version 2.0 dated 06/05/2014 /3/.

#### 4.1.1 Project Implementation in accordance with the VCS PD

The Project is a newly built wind farm project and located in Chengshan Town, Rongcheng City, Shandong Province, People’s Republic of China with the coordinates of 122°26’-122°31’ east longitude and 37°20’-37°23’ north latitude, which has been verified by the verification team during onsite visit. The project is a registered CDM project, which was registered on UNFCCC on 22/06/2011 with registration number of 4882.

The total installed capacity of the Project is 49.5MW. The key parameters of the Project were verified to be in accordance with the description contained the registered CDM-PDD /4/ and the VCS-MR version 2.0 dated 06/05/2014 /1/ by the verification team onsite via checking the wind turbines and the related technical specifications /24/. The details were given in Table 4-1 below:

**Table 4-1: Technical data of the project activity**

Parameter	Unit	Value
Model	-	GW82/1500
Manufacturer	-	Xinjiang Goldwind Science and Technology Co., Ltd
<b>Rotor</b>		
Diameter	m	82
Amount of vane	-	3
Height of hub	m	70
Cut-in wind speed	m/s	3.0
Cut-out wind speed	m/s	22.0
<b>Generators</b>		
Rated Power	kW	1,580
Rated voltage	V	690

The construction of the project was started on 18/12/2009 as per the construction permit /29/. The project started commercial electricity generation on 30/06/2010 /26/. These commercial operation dates indicated in the VCS-MR version 2.0 dated 06/05/2014 are assessed to be reliable by the verification team through checking the operation records of the project /26/.

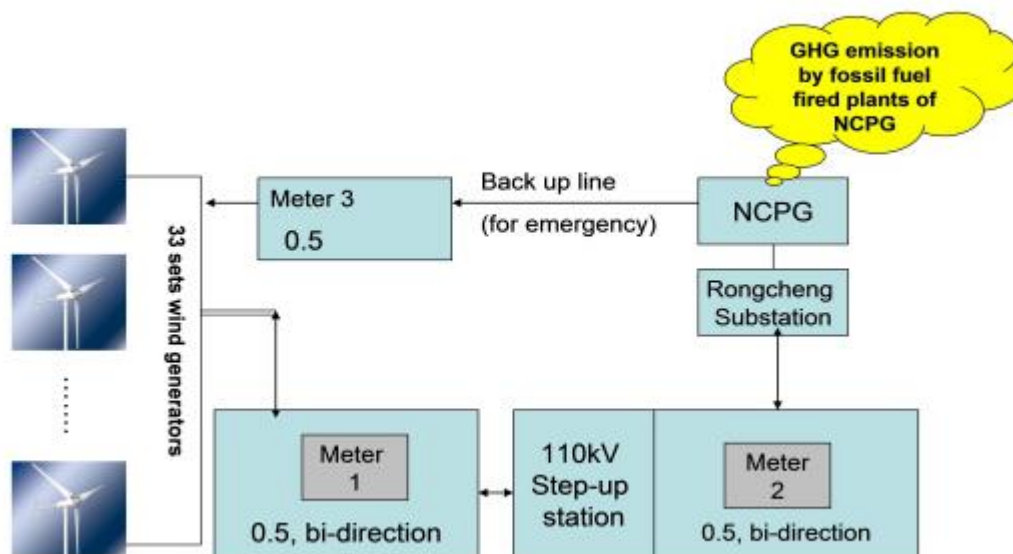
During the monitoring period covering 30/06/2010 to 21/06/2011 (both days included), the project exported 93,047.912.912 MWh of net electricity to Shandong provincial Grid via 110kV Substation, which is a part of North China Power Grid (NCPG). This has been verified by the verification team during on-site visit by checking the original power generation records /12/, monthly monitoring records /13/, the monthly electricity transaction notes /14/, calibration records /15/, operation records /26/ and power purchase Agreement /25/.

No emergency, significant incidents or failure of the equipment, and no deviation or actual changes in the implementation and operation of the project occurred during the monitoring period from 30/06/2010 to 21/06/2011. The same was verified by the verification team through checking the Project Operation & Maintenance Records /26/ and the daily power generation records /12/ as well as the interview with operation personnel. Through these approaches, CCSC can confirm that the implementation and operation of the project has been conducted in accordance with the description contained in the registered PDD /4/ and the VCS-PD version 2.0 dated 06/05/2014 /3/.

#### 4.1.2 Compliance of monitoring with the monitoring plan

The monitoring system applied by PP during the monitoring period from 30/06/2010 to 21/06/2011 is shown in Figure 4-1 below, which was verified to be consistent with the monitoring plan in the registered CDM-PDD /4/ and the VCS-PD version 2.0 dated 06/05/2014 /3/.

**Figure 4-1: Monitoring system**



The monitoring system includes three meters of M1 M2, and M3. During this monitoring period of 30/06/2010 to 21/06/2011, these three meters were monitored by PP or grid company to calculate the GHG emissions reductions of the project activity. The information regarding the 3 meters were tabulated in Table 4-2 below:

**Table 4-2: The 3 meters used in the project activity**

Meter	Location	Measured by	Function in the ERs calculation	Measurement methods
M1 (Backup meter)	Inlet point of site	Project owner	Used to measure the electricity exported to the grid by the project ( $EG_{export, y}$ ) and the electricity imported by the project via the main line ( $EG_{import, y}$ ).	continuously measured and recorded monthly
M2 (Main Meter)	Inlet point of 110kV substation	Grid Company		
M3 (Main Meter)	Inlet point of backup line	Grid Company	Used to measure the electricity imported by the project from the Backup line ( $EG_{import backup, y}$ ).	

The information in Table 4-2 was verified correct and in compliance with registered CDM-PDD /4/ and the VCS-PD version 2.0 dated 06/05/2014 /3/ by the verification team via checking the registered PDD /4/ and final validation report /5/, PPA /25/, onsite investigation, onsite interview

with the staff of project owner. Also, according to PPA /25/, the meter of M2 is used as invoice meter (i.e. gateway meter).

This monitoring period is from 30/06/2010 to 21/06/2011. Hence, during this monitoring period the operational days are 357 days which includes the starting date and ending date. The same have been verified by the verification team though checking the PPA /25/ and electricity transfer note (ETNs) /14/.

The details of these meters used to derive the net electricity generation during the reported monitoring period are shown in Table 4-3 below:

**Table 4-3: Three meters related to  $EG_{facility,y}$**

$$(EG_{facility,y} = EG_{export,y} - EG_{import,y} - EG_{import backup,y})$$

	M2	M1	M3
Parameter	$EG_{export,y}$ and $EG_{import,y}$	$EG_{export,y}$ and $EG_{import,y}$	$EG_{importbackup,y}$
Type	DSSD796	DSSD331	DSSD331
Serial No.	30111500	10030265270079	10030265270067
Accuracy	0.5	0.5	0.5
Calibration date	03/06/2010	03/06/2010	03/06/2010
Valid to	02/06/2011	02/06/2011	02/06/2011
Calibration date	02/06/2011	02/06/2011	02/06/2011
Valid to	01/06/2012	01/06/2012	01/06/2012
Manufacturer	Shandong Jiaheng Electric Technology Co., Ltd	Wasion Group Ltd	Wasion Group Ltd
Calibration frequency	Annually	Annually	Annually

All three meters of M1 M2 and M3 were annually calibrated as per the monitoring plan by *Wei Hai Power Supply Company /15/*. The calibration records /15/ of these three meters which covered this monitoring period were checked and assessed by verification team to be credible and appropriate. Neither mistakes nor malfunction have been observed during this monitoring period. As the serial number of M3 is not correct in the VCS MR version 1.0 dated 12/04/2014, CL1 was raised, for the detailed information please refer to Annex A

In the registered PDD /4/, the accuracy level of M1 and M2 is defined as 0.5 and M3 is defined as 1.0. The actual accuracy level of M1 and M2 is 0.5 which is the same as the accuracy class determined in the registered PDD /4/ while the actual accuracy level of M3 is also 0.5 higher than

that required in the registered PDD. Thus, the verification team concludes the monitoring equipment setting is in compliance with the monitoring plan of registered CDM-PDD /4/ and the VCS-PD version 2.0 dated 06/05/2014 /3/.

Through checking the nameplate of all meters (M1, M2, M3) /30/ and checking their calibration records /15/, the verification team can confirm that the accuracies and calibration frequency of all meters meet the requirements stipulated in the monitoring plan contained in registered CDM-PDD /4/ and the VCS-PD version 2.0 dated 06/05/2014 /3/ and the national standard of DL/T 448-2000 /20/.

The certificate of Metrological Authorization /16/ for *Wei Hai Power Supply Company* was issued by *China National Accreditation Service for Conformity Assessment* on 01/01/2009, which have been reviewed and verified by the verification team.

The submitted VCS MR version 2.0 dated 06/05/2014 which forms the basis of the verification was prepared by summarizing monthly data during the whole monitoring period from 30/06/2010 to 21/06/2011 in accordance with the monitoring plan contained in the registered PDD /4/ and the VCS-PD version 2.0 dated 06/05/2014 /3/.

All necessary monitoring instruments are installed. It can be confirmed by the verification team that the monitoring system and all applied procedures are completely in compliance with the monitoring plan contained in registered PDD /4/ and the VCS-PD version 2.0 dated 06/05/2014 /3/.

#### 4.1.3 Remaining Issues from Previous Validation or Verification

There are no remaining issues from previous validation or verification, so no FAR from previous verification was identified.

#### 4.1.4 Conclusion

In conclusion, CCSC confirms that the project has been implemented as described in the registered CDM-PDD /4/ and the VCS-PD version 2.0 dated 06/05/2014 /3/.

## 4.2 Accuracy of GHG Emission Reduction or Removal Calculations

### 4.2.1 Parameters and information flow

During the verification all relevant ex-ante fixed parameters and ex-post monitoring parameters have been verified with regard to the appropriateness of the applied measurement / determination method, the correctness of the values applied for ER calculation, the accuracy and applied QA/QC measures including calibration frequency and procedure.

#### Ex-ante fixed parameters

As per VCS-PD version 2.0 dated 06/05/2014 /3/ and registered CDM-PDD /4/, the ex-ante fixed parameters related to the ex-post ERs calculation are the following:

**Table 4-4: Data and Parameters fixed ex-ante**

No.	Ex-ante fixed parameter	Description	Value applied	Data unit
1	$EF_{grid,CM,y}$	Combined margin emission factor of NCPG	0.9502	tCO <sub>2</sub> e/MWh

The parameter as well as its value fixed ex-ante before registration was given in the registered PDD /4/ which was verified by the verification team to be in compliance with the registered PDD /4/, validation report /5/ and VCS-PD version 2.0 dated 06/05/2014 /3/.

#### Ex-post monitoring parameters

As per VCS-PD version 2.0 dated 06/05/2014 /3/ and registered CDM-PDD /4/, the parameters monitored during verification are the following:

**Table 4-5: Data and Parameters monitored ex-post**

No.	Monitored parameter	Description	Value monitored	Data unit
1	$EG_{facility,y}$	Quantity of net electricity generation supplied by the project plant/unit to the grid	93,047.912.912	MWh
2	$EG_{export,y}$	Total electricity produced by the project activity, including the electricity supplied to the grid	93,302.537	MWh

3	$EG_{import,y}$	Electricity consumed by the proposed project which is imported from the NCPG by the main line	254.625	MWh
4	$EG_{importbackup,y}$	Electricity consumed by the proposed project which is imported from the NCPG by the backup line	0	MWh

$EG_{facility,y}$

$EG_{facility,y}$  is calculated based on the difference between the electricity exported to the grid by the project ( $EG_{export,y}$ ) and the electricity imported by the project from NCPG by the main line ( $EG_{import}$ ) and the electricity imported by the project from NCPG by the backup line ( $EG_{import backup,y}$ ), i.e.

$$EG_{facility,y} = EG_{export,y} - EG_{import,y} - EG_{import backup,y}$$

Both  $EG_{export,y}$  and  $EG_{import,y}$  are continuously measured and monthly recorded via the meters M1, and M2 as shown in the Table 4-2 above. The  $EG_{import backup,y}$  is continuously measured and monthly recorded via the meter M3 as shown in the Table 4-2 above. These measurement methods are in line with the monitoring plan contained in the registered PDD /4/ and VCS PD version 2.0 dated 06/05/2014 /3/.

CCSC has verified the information flow from data generation, aggregation, to recording, calculation and reporting for these parameters including the values. The data from  $EG_{export,y}$ ,  $EG_{import,y}$  and  $EG_{import backup,y}$  are collected and calculated according to the following process:

The meter M2 was continuously measured by the grid company to compile the daily monitoring records /12/, and read on 24<sup>th</sup> each month by the grid company and the project owner together. The monthly readings of M2 by the project owner are recorded as the monthly monitoring reports /13/ after they are audited by the assigned person from the audit section of the project owner. The monthly readings of M2 by the grid company are the basis of monthly electricity transaction notes (ETNs) /14/ after the readings were confirmed by project owner. In the beginning of every month the grid company issues the last month Electricity Transaction Notes /14/ for  $EG_{export,y}$  and  $EG_{import,y}$  to the project owner. The input data for  $EG_{export,y}$  and  $EG_{import,y}$  in the ER calculation spreadsheet /2/ were taken from monthly monitoring reports /13/. The verification team has compared the monthly monitoring reports /13/ with the monthly electricity transaction notes /14/ and can confirm the conservative values of  $EG_{export,y}$  and  $EG_{import,y}$  between them /13/ /14/ were used for ERs calculation.

The meter of M3 was continuously measured by the grid company to compile the daily monitoring records /12/, and read on 24<sup>th</sup> each month by the grid company and the project owner together.

The monthly readings of M3 by the project owner are recorded as the monthly monitoring reports /13/ after they are audited by the assigned person from the audit section of the project owner. Because  $EG_{import\ backup, y}$  is zero during this monitoring period which was verified by the verification team through checking the daily monitoring records /12/, no ETN was issued for  $EG_{import\ backup, y}$  by the grid company during this monitoring period. The input data for  $EG_{import\ backup, y}$  in the ER calculation spreadsheet /2/ were taken from monthly monitoring reports /13/. The verification team has compared the monthly monitoring reports /13/ with the daily monitoring records /12/ and can confirm the consistency of values of  $EG_{import\ backup, y}$  between them /12/ /13/. The same is considered by the verification team to be appropriate.

Through document review, the verification team confirmed that these monitoring parameters have been measured / determined without material misstatements and are monitored in line with the monitoring plan contained in registered PDD /4/ and VCS PD version 2.0 dated 06/05/2014 /3/ as well as all applicable standards and relevant requirements.

#### 4.2.2 Assessment Data and Calculation

During the verification no mistake in the ER calculation was identified. Thus it is confirmed that the ER calculation is overall correct. Details are as follows:

According to registered PDD /4/ and VCS PD version 2.0 dated 06/05/2014 /3/, the emission reductions  $ER_y$  by the project during the operation period from 30/06/2010 to 21/06/2011 are the difference between baseline emissions ( $BE_y$ ), project emissions ( $PE_y$ ) and leakage ( $L_y$ ). The formula is:  $ER_y = BE_y - PE_y - L_y$ .

##### 1) Baseline Emissions

The baseline emissions of the project ( $BE_y$ ) are calculated as following:

$$BE_y = EG_{facility, y} \times EF_{grid, CM, y} \tag{1}$$

As  $EG_{facility, y} = EG_{export, y} - EG_{import, y} - EG_{import\ backup, y}$  the formula (1) is transformed as follows:

$$BE_y = (EG_{export, y} - EG_{import, y} - EG_{import\ backup, y}) \times EF_{grid, CM, y} \tag{2}$$

The calculation of baseline emissions using the formula (2) during the monitoring period is summarized in Table 4-6 below:

Table 4-6: Baseline emission calculation

Time Period	<i>EG</i> <sub>export, y</sub>	<i>EG</i> <sub>mport, y</sub>	<i>EG</i> <sub>import backup, y</sub>	<i>EG</i> <sub>facility, y</sub>	<i>BE</i> <sub>y</sub>
	MWh	MWh	MWh	MWh	tCO <sub>2</sub> e
	A	B	C	D=A-B-C	E=D*0.9502
30/06/2010–24/07/2010	10,265.887	0.875	0	10,214.262	9,705.592
25/07/2010–24/08/2010		1.750	0		
25/08/2010–24/09/2010		3.500	0		
25/09/2010–24/10/2010		19.250	0		
25/10/2010–24/11/2010		26.250	0		
25/11/2010–24/12/2010	17,416.547	19.250	0	17,397.297	16,530.912
<b>Subtotal (30/06/2010–24/12/2010)</b>	<b>27,682.434</b>	<b>70.875</b>	<b>0</b>	<b>27,611.559</b>	<b>26,236</b>
25/12/2010–24/01/2011	17,526.324	7.000	0	17,519.324	16,646.862
25/01/2011–24/02/2011	8,349.575	61.250	0	8,288.325	7,875.566
25/02/2011–24/03/2011	12,085.064	20.125	0	12,064.939	11,464.105
25/03/2011–24/04/2011	11,815.559	12.250	0	11,803.309	11,215.504
25/04/2011–24/05/2011	10,971.581	37.625	0	10,933.956	10,389.445
25/05/2011–21/06/2011	4,872.000	45.500	0	4,826.500	4,586.140
<b>Subtotal (25/12/2010–21/06/2011)</b>	<b>65,620.103</b>	<b>183.750</b>	<b>0</b>	<b>65,436.353</b>	<b>62,177</b>
<b>Total (30/06/2010–21/06/2011)</b>	<b>93,302</b>	<b>255</b>	<b>0</b>	<b>93,047</b>	<b>88,413</b>

In Table 4-6 the subtotals of baseline emissions of the project in 2010 and 2011 accumulated the monthly baseline emissions /2/. The verification team found that the subtotals of 26,236tCO<sub>2</sub>e and 62,177 tCO<sub>2</sub>e were calculated using the Excel ROUNDDWON function, which was verified by the verification team conservative and acceptable.

Hence, the baseline emissions for the monitoring period of 30/06/2010 to 21/06/2011 are calculated as  $BE_y = 26,236 \text{ tCO}_2\text{e} + 62,177 \text{ tCO}_2\text{e} = 88,413 \text{ tCO}_2\text{e}$ .

## **2) Project Emissions**

According to *ACM0002 version 12.1.0*, the project emissions of the proposed project are taken as zero.

## **3) Leakage**

According to *ACM0002 version 12.1.0*, leakage should not be taken into account. Thus, leakage ( $LE_y$ ) is 0.

## **4) Emission reductions**

Therefore, the claimed emission reductions is calculated as  $ER_y = BE_y - PE_y - L_y = 88,413 \text{ tCO}_2\text{e} - 0 - 0 = 88,413 \text{ tCO}_2\text{e}$  for the period of 30/06/2010 to 21/06/2011.

The verification team has verified the following documents/records:

- Daily meter monitoring records during the monitoring period from 30/06/2010 to 21/06/2011 /12/.
- Monthly meter reading records during the monitoring period from 30/06/2010 to 21/06/2011 /13/.
- Monthly ETNs during the monitoring period from 30/06/2010 to 21/06/2011 /14/.
- Monthly invoices during the monitoring period from 30/06/2010 to 21/06/2011 /14/.
- Calibration records covering the monitoring period from 30/06/2010 to 21/06/2011 /15/.

All the figures in the VCS MR version 2.0 dated 06/05/2014 and in the ER spreadsheet version 1.0 dated 12/04/2014 were cross-checked by the verification team against original monitored data /12/. The data used for the emission reduction calculation were derived from monthly monitoring records /13/ and compared with the monthly electricity transaction notes /14/ and invoices /14/ issued by the Grid Power. Thus, the input data for calculation as well as the calculation process and its result are verified by CCSC and deemed to be complete and transparent, and CCSC is able to confirm the accuracy and the compliance of ERs calculation with the PD version 2.0 dated 06/05/2014 and applied methodology ACM0002 version 12.1.0

#### 4.2.3 Comparison with ex-ante estimated emission reductions

The ER calculation spreadsheet version 1.0 dated 12/04/2014 /2/ includes a comparison of the actual emission reductions with the ex-ante calculated value in the registered PDD. The actual emission reductions during the monitoring period of 30/06/2010 to 21/06/2011 (357 错误!未找到引用源。 days) are 88,413 tCO<sub>2</sub>e which is 7% lower than the estimation of 95,108 tCO<sub>2</sub>e for 错误!未找到引用源。 days corresponding to 97,240 tCO<sub>2</sub>e/year in the registered PDD (95,108=97,240\*357 错误!未找到引用源。 /365; 7%= (95,108 - 88,413) / 95,108).

Based on above analysis, the actual ERs is found to be lower than the ex-ante determined value, thus no further justification was required.

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

The monitoring parameters with significant influence on the calculation of the emission reductions and with substantial evidences are  $EG_{export, y}$ ,  $EG_{import, y}$  and  $EG_{import backup, y}$ . The evidences to determine  $EG_{export, y}$ ,  $EG_{import, y}$  and  $EG_{import backup, y}$  are discussed below.

$$EG_{facility, y} = EG_{export, y} - EG_{import, y} - EG_{import backup, y} \tag{5}$$

The data from  $EG_{\text{export}, y}$ ,  $EG_{\text{import}, y}$  and  $EG_{\text{import backup}, y}$  are collected and calculated according to the following process:

$EG_{\text{export}, y}$  and  $EG_{\text{import}, y}$  are sourced from the readings of M2 and M1. The meter M2 was continuously measured by the grid company to compile the daily monitoring records /12/. The monthly readings of M2 by the project owner are recorded as the monthly monitoring reports /13/ after they are audited by the assigned person from the audit section of the project owner. The monthly readings of M2 by the grid company are the basis of monthly electricity sells receipt /14/ after the readings were confirmed by project owner. M1 is the backup meter which will be used when the M2 fails.

$EG_{\text{import backup}, y}$  is sourced from the readings of M3. The meter M3 was continuously measured by the grid company to compile the daily monitoring records /12/. The monthly readings of M3 by the project owner are recorded as the monthly monitoring reports /13/ after they are audited by the assigned person from the audit section of the project owner. Because  $EG_{\text{import backup}, y}$  is zero during this monitoring period which was verified by the verification team through checking the daily monitoring records /12/, no receipts was issued for  $EG_{\text{import backup}, y}$  by the grid company during this monitoring period.

All relevant evidences were fully checked by the verification team during the on-site visit. All evidences are clearly identifiable and assessed to be correct. All relevant documents and records have been stored in electronic form and on paper and will be kept two years after the last crediting period.

Quality of the input values from meters is assured through calibrations of electricity meters /15/ and through cross checking of values between the original daily records /12/, monthly monitoring reports /13/ and monthly electricity sell receipts /14/. The calibration records of electricity meters /15/ and the qualifications of the third party to carry out this calibrations /16/ have been verified by the verification team.

A monitoring team has been set up and trained to conduct the monitoring /22/. The monitoring procedures have been defined in the Monitoring Manual and Project Management procedures /23/.

Quality Management procedures for measurements, collection and compilation of data, data storage and archiving, calibration, maintenance and training of personnel in the framework of this VCS project activity have been defined and well established. The procedures defined can be assessed as appropriate for the purpose. No significant deviations thereof have been observed during the verification.

#### 4.4 Non-Permanence Risk Analysis

During on-site visit, the verification team observed that the monitoring personnel are well trained /22/, which demonstrates that they have sufficient competence to carry out the relevant monitoring tasks.

The routine requirements and log of the internal training for operating and maintaining the equipment were provided by the project owner. During the on-site visit, it has been observed that the maintenance staffs have performed the routine equipment maintenance in accordance with the internal requirements for equipment tour inspection of the company.

CCSC can confirm that the personnel training and the equipment maintenance have been implemented properly by checking the maintenance records, and by interviewing with site personnel.

The QA/QC measures were further verified reliable by checking the daily operation & maintenance logs /26/.

## 5 VERIFICATION CONCLUSION

CCSC has carried out the verification of the project “Guohua Rongcheng Phase II Wind Farm Project”. The verification was performed based on the requirements set by Voluntary Carbon Standard (VCS) Version 3.4 /6/, as well as criteria given to provide for consistent project operations, monitoring and reporting. This verification covers the period from 30/06/2010 to 21/06/2011 inclusive.

In the course of the verification 0 Corrective Action Request (CAR) and 1 Clarification Request (CL) were raised and successfully closed. The verification was based on the VCS-MR version 2.0 dated 06/05/2014 /1/, the VCS-PD version 2.0 dated 06/05/2014 /3/, ER calculation spread sheet version 1.0 dated 12/04/2014 /2/ and supporting documents available to CCSC.

As the result of the verification, CCSC confirms that:

- The project activity has been implemented and operated as per the registered CDM-PDD /4/, VCS-PD /3/ and that all physical features (technology, project equipment, and monitoring and metering equipment) of the Project are in place;

- The VCS-MR and other supporting documents provided are complete in accordance with the latest applicable version of the VCS Registration & Issuance Process /7/ and in accordance with the additional requirements stated by the VCS Association (VCSA);
- The actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved methodology i.e. ACM0002 version 12.1.0 /11/;
- The GHG emission reductions are calculated without material misstatements and in a conservative and appropriate manner.

Based on the evidence and information that are considered necessary to guarantee that GHG emission reductions are appropriately calculated, CCSC confirms the following statement:

Verification period: From 30/06/2010 to 21/06/2011.

Verified GHG emission reductions and removals in the above verification period:

Year	Baseline emissions or removals (tCO <sub>2</sub> e)	Project emissions or removals (tCO <sub>2</sub> e)	Leakage emissions (tCO <sub>2</sub> e)	Net GHG emission reductions or removals (tCO <sub>2</sub> e)
Year 2010 (30/06/2010-24/12/2010)	26,236	0	0	26,236
Year 2011 (25/12/2010-21/06/2011)	62,177	0	0	62,177
<b>Total</b>	<b>88,413</b>	<b>0</b>	<b>0</b>	<b>88,413</b>

## 6 REFERENCE

Documents provided by the Project Participant and relevant background documents have been reviewed.

- /1/ Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd.: VCS Monitoring report of Guohua Rongcheng Phase II Wind Farm Project for the monitoring period of 30/06/2010 to 21/06/2011, version 1.0 dated 12/04/2014 and version 2.0 dated 06/05/2014 (final).
  - /2/ Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd.: ER calculation spreadsheet of Guohua Rongcheng Phase II Wind Farm Project for the monitoring period of 30/06/2010 to 21/06/2011, version 1.0 dated 12/04/2014 (final).
  - /3/ VCS Project Description (VCS-PD) of Guohua Rongcheng Phase II Wind Farm Project, version 1.0 dated 12/04/2014 and version 2.0 dated 06/05/2014 (final).
  - /4/ CDM-PDD for project activity “Guohua Rongcheng Phase II Wind Farm Project”, version 02.1 dated 02/12/2010.
  - /5/ Validation Report for “Guohua Rongcheng Phase II Wind Farm Project”, version 01 dated 11/08/2012
  - /6/ VCS Standard, Version 3.4, dated 08/10/2013.
  - /7/ VCS Registration & Issuance Process, version 3.5 dated 08/10/2013.
  - /8/ VCS Project Description Template, version 3.2.
  - /9/ VCS Program Definitions, version 3.5 dated 08/10/2013
  - /10/ CDM Validation and Verification Standard, version 05.0.
  - /11/ CDM Executive Board: Approved consolidated baseline and monitoring methodology ACM0002 version 12.1.0: “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”.
  - /12/ Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd: Original daily monitoring records of electricity meters for the Project during the monitoring period of 30/06/2010 to 21/06/2011.
  - /13/ Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd: Monthly monitoring records of electricity meters for the Project during the monitoring period of 30/06/2010 to 21/06/2011.
  - /14/ Shandong Power Grid: Monthly Electricity Transaction Notes (ETNs) for meter M1 during the monitoring period of 30/06/2010 to 21/06/2011.  
Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd: Monthly Electricity Invoices for meter M1A during the monitoring period of 30/06/2010 to 21/06/2011.
  - /15/
    1. Wei Hai Power Supply Company: calibration certificates for meters of M2:
      - i) Tested on 03/06/2010, valid to 02/06/2011.
      - ii) Tested on 02/06/2011, valid to 01/06/2012.
    2. Wei Hai Power Supply Company: calibration certificates for meter of M1:
      - i) Tested on 03/06/2010, valid to 02/06/2011.
      - ii) Tested on 02/06/2011, valid to 01/06/2012.
    3. Wei Hai Power Supply Company: calibration certificates for meters of M3:
      - i) Tested on 03/06/2010, valid to 02/06/2011
      - ii) Tested on 02/06/2011, valid to 01/06/2012
- The above calibrations of M1, M2, M3, cover the monitoring period of 30/06/2010 to 21/06/2011.
- /16/ China National Accreditation Service for Conformity Assessment: Certificate of Metrological Authorization to Wei Hai Power Supply Company, issued on 01/01/2009, valid to 31/12/2011.

- /17/ Development and Reform Commitment of Shandong Province: Approval of FSR, dated 03/12/2008.
- /18/ Environmental Protection Bureau of Shandong Province: Approval of Environmental Impact Assessment, dated 30/06/2008.
- /19/ Business License of Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd. Business registration number: 370000400006140
- /20/ State Economic and Trade Commission: Technical administrative code of electric energy metering (DL/T 448-2000), approved on 3 November 2000.
- /21/ Operation qualifications of staff of the Project.
- /22/ Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd: Training records of staff,
- /23/ Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd: CDM Monitoring Manual,.
- /24/ The nameplates of three turbo-generators for the project, manufactured by Goldwind Science and Technology Co., Ltd.
- /25/ Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd and Shandong Power Grid: *PPAs of Guohua Rongcheng Phase II Wind Farm Project*
- /26/ Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd: Daily Project Operation and Maintenance Logs during the monitoring period of 30/06/2010 to 21/06/2011.
- /27/ UNFCCC website: project information for Guohua Rongcheng Phase II Wind Farm Project (reference No. 4882),  
<http://cdm.unfccc.int/Projects/DB/SGS-UKL1307181771.56/view>
- /28/ Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd: Power Connection Diagram (i.e. Wiring Diagram), indicated in the monitoring system of project site.
- /29/ Construction permit for Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd, issued on 18/12/2009. This was confirmed by the registered PDD
- /30/ The nameplates of the monitoring meters (M1, M2, M3) used by Guohua Rongcheng Phase II Wind Farm Project.

**APPENDIX A: RESOLUTION OF CORRECTIVE ACTION REQUESTS AND CLARIFICATION REQUESTS**

No.	CAR/CL/FAR	Response by Project Participants/ CCSC's conclusion of assessment
<p><b>CL 1</b></p>	<p><u>Monitoring Equipment</u></p> <p>In section 3 of VCS MR version 1.0 dated 12/04/2014, the serial number of the electricity meter M3 is not correct.</p> <p>Thus, a clarification is requested.</p>	<p><u>Response by Project Participants:</u></p> <p>There is a typo in the VCS MR (version 1.0, dated 12/04/2014), and the serial number is changed to 10030265270067 for M3.</p> <p><u>CCSC's conclusion of assessment:</u></p> <p>OK. In section 3 of VCS MR version 2.0 dated 06/05/2014, the serial number of M3 has been corrected, which was confirmed as consistent with the nameplate.</p> <p>Thus CL01 was closed. Thus, this CL is closed.</p>

APPENDIX B: CERTIFICATES OF COMPETENCE



Appendix B

CERTIFICATE OF COMPETENCE

Date of Qualification: 26/03/2014

Mr. Yang Yi

Has been qualified in accordance with *CDM Personnel Competence Requirements and Professional Competence Evaluation Instructions* (CDMI0301) as

- CDM validator for Technical Area(s): TA1.2/ TA6.1
- CDM verifier for Technical Area(s): TA1.2/ TA6.1
- Technical expert for Technical Area(s): TA13.1
- Technical reviewer
- Financial expert
- Team leader

Huang ShiYuan  
CCSC General Manager



Appendix B

CERTIFICATE OF COMPETENCE

Date of Qualification: 26/03/2014

Mr. Shi Weiwei

Has been qualified in accordance with *CDM Personnel Competence Requirements and Professional Competence Evaluation Instructions* (CDMI0301) as

- CDM validator for Technical Area(s): \_\_\_\_\_
- CDM verifier for Technical Area(s): \_\_\_\_\_
- Technical expert for Technical Area(s): TA1.2
- Technical reviewer
- Financial expert
- Team leader

Huang ShiYuan  
CCSC General Manager



Appendix B

CERTIFICATE OF COMPETENCE

Date of Qualification: 26/03/2014

Ms. Xie Fengjun

Has been qualified in accordance with *CDM Personnel Competence Requirements and Professional Competence Evaluation Instructions* (CDMI0301) as

- CDM validator for Technical Area(s): TA1.2/TA13.1/TA13.2
- CDM verifier for Technical Area(s): TA13.1/TA13.2
- Technical expert for Technical Area(s): \_\_\_\_\_
- Technical reviewer
- Financial expert
- Team leader

Huang ShiYuan  
CCSC General Manager



Appendix B

CERTIFICATE OF COMPETENCE

Date of Qualification: 26/03/2014

Ms. Li Cuiping

Has been qualified in accordance with *CDM Personnel Competence Requirements and Professional Competence Evaluation Instructions* (CDMI0301) as

- CDM validator for Technical Area(s): TA1.2
- CDM verifier for Technical Area(s): TA1.2
- Technical expert for Technical Area(s): \_\_\_\_\_
- Technical reviewer
- Financial expert
- Team leader

Huang ShiYuan  
CCSC General Manager