

VERIFICATION REPORT

CAMCO INTERNATIONAL LTD.

HONITON ENERGY BAILINGMIAO PHASE ONE WIND FARM
PROJECT

Monitoring Period:

2009-05-01 to 2011-12-31

Report No: QT-SHC02011/12-12/133

Date: 2012-11-05

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Verification Report:	Report No.	Rev. No.	Date of issue:	Date of this rev.
	QT-SHC02011/12-12/133	0	2012-11-05	2012-11-05
Project:	Title:		Gold Standard ID. :	Gold Standard Registration date:
	Honiton Energy Bailingmiao Phase one Wind Farm Project		GS449	2009-05-15
Project Participant(s):	Host party:		Other involved parties:	
	Honiton Energy (Baotou) Co., Ltd. (P.R. China)		CAMCO International Ltd. (UK)	
Applied methodology/ies:	Title:		No.:	Scope:
	Consolidated baseline methodology for grid-connected electricity generation from renewable sources		ACM0002 ver. 7	1
Monitoring:	Monitoring period (MP):		No. of days:	MP No.
	2009-05-01 to 2011-12-31 - both days included		975	2
Monitoring report:	Title:		Draft version:	Final version:
	Honiton Energy Bailingmiao Phase one Wind Farm Project		Ver. 1 2012-03-21	Ver. 2 2012-11-02
Verification team / Technical Review and Final Approval	Verification Team:		Technical review:	Final approval::
	Huang Jie (TL) Liu Hai Xu (TM)		Dr.Jochen Schubert Dirk Speyer	Dr.Jochen Schubert
Emission reductions: [t CO_{2e}]	Verified amount		As per draft MR:	
	168,484 tCO_{2e}		168,815 tCO _{2e}	
Summary of Verification Opinion:	CAMCO International Ltd. has commissioned the TÜV NORD JI/CDM Certification Program to carry out the 2 nd periodic verification of the project: “Honiton Energy Bailingmiao Phase one Wind Farm Project”, with regard to the relevant Gold Standard (GS) requirements for VER project activities. The project activity generates electricity utilizing available wind resource at the project site to avoid GHG emissions. This 2 nd periodic GS verification covers the period from 2009-05-01 to 2011-12-31. In the course of the verification 2 Corrective Action Request (CAR) and 1 Clarification Requests (CL) were raised and successfully closed. The verification is based on the monitoring report (version 01), the revised monitoring reports, the monitoring plan as set out in the validated PDD, GS validation report for this project and supporting documents made available to the TÜV NORD JI/CDM CP by the project participants.			
	As a result of this periodic verification, the verifier confirms that: - all operations of the project are implemented and installed as planned and described in the validated GS project design document. - the monitoring plan is in accordance with the applied approved CDM methodology i.e., ACM0002 Ver.07. - the installed equipment essential for measuring parameters required for calculating emission reductions are calibrated appropriately. - the monitoring system is in place and functional. The project has generated GHG emission reductions, and - the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner. TÜV NORD JI/CDM CP herewith confirms that the project has achieved emission reductions, which could be labeled Gold Standard in the above mentioned reporting period as follows: Emission reductions: 168,484t CO_{2e}			
Document	Filename:			Num. of pages:



information:	2012-11-05 FVR_Bailingmiao Phase One Wind 2nd Ver GS.doc	57
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Abbreviations:

CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CO₂	Carbon dioxide
CO_{2eq}	Carbon dioxide equivalent
CL	Clarification Request
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GS	Gold Standard
MP	Monitoring Plan
GS- MR	Gold Standard Monitoring Report
GS- PDD	Gold Standard Project Design Document
PP	Project Participant
QA/QC	Quality Assurance / Quality Control
SD	Sustainable development
UNFCCC	United Nations Framework Convention on Climate Change
NCPG	North China Power Grid

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1. INTRODUCTION

CAMCO International Ltd. has commissioned the TÜV NORD JI/CDM Certification Program (CP) to carry out the Gold Standard (GS) verification of the project

“Honiton Energy Bailingmiao Phase one Wind Farm Project”

with regard to the relevant requirements for Gold Standard CDM project activities. The ‘Honiton Energy Bailingmiao Phase one Wind Farm Project’ is a registered Gold Standard VER project and listed in GS registry under project number GS449. The verification covers the monitoring period 2009-05-01 to 2011-12-31. Corresponding emission reductions occurred in the considered monitoring period are claimed for crediting.

GHG data was verified in a detailed manner applying the set of requirements, audit practices and principles as required under the Gold Standard Requirements^{/GS/} as well as the Validation and Verification Standard^{/VVS/} of the UNFCCC.

This report summarizes the findings and conclusions of this Gold Standard verification of the above mentioned GS registered VER project activity.

1.1. Objective

The objective of the verification is the review and ex-post determination by an independent entity of the GHG emission reductions and the contribution to sustainable development. It includes the verification of the:

- Implementation and operation of the project activity as given in the PDD,
- compliance of the actual monitoring systems and procedures with the provisions of the monitoring plan as a part of registered PDD, the GS monitoring matrix and the applied approved monitoring methodology;
- data given in the monitoring reports by checking the monitoring records, the emissions reduction calculation and supporting evidence
- accuracy of the monitoring equipment
- quality of evidence
- significance of reporting risks and risks of material misstatements.

1.2. Scope

The verification of this GS registered VER project is based on the validated project design document ^{/PDD/}, the carbon monitoring and sustainability monitoring report^{/MR-1/}, the registered GS validation report ^{/VAL/}, supporting documents made available to the verifier and information collected through performing interviews and during the on-site assessment. Furthermore publicly available information was considered as far as available and required.

The verification is carried out on the basis of the following requirements, applicable for this project activity:

- Article 12 of the Kyoto Protocol ^{/KP/},
- guidelines for the implementation of Article 12 of the Kyoto Protocol as presented in the Marrakech Accords under decision 17/CP.7 ^{/MA/}, and subsequent decisions made by the Executive Board and COP/MOP,
- Gold Standard Version 2.0 ^{/GS/}
- other relevant rules, including the host country legislation,
- CDM Validation and Verification Standard ^{/VVS/}
- monitoring plan as given in the registered PDD ^{/PDD-GS/}
- Gold Standard Monitoring matrix as given in the registered GS-PDD ^{/PDD-GS/}
- Approved CDM Methodology ACM0002 version 7 – Consolidated baseline methodology for grid-connected electricity generation from renewable sources ^{/ACM0002/}.

2. GHG PROJECT DESCRIPTION

2.1. Project Characteristics

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

Table 1-1: Project Characteristics

Item	Data
Project title	Honiton Energy Bailingmiao Phase one Wind Farm Project
Project size	☒ Large Scale ☐ Small Scale
Gold standard registration No.	GS 449
Date of Gold Standard registration	2009-05-15
Project Scope (according to UNFCCC sectoral scope numbers for CDM)	1: Energy Industries (renewable - / non-renewable sources)
Applied Methodology	ACM0002 ver.7 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources"
Crediting period	Renewable Crediting Period (7 y)
Start of crediting period	2008-01-07

2.1.1. Involved Parties and Project Participants

The following parties to the Kyoto Protocol and project participants are involved in this project activity (Table 1-2).

Table 1-2: Project Parties and project participants

Characteristic	Party	Project Participant
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Characteristic	Party	Project Participant
Host party	China	Honiton Energy (Baotou) Co., Ltd.
Other involved party/ies	UK	CAMCO International Ltd.

2.1.2. Project Location

The details of the project location are given in table 1-3:

Table 1-3: Project Location

No.	Project Location
Host Country	P.R. China
Region:	Inner Mongolia Autonomous Region
Project location address:	Bailingmiao Town, Damao County, Baotou City
Latitude:	41° 51' 39" N
Longitude:	110° 12' 52" N

2.1.3. Project Technical Description

The project activity is a newly built wind farm in Bailingmiao Town, Damao City, Inner Mongolia Autonomous Region, P.R. China, utilizing wind power for power generation. The construction of the wind farm project consists of 40 sets of wind turbines with unit capacity of 1250kW, box transformer, 220kV substation and central control room. The wind turbine was manufactured by Suzlon Energy Co., Ltd.

The conical tubular tower of one windmill is 65m high; the diameter of the rotor that consists of 3 blades is 64m. The load is regulated through blade pitch control and rotational speed regulation system. The turbines can automatically align the tip angle of the blades to optimize the position according to the wind speed and direction. The technology employed is environmentally safe and sound.

The expected life time of the project is 20 years.

3. METHODOLOGY AND VERIFICATION SEQUENCE

3.1. Verification Steps

The verification consisted of the following steps:

- Appointment of team members and technical reviewers
- A desk review of the carbon monitoring report including the claimed emission reductions and the sustainability monitoring report submitted by the client and additional supporting documents
- Verification planning

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

The sequence of the verification is given in the Table 3-1 below:

Table 3-1: Verification sequenceTable

Topic	Time
Assignment of verification	2012-02-20
On-site visit	2012-04-09~11
Draft reporting finalised	2012-04-26
Final reporting finalised	2012-11-05
Technical review finalised	2012-11-05

3.2. Appointment of team members and technical reviewers

On the basis of a competence analysis and individual availabilities a verification team, consistent of one team leader and one additional team member, was appointed. Furthermore also the personnel for the technical review and the final approval were determined.

The list of involved personnel, the tasks assigned and the qualification status are summarized in the Table 3-2 below.

Table 3-2: Involved Personnel

	Name	Company	Function ¹⁾	Qualification Status ²⁾	Scheme competence ³⁾	Technical competence ⁴⁾	Verification competence ⁵⁾	Host country Competence	On-site visit
☐ Mr. ☒ Ms.	Huang Jie	TN China	TL	SA	☒	1.2	☒	☒	☒
☒ Mr. ☐ Ms.	Liu Hai Xu	TN China	TM ^{A)}	A	☐	1.2	☐	☒	☒
☒ Mr. ☐ Ms.	Dirk Speyer	TN Cert	TR ^{B)}	LA	☒	1.2	☒	☐	-

	Name	Company	Function ¹⁾	Qualification Status ²⁾	Scheme competence ³⁾	Technical competence ⁴⁾	Verification competence ⁵⁾	Host country Competence	On-site visit
☒ Mr. ☐ Ms.	Dr. Jochen Schubert	TN Cert	TR ^{B)} FA ^{B)}	SA	☒	1.2	☒	☐	-

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

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

³⁾ GHG auditor status (at least Assessor)

⁴⁾ As per S01-MU03 or S01-VA070-A2 (such as 1.1, 1.2, ...) TA 1.2: Energy generation from renewable sources

⁵⁾ In case of verification projects

A) Team Member: GHG auditor (at least Assessor status), Technical Expert (incl. Host Country Expert or Verification Expert), not ETE

B) No team member

3.3. Verification Planning

In order to ensure a complete, transparent and timely execution of the verification task the team leader has planned the complete sequence of events necessary to arrive at a substantiated final verification opinion.

Various tools have been established in order to ensure an effective verification planning.

Project specific periodic GS verification checklist

In order to ensure transparency and consideration of all relevant assessment criteria, a project specific GS verification protocol is developed. The protocol shows, in a transparent manner, criteria and requirements, means and results of the verification. The verification protocol serves the following purposes:

- It organises, details and clarifies the requirements a GS VER project is expected to meet for verification
- It ensures a transparent verification process where the verifying DOE documents how a particular requirement has been proved and the result of the verification.

The basic structure of this project specific verification protocol for the GS verification is described in table 3-2.

Table 3-2: Structure of the project specific GS periodic verification checklist

Table A-1: Periodic Verification Checklist			
Expectations for GHG data and sustainability indicator management system/controls	Comments	Draft Concl.	Final Concl.
<i>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 and sustainability indicator management system/controls are assessed against the expectations detailed in the table.</i>	<i>Description of circumstances and further commendation to the conclusion.</i>	<i>This is either acceptable based on review of MR and supporting Documents (OK), or a Corrective Action Request (CAR) of risk or non-compliance with stated requirements. The corrective action requests are numbered and presented to the client in the Draft Verification report. The Initial Verification has additional Forward Action Requests (FAR). FAR indicates essential risks for further periodic verifications</i>	<i>CARs and CLs raised in the Draft Conclusion have to be closed or resolved. The final conclusion determines the final statement. FARs could remain in this section as they are subject in the next consecutive verification.</i>

The GS verification checklist (verification protocol) is the backbone of the complete verification starting from the desk review until final assessment. Detailed assessments and findings are discussed within this checklist and not necessarily repeated in the main text of this report.

The completed verification protocol is enclosed in the annex (table A-1) to this report.

3.4. Desk review

During the desk review all documents initially provided by the client and publicly available documents relevant for the verification were reviewed. The main documents are listed below:

- the last revision of the carbon and sustainability monitoring report, including the claimed emission reductions for the project^{/MR/},
- the registered version of the GS PDD and attached documents, including the monitoring plan^{/PDD/},
- the registered GS validation report^{/VAL-GS/},
- the emission reduction calculation spreadsheet^{/XLS/}

Other supporting documents, such as publicly available information on the Gold standard website, the UNFCCC website and background information were also reviewed.

3.5. On-site assessment

As most essential part of the verification exercise it is indispensable to carry out an inspection on site in order to verify that the project is implemented in accordance with the applicable criteria. Furthermore the on-site assessment is necessary to check the monitoring data with respect to accuracy to ensure the calculation of emission reductions. Changes to the key sustainable development indicators and the achievement and implementation of mitigation / compensation measures are other integral parts of the on-site assessment.

Keeping in mind the principles of materiality and quality of evidence, typical activities on-site include but are not limited to:

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

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

Representatives of Honiton Energy (Baotou) Co., Ltd. (Project Owner) and CAMCO International Ltd. (Buyer), including the operational staff of the plant were interviewed. The main topics of the interviews are summarised in Table 3-5.

Table 3-5: Interviewed persons and interview topics

Interviewed Persons / Entities	Interview topics
1. Project & Operations Personnel, Honiton Energy (Baotou) Co., Ltd.	- General aspects of the project - Technical equipment and operation - Changes since validation - Monitoring and measurement equipment

Interviewed Persons / Entities	Interview topics
/IM01/ 2. VERs Buyer, CAMCO International Ltd. /IM02/ 3. 220kV Hongta Substation /IM03/	- Calibration procedures - Quality management system - Involved personnel and responsibilities - Training and practice of the operational personnel - Implementation of the monitoring plan - Monitoring data management - Data uncertainty and residual risks - GHG calculation - Procedural aspects of the verification - Maintenance - Environmental aspects - Sustainability indicators

3.6. Draft verification reporting

On the basis of the desk review, the on-site visit, follow-up interviews and further background investigation the verification protocol is completed. This protocol along with a general project and procedural description of the verification and a detailed list of the verification findings form the draft verification report. This report is sent to the client for resolution of raised CARs, CLs and FARs.

3.7. Resolution of CARs, CLs and FARs

Nonconformities raised 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 and/or negative impacts on sustainability development is identified.

Corrective Action Requests (CARs) are issued, if:

- there is a clear deviation concerning to the above mentioned applicable criteria (esp. the monitoring plan).
- requirements set by the monitoring plan or qualifications in the validation opinion have not been met;
- there is a risk that the project would not be able to deliver emission reductions, or
- there is a risk of negative impact on sustainability development of the project.

Forward Action Requests (FAR) indicate essential risks for further periodic verifications. Forward Action Requests are issued, if:

- the actual status requires a special focus on this item for the next consecutive verification, or

- an adjustment of the monitoring plan is recommended.

The verification team also uses the term Clarification Request (CL), which is issued if:

- additional information is needed to fully clarify an issue.

For a detailed list of all CARs, CLs and FARs raised in the course of the verification pl. refer to chapter 4.

3.8. Final reporting

Upon successful closure of all raised CARs, CLs the final verification report including a positive verification opinion can be issued. The final report summarizes the final assessments w.r.t. all applicable criteria.

In this case the assessment performed during the verification enabled the verifier to arrive at a positive conclusion regarding the readiness of the project to generate high quality emission reductions and to contribute to sustainable development.

In case not all essential issues could finally be resolved a final report including a negative validation opinion is issued.

3.9. Technical review

Before submission of the final verification report a technical review of the whole verification procedure is carried out. The technical reviewer is a competent GHG auditor being appointed for the scope this project falls under. The technical reviewer is not considered part of the verification team and thus not involved in the decision making process up to the technical review.

As a result of the technical review process the verification opinion and the topic specific assessments as prepared by the verification team leader may be confirmed or revised. Furthermore reporting improvements might be achieved.

3.10. Final approval

After successful technical review an overall (esp. procedural) assessment of the complete verification will be carried out by a senior assessor located in the accredited premises of TÜV NORD.

After this step the verification team will submit the verification report including the verification opinion to the client via e-mail and to Gold Standard via the GS registry.

4. VERIFICATION FINDINGS

In the following paragraphs the findings from the desk review of the carbon and sustainability monitoring report^{/MR/}, the PDD^{/PDD-GS/} and additional annexes for GS registration^{/PDD-GS/}, the GS validation report^{/VAL-GS/} and other supporting documents, as well as from the on-site assessment and the interviews are summarised.

The summary of CAR, FAR and CL issued are shown in Table 4-1:

Table 4-1: Summary of CAR, CL and FAR

Verification topic	No. of CAR	No. of CL	No. of FAR
A – General description of the project activity	0	0	0
B – Implementation of the project activity	0	1	0
C – Description of the monitoring system	0	0	0
D – Data and parameters monitored	1	0	0
E - Emission Reductions Calculation	1	0	0
SUM	2	1	0

The following tables include all raised CARs, CLs and FARs and the respective assessment by the verification team. For an in depth evaluation of all verification items it should be referred to the verification protocols (see Annex).

Finding:	B1		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	There is almost one year shutdown for the Bailingmiao phase one wind farm during April 2010 to March 2011. The reason and the impact to the operation mode of the project should be explained. Furthermore clarification is requested regarding the influence of the shutdown on the situation of the employees.		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Due to the reorganization of the assets, the project stopped generating from April 2010 to March 2011. Since the Grid Company disconnected the Project from the power grid, the project owner (PO) had to shut down the project temporarily, and this was out of the control of the PO. Although there was no revenue during the shutdown, the PO tried its best to pay the base salary to the employees. Some employees chose to quit from the project, since many wind farms were setup nearby and they can easily get new jobs, but company also recruit some new employee to keep the employees numbers enough. The PO was		

Finding:	B1
	unwilling to face such situation, and strived to restore the operation of the Project. Thanks to the great efforts of the PO, the Project restored operation in April 2011. Upon the operation of the Project, the PO recruited new employees and the total number of the employees [was restored to] is always above 18, which is the nearly same as the number in the registered PDD. As stated above, the score for employment (numbers) in this monitoring period is believed reasonable as the PO has fulfilled its responsibility.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Upon checking the management document of Honiton Energy (Baotou) Co., Ltd. and according to on-site interview with the project owner, it is confirmed that: There is one year downtime for Bailingmiao phase one wind farm due to the internal reorganization assets. Then the operation was resumed in April 2011. The statement from PP is confirmed through on-site interview with the project owner and the official from the grid company. It can also be confirmed through the meter reading and assessed as convincing. The shutdown is beyond the control of the project owner. After the reorganization of the assets the project, the plant is operated smoothly. It is confirmed that enough workers are employed by the project owner at the abnormal and normal condition of the project. The score related SD was reduced from 2 to 1 in the monitoring period which can be assessed by the verifier as reasonable. The operation mode of the project is in line with the registered GS-PDD, no change of modify to the operation or capacity of the project occurred to impact the applicability of the methodology. Hence, this CL is assessed as closed.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Finding:	D1		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The following issues regarding the delayed calibration of the meters were observed: 1. The calibration for meter M1 conducted on 2009-06-24 and 2011-06-20, so M1 is invalid during the period June 2010 to April 2011 (From 6th May 2011 the monitoring value of M3 was applied for emission reduction calculation). The first calibration for M3 was performed on 2011-06-20, there is two months delay for the required calibration of M3. The first calibration for M_{backup} installed at 10kV backup line was performed on 2011-06-30, delayed for the period May 2009 to June 2011. The emission reduction should be recalculated according to		

Finding:	D1
	<i>Guidelines for assessing compliance with the calibration frequency requirements ver. 01, EB52/Annex 60. The basis shall be clearly addressed in MR.</i> 2. The calibration information for M1, M1_{backup}, M2, M2_{backup} on 2011-06-20 should be transparently addressed in MR.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	1. the Note has been added in updated MR; 2. the calibration information has been updated in MR.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Upon checking the updated GS-MR ver. 1.1 and according to the calibration records of the meters, it is confirmed that: 1. As stated in paragraph 4 of <i>Guidelines for assessing compliance with the calibration frequency requirements ver.01, EB52/Annex 60</i>: “4.... (a) <i>Applying the maximum permissible error of the instrument to the measured values, if the results of the delayed calibration do not show any errors in the measuring equipment, or if the error is smaller than the maximum permissible error;</i> (b) <i>The error shall be applied in a conservative manner such that the adjusted measured values shall result in lower baseline emissions and higher project emissions / leakage.”</i> The time gap between the valid period of the two calibrations of M1 on 2009-06-24 and 2011-06-20 is out of validity from June 2010 to April 2011. The delayed calibration on 2011-06-20 shows that the meter M3 is qualified. The calibration for M_{backup} on 2011-06-30 also shows that M_{backup} is qualified. So the maximum permissible error for the 0.2S level meter M3 of 0.2% and 1.0S level meter M_{backup} of 1% were applied for the conservative determination of the measured value. The electricity export and import was calculated as: M1 (delayed period: from June 2010 to April 2011) M3 (delayed period: from May 2011 to June 2011): Export=measured value *(1-0.2%) Import=measured value *(1+0.2%) M_{backup} (delayed period: May 2009 to June 2011) Import=measured value *(1+1%) $EG_y = EG_{out,y} - EG_{in,y} - E_{backup,y}$ The determination approach is assessed as conservative and in compliance with the stipulation in the guidelines EB52/Annex 60. 2. The calibration information has been addressed in MR and is consistent with the calibration certificate. Hence CAR 2 is assessed as closed.

Finding:	D1
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Finding:	E1
Classification	☒ CAR ☐ CL ☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	With regard to the emission reduction spreadsheet, the following issues were identified: 1. Every data should be linked to another cell or calculation. 2. The value of electricity export to grid from grid in December 2011 presented in sheet '2011 E out' is inconsistent with the data in monthly electricity sales invoice^{/MEI/}. The meter readings of the 10kV backup line are not evidenced. The emission reduction during this monitoring period should be recalculated accordingly. Revision is requested.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	1. Every data in the calculated sheet is linked to another cell or calculation in updated Excel format document; 2. This is a typo, and has been corrected in updated Excel format document. The description of the 10kV backup line from grid company was provided to DOE. The emission reduction has been corrected in updated Excel format document.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Upon checking the updated emission reduction spreadsheet, it is confirmed that: 1. The Emission Reduction Spreadsheet is still not traceable and incorrect. 2. The correct value of end reading for M3 in Nov. 2011 was applied in ER spreadsheet. The documentation^{/DBL/} from grid company regarding the monthly start reading and end reading of the 10kV backup line is assessed as convincing. Nevertheless, there are still inconsistencies between the sheets in the ER spreadsheet.
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	1. In new version sheet the data is traceable and correct; 2. The emission reduction is calculated as 168,484 t CO₂e.
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-2.</i>	As per the updated ER spreadsheet, the net electricity supplied to grid by Bailingmiao phase one wind farm was changed from 160,044.83MWh to 159,730.93MWh. The electricity imported from 10kV backup line was changed from 565.19MWh to 832.03MWh. The emission reduction remains as recalculated as 168,484tCO₂e. Hence a traceable ER spreadsheet has been provided and the calculation is evaluated as well evidenced and correct. This CAR is assessed as closed.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Additional action should be taken (finding remains open)



Finding:	E1
	☒ The finding is closed

5. SUMMARY OF VERIFICATION ASSESSMENTS

The following paragraphs include the summary of the final verification assessments after all CARs and CLs are closed out. For details of the assessments pl. refer to the discussion of the verification findings in chapter 4 and the verification protocol (Annex 1).

5.1. Implementation of the project

✧ Operation Condition

During the monitoring period covering 2009-05-01 to 2011-12-31 the project exported 159,730.93 MWh of net electricity to NCPG. This was verified by the verification team during the on-site visit by checking the meter reading monthly summary^{/MMR/}, monthly electricity purchase invoices^{/MEI/}, monthly electricity sales invoices^{/MEI/}, meter calibration certificates^{/CAL/} and plant operation records^{/LOG/}.

The project is a grid-connected renewable energy project. It was designed to install 40 sets wind turbines with rated unit capacity of 1.25MW to deliver about 110.9GWh electricity to NCPG annually, subsequently replacing fossil fuel consumption and thus reducing GHG emissions. The nameplate rating of the wind turbines generator set is 1250kWh and consistent with the technical specification of Equipment Purchasing Contract^{/EPC/}. All turbines and generators were produced by Suzlon German Energy Co., Ltd.. The total installed capacity is 50MW, the first wind turbine started operation on 2008-01-07 after its trial operation, and all the 40 wind turbines are fully operational since April 2008.

The voltage of the electricity generated by wind turbine is 660V, then the power is boosted to 35kV through box transformer installed with each wind turbine, afterwards the electricity is delivered to NCPG after boosting from 35kV to 220kV through the on-site main transformer. Then the electricity will be sent to 220kV Hongta substation which is connected to NCPG.

All required equipments and procedures are available and implemented in an appropriate manner. All necessary monitoring instruments are installed. The measuring devices are well known and state of the art. All required instruments including stand by and operating procedures have been implemented in an appropriate manner.

During the verification a site visit was carried out. On the basis of this site visit and the reviewed project documentation it can be confirmed that the installed technology and the operation modes have been implemented and operated as described in the registered GS-VER-PDD^{/PDD/}. There are no major changes in the wind turbine and generator since the validation of the project.

Based on the project information available on the GS website:

<https://gs2.apx.com/mymodule/ProjectDoc/EditProjectDoc.asp?id1=449> . The project was registered with GS registry on 2009-05-15 with the first crediting period from

2008-01-07 to 2015-01-06. The first GS-VER periodic verification for the project is covering the period from 2008-01-07 to 2009-04-30.

No fossil fuel consumption equipment for power generation was observed.

✧ **GS-VER Monitoring**

For the GS-VER monitoring purpose, M1, M1_{backup}, M2, M2_{backup}, M3 and M_{backup} are involved in the monitoring system. Before 1st May 2011, the meter M1 installed at the outlet of high voltage side of 220kV main transformer was applied for monitoring the electricity exported and imported by the project.

Since the Bailingmiao phase two wind farm commenced on-grid electricity generation on 2011-05-06, and Bailingmiao phase one and phase two wind farms share the same gateway meter M2 installed at grid substation, separate meters M3 and M4 (installed at the 35kV line at Bailingmiao phase one wind farm and Bailingmiao phase two wind farm) were applied for independent electricity exportation and importation monitoring for Bailingmiao phase one and Bailingmiao phase two wind farm respectively. The accuracy level and calibration are satisfied with the national standard (JJG596-1999). The settlement meter and monitoring point was checked by the verifier and found to be in line with the power purchase and sale agreement^{/PPA/} signed between the project owner and Inner Mongolia Electric Power Co., Ltd.

During this monitoring period, the meters were calibrated according to the relevant national regulation JJG596-1999 by Electrical Metrology Centre of Inner Mongolia Electric Power Research Institute which is authorized by Quality & Technology Supervision Bureau of Inner Mongolia, certificate no. 200915021. The accuracy class of the meters is 0.2S. However, as M3 was put into monitoring in May 2011 while the first calibration for M3 is conducted on 2011-06-20 there are two months delay for the calibration of meter M3. The two calibrations for M1 were conducted on 2009-06-24 and 2011-06-20, the time gap is the calibration invalid period from June 2010 to April 2011. The first calibration of meter M_{backup} during this monitoring period is performed on 2011-06-30, the period from May 2009 to June 2011 were delayed. The value of electricity exportation and importation during May and June 2011 was conservatively adjusted as per *Guidelines for assessing compliance with the calibration frequency requirements* ver. 01 EB52 /Annex 60. Please to CAR D1 for determination procedure and assessment.

Hence it can be concluded that the actual monitoring system is in accordance with the registered GS-VER-PDD. Request revision of monitoring plan is not required.

For the sake of conservativeness, E_{out} the lower value of the invoice and meter readings while for E_{in} the higher value between the invoice and meter readings are the basis for emission reduction calculation. The verifier confirms that this approach is conservative. During this monitoring period, there is no malfunction detected for the meters.

Due to the reorganization of the assets, the project has downtime from April 2010 to March 2011. The meters were calibrated after the start of electricity generation. But neither mistakes nor malfunction have been observed during this monitoring period.

The calibration information of the meters in the monitoring period is as follow:

Table 5-1: Electric Meters information

	Serial No.	Accuracy	Calibration date	Validity	Calibration entity
M1	93729773	0.2S	2009-03-23	2010-03-22	Electrical Metrology Centre of Inner Mongolia Electric Power Research Institute which is authorized by Quality & Technology Supervision Bureau of Inner Mongolia, certificate no. 200915021
			2009-06-24	2010-06-23	
			2011-06-20	2012-06-19	
			2011-12-14	2012-12-13	
M1 _{backup}	94196690	0.2S	2009-03-23	2010-03-22	
			2009-06-24	2010-06-23	
			2011-06-20	2012-06-19	
			2011-12-14	2012-12-13	
M2	94196691	0.2S	2009-03-24	2010-03-22	
			2009-06-25	2010-06-23	
			2011-06-20	2012-06-19	
			2011-12-14	2012-12-13	
M2 _{backup}	94196682	0.2S	2009-03-24	2010-03-22	
			2009-06-25	2010-06-23	
			2011-06-20	2012-06-19	
			2011-12-14	2012-12-13	
M3	96212993	0.2S	2011-06-20*	2012-06-19	
M _{backup}	2008-0312377	1.0S	2011-06-30	2012-06-29	

*Note: The Bailingmiao phase two wind farm commenced on-grid power generation on 2011-05-06.

All necessary monitoring instruments are installed as indicated in validated monitoring plan. The measuring devices are well known and state of the art. All required instruments including stand by and operating procedures for the same have been implemented in an appropriate manner.

The submitted monitoring report which forms the basis of the verification was prepared by summarizing consolidated monthly data over the whole monitoring period.

Nevertheless, CL B1 regarding the one year downtime was raised and closed.

5.2. Project History

During the validation, the validation DOE might have raised issues that could not be closed or resolved during the validation stage. No FAR were identified from the validation and the previous verification for this project.

5.3. Special Event

There is no special event during the monitoring period by means of operation log check and interviewing with the project owner expect one year downtimes from April 2010 to March 2011 for the operation of the Bailingmiao phase one wind farm due to the reorganization of the assets. However there are no changes or modifications to the operation mode and the capacity which may impact the applicability of the methodology.

5.4. Compliance with the monitoring methodology

The monitoring system to determine the parameter for GHG emission reduction calculation is in compliance with the applied monitoring methodology (ACM0002, version 07).

5.5. Compliance with the monitoring plan and GS monitoring matrix

The monitoring system and all applied procedures as well as the reporting procedures are in compliance with the registered monitoring plan and the GS monitoring matrix.

5.6. Monitoring parameters

According to the Registered MP, parameters regarding baseline emissions required to be monitored are listed in below table. No project emission parameters and leakage parameters are required to be monitored.

Parameter monitored	Description	Comment
E _{out,y}	The electricity generated by the project in year y.	Before May 2011, it was continuously measured by the meter M1 installed at the 220kV high voltage side of on-site 220kV boosting station and monthly recorded. Since May 2011, it was continuously

		measured by meter M3 installed at the 35kV line of Bailingmiao phase one wind farm. Double check by sales receipts. Meanwhile, data recorded by M1 installed at the on-site 220kV substation shared by Bailingmiao phase one and Bailingmiao phase two wind farms and M4 installed at the 35kV line of Bailingmiao phase two wind farm can be applied for cross-check.
$E_{in,y}$	The electricity imported from grid by the project in year y.	Before May 2011, it was continuously measured by the meter M1 installed at the 220kV high voltage side of on-site 220kV boosting station and monthly recorded. Since May 2011, it was continuously measured by meter M3 installed at the 35kV line of Bailingmiao phase one wind farm. Double check by sales receipts. Meanwhile, data recorded by M1 installed at the on-site 220kV substation shared by Bailingmiao phase one and Bailingmiao phase two wind farms and M4 installed at the 35kV line of Bailingmiao phase two wind farm can be applied for cross-check.
$E_{backup,y}$	The electricity purchase from 10kV backup line by the project	The parameter is continuously monitored by the M_{backup} installed at the 10kV backup line and monthly record.
EG_y	Net electricity delivered to grid by the project	Calculated as $EG_y = E_{out,y} - E_{in,y} - E_{backup,y}$

The Registered MP and monitoring manual has been reviewed by the verification team. During the site visiting, a witness check to the monitoring procedures has been carried out and relevant staffs have been interviewed to confirm their eligibility.

Electricity generated by the project is boosted from 660V to 35kV through box transformer installed along with each wind turbine and then the voltage is lifted to 220kV through the main transformer installed at Honiton Bailingmiao wind farm plant. Then the electricity is delivered to 220kV Hongta substation belongs to NCPG.

The project and Bailingmiao phase two wind farm share the same main meter (M1). There are four sets of meters (M1 installed at 220kV lines in Bailingmiao wind farm plant, M2 installed at 220kV Hongta substation, M3 for monitoring $E_{out,y}$ and $E_{in,y}$ of Bailingmiao phase one and M4 for monitoring $E_{out,y}$ and $E_{in,y}$ of Bailingmiao phase

two) installed at the four busways to monitor the electricity exportation and importation from grid.

$E_{out,y}$: Before May 2011, the parameter was continuously measured by M1 installed at the on-site 220kV substation while since May 2011 it was continuously monitored by M3 installed at 35kV line of Bailingmiao phase one wind farm and monthly recorded. M2 was assigned for trading according to the Power Purchase and Sales Agreement, signed by Honiton Energy (Baotou) Co., Ltd. and Inner Mongolia Electric Power Co., Ltd.^{/PPA/}. The accuracy class of all the monitoring meters mentioned in the table 5-1 is 0.2S which is in conformity with the relevant requirements of national standard DL/T448-2000. The meter installation is in consistency with prescription in the registered MP.

The cut-off time for the four sets of meters is set at 24:00h last day monthly. The aggregated daily readings were converted to Monthly Meter Reading Summary^{/MMR/} by qualified staff, the MMR were approved and signed by the operational manager then archived. Monthly internal auditing was carried out to ensure the quality of data. The meter M2 installed at the 220kV Hongta substation were read and recorded by the local grid company, and the readings were provided to the wind farm on a monthly basis. The sales invoices were issued by the wind farm to the local grid company based on the readings of M2 as per signed PPA. All the sales invoices were kept by the wind farm for double check.

For this monitoring period, $E_{out,y}$ is 162,952.48MWh and the Monthly Meter Reading Summary^{/MMR/}, sales receipts have been checked against each other to confirm the completeness accuracy. The lower value between MMR and sales receipts were adopted for ERs calculation, this is deemed conservative by the assessment team.

$E_{in,y}$ was measured by the same metering system as $E_{out,y}$. The monitoring procedures and calibration procedures are also the same as $E_{out,y}$. Bailingmiao phase one and Bailingmiao phase two wind farm has the same project owner. The sales receipts issued by the local grid company to the project owner were used for double check. For $E_{in,y}$ during this monitoring period, the value in is 2,389.52MWh and the original MMR, sales receipts have been checked against each other to confirm the completeness accuracy and conservativeness of the reported values. The higher values between MMR and sales receipts were adopted for ERs calculation, this is deemed conservative by the assessment team.

$E_{backup,y}$ is continuously monitored by meter M_{backup} and recorded monthly.

Thus $EG_y = E_{out,y} - E_{in,y} - E_{backup,y} = 162,952.48 - 2,389.52 - 832.03 = 159,730.93\text{MWh}$

In addition, GS requirements are the monitoring of social-environmental contributions, which are described in the GS monitoring matrix. The following sustainability indicators are to be monitored:

- Employment (number)

Following the registered MP, by means of check Staff list and Salary Payment Sheet of Honiton Energy (Baotou) Co., Ltd. and according to PO interviewing at the time of on-site visit, TÜV NORD verification team confirm that there are totally 25 employees are all permanent employees and shared by the two projects (excluding the staffs in Baotou office and Beijing office). 18 employers have been employed permanently working in the Bailingmiao phase one wind farm, the name list and salary payment sheets^{/SPS/} have been review by the verification team. Furthermore, there are 10

employees in Beijing office to take charge of the wind farms, thus totally exceed 20 persons. It is in accordance with the forecasted in GS-VER-PDD. Due to the reorganization of the assets, the wind farm stopped generation from April 2010 to March 2011. Nevertheless, the operation mode of the wind farm wasn't impacted. The interview of relevant staff on site also confirmed the fact. The score of 1 in the monitoring period is assessed as reasonable.

- Qualitative value of the employment

Relevant training^{/TCR/} including the technical training, GS-VER monitoring training fire fighting training and health and safety training have been carried. Relevant training records have been obtained and checked by the verification team. Salary payment sheet indicated that the welfare have been paid in accordance with local laws. The interview of relevant staff on site also confirmed the fact. The score of 2 is assessed as reasonable.

- Soil Condition

The project has not obtained the final acceptance on environment protection issued by local environmental protection bureau officially. Hence, annual monitoring of soil condition was carried out by independent third party. The soil protection confirmation issued by soil protection office of Damao County dated 2008-03-16^{/ESD-1/} and approval of environmental protection check & acceptance issued by Baotou City Environmental Protection Bureau dated 2011-12-21^{/ECA/} have been obtained and checked by the verification team, which indicated that the improvement of soil condition carried out by PO has been done well. The approval has been obtained and checked by the verification team. The score of 0 for the monitoring period is assessed as reasonable.

- Human and institutional capacity

Until the onsite visit, 1 English teacher had been employed by the project owner for English teaching in Damaoqi Mongolian school. The contract signed by the project owner and the local educational bureau^{/ESD-2/} and offer letter and employment contracts between local Mongolian school and teachers have been obtained and confirmed by the verification team. The score of 2 for the monitoring period is assessed as reasonable.

- Water quality

By means of documentation review, it is clearly indicated in the Approval of Environmental Protection Check & Acceptance^{/ECA/} that a buried sewage treatment facility with capacity of 10m³ for wastewater treatment, which was clearly issued by management authority, Baotao City Environmental Protection Bureau dated 2011-12-21. It also stated that treated sewage water was applied for virescence in the station and no sewage was discharged to the environment.

Furthermore, as per the on-site investigation, the waste water at the project site only consists of domestic wastewater from the living activities of the staffs about 1-2 tons per day. The monitoring of waste water was carried out by Lvjie Environment Company which is an independent third party, accredited by Inner Mongolia Quality and Technique Supervision. The verification report (report no. SW2009-05-26-010) issued on 26/05/2009^{/ESD-3/} indicated the pollutant

indicators including COD, BOD and SS of the effluent sewerage were in compliance with relevant national standard GB8978-1996^{/IWD/}.

Therefore, no further monitoring regarding water quality is required according to the registered GS-VER-PDD. The verification report and accreditation certificate have been obtained and verified by the verification team. The score of 0 for the monitoring period is assessed as reasonable.

- Noise pollution

The noise pollution verification has been carried out by Lvjie Environment Company, which is an independent third party accredited by Inner Mongolia Quality and Technique Supervision. The verification report (report no.SW2009-05-26-010) issued on 26/05/2009^{/ESD-3/} indicated the effluent sewerage was in compliance with relevant national standard GB12348-90^{/SN/}.

Therefore, no further monitoring regarding noise is required according to the registered GS-VER-PDD. The verification report and accreditation certificate have been obtained and verified by the verification team. The score of 0 is assessed as reasonable.

- Grassland owner compensation fees

29 local grassland owners, whose grassland has been occupied by the project or construction, have been identified and compensated. Land Occupation Compensation, signed by Honiton Energy (Baotou) Co., Ltd. and People's Government of Bailingmiao Town, Damao County^{/ESD-4/} and Grassland compensation contract between Honiton Energy and local residents signed between the project owner and local grassland owners have been verified by the verification team. It has been confirmed that all the compensation fees have been conducted in accordance with national regulation. It has been confirmed that all the compensation fees have been paid directly to the grassland owner in accordance with national regulation^{/GL/}. The score of 0 is assessed as reasonable.

During the verification all relevant monitoring parameters have been verified with regard to appropriateness of the applied measurement / determination method, the accuracy, the applied QA/QC measures as well as the correctness of the values applied for ER calculation. The results as well as the verification procedure are described parameter-wise in the project specific GS verification checklist.

After appropriate corrections were carried out by the project participant it can be confirmed that all monitoring parameters have been measured / determined without material misstatements and in line with all applicable standards and relevant requirements.

5.7. Monitoring reports

The draft monitoring report^{/MR/} was submitted to the DOE by the project participants. The team worked out the audit plan and preliminary findings based on the draft MR and according to actual on-site investigation.

During the verification, mistakes and needs for clarification were identified. The PP has carried out the requested corrections so that it can be confirmed that the

monitoring report is complete and transparent and in accordance with the registered PDD monitoring plan, GS requirements and other relevant requirements. All findings could be closed. Then the Final Verification Report will be finalized based on the MR, ER and supporting evidences. Finally the PP submitted the MR, ER and issued FVR to GS secretariat and Technical Advisory Committee for review the issuance request.

5.8. Deviations in GHG emission reduction

The GS-VER project was registered with an emission factor of 1.0548tCO₂/MWh published by Chinese DNA, according to ACM0002, version 7, which was valid and applicable at the time of the request for registration.

5.9. Contribution to sustainable development

It was evidenced that the project contributes to reforestation/recuperation of the area/soil, employs local population, contributes to improve the livelihood of the poor and contributes to human and institutional capacity. For a detailed assessment of the sustainability indicators please refer to the project specific GS verification checklist.

It can be also confirmed that there were no changes occurred with negative impact on sustainable development of the project.

5.10. Quality Management

The Management System for the monitoring of the GS CDM Project is in place. The organizational structure with the responsibilities has been properly identified. The key parameters are measured / determined and reviewed periodically as per the procedures.

Documents list was established and all monitored data is archived both in physical (daily data) and in electronic form. The data will be kept for the whole crediting period and additional 2 years as given in the PDD.

The calibration records covering the monitoring period were maintained and provided by PP to DOE for check. Meters calibration plan was established in the registered GS-VER-PDD, which stipulated the electric meters should be calibrated annually. However, the time gap for meter M1 and calibration delay for meter M3 and M_{backup} during this monitoring period were observed during on-site verification. The conservative determination approach in EB guideline EB52 /Annex 60 was appropriately applied for the emission reduction calculation. It was clearly addressed in CAR D.

All necessary and request documentation was provided by the project participants so that a complete verification of all relevant issues could be carried out.

Access was granted to all installations of the plant which are relevant for the project performance and monitoring activities.

5.11. Comparison with ex-ante estimated emission reductions

The MR includes a comparison of the calculated actual emission reductions with the ex-ante calculated values in the registered PDD.

The emission reduction during the 2nd monitoring period is 168,484 tCO₂e (975 days), thus lower than the estimation as per registered PDD with 312,486 tCO₂e (116,982/365*975).

The calculated values were found to be proportionally lower than the ex-post determined value, thus no further justification was required.

5.12. Overall Aspects of the Verification

All necessary and requested documentation was provided by the project participants so that a complete verification of all relevant issues could be carried out.

Access was granted to all installations of the plant which are relevant for the project performance and the monitoring activities.

The operation and monitoring of the project are in compliance with the registered PDD and monitoring plan. All raised CARs and CLs are successfully closed out.

No issues have been identified indicating that the implementation of the project activity and the steps to claim emission reductions are not compliant with the requirements as per Gold Standard ver. 2.0 and the related toolkits^{/GS/}.

5.13. Hints for next periodic Verification

There is no hint for next periodic verification.

6. VERIFICATION OPINION

CAMCO International Ltd. has commissioned the TÜV NORD JI/CDM Certification Program to carry out the 2nd periodic verification of the project: "Honiton Energy Bailingmiao Phase one Wind Farm Project", with regard to the relevant Gold Standard (GS) requirements for VER project activities. The project activity generates electricity utilizing available wind resource at the project site to avoid GHG emissions. This 2nd periodic GS verification covers the period from 2009-05-01 to 2011-12-31.

In the course of the verification 2 Corrective Action Request (CAR) and 1 Clarification Requests (CL) were raised and successfully closed. The verification is based on the monitoring report (version 01), the revised monitoring reports, the monitoring plan as set out in the validated PDD, GS validation report for this project and supporting documents made available to the TÜV NORD JI/CDM CP by the project participants.

As a result of this periodic verification, the verifier confirms that:

- all operations of the project are implemented and installed as planned and described in the validated GS project design document.
- the monitoring plan is in accordance with the applied approved CDM methodology i.e., ACM0002 Ver.07.
- the installed equipment essential for measuring parameters required for calculating emission reductions are calibrated appropriately.
- the monitoring system is in place and functional. The project has generated GHG emission reductions, and
- the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner.

TÜV NORD JI/CDM CP herewith confirms that the project has achieved emission reductions, which could be labeled Gold Standard in the above mentioned reporting period as follows:

Emission reductions: **168,484t** CO_{2e}

Shanghai, 2012-11-05

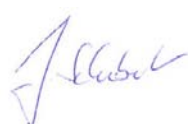


Huang Jie

TÜV NORD JI/CDM Certification
Program

Verification Team Leader

Essen, 2012-11-05



Dr. Jochen Schubert

TÜV NORD JI/CDM Certification
Program

Senior Assessor

7. REFERENCES

Table 7-1: Documents provided by the project participant(s)

Reference	Document
/BL/	Business License of Bailingmiao Phase one Wind Farm, issued by Baotou Administration for Industry & Commerce.
/CAL/	Meters Calibration Record, calibrated by Electrical Metrology Centre of Inner Mongolia Electric Power Research Institute. 1. M2: serial no. 94196691, accuracy 0.2S and M2_{backup}: serial no. 94196682, accuracy 0.2S: Certificate no. Hong Ta 2009-01 dated 2009-03-24. Certificate no. Hong Ta 2009-02 dated 2009-06-25. Certificate no. Hong Ta 2011-02 dated 2011-06-20. Certificate no. Hong Ta 2011-04 dated 2011-12-14. 2. M1: serial no. 93729773. accuracy 0.2S and M1_{backup}: serial no. 94196690, accuracy 0.2S: certificate no. Hong Teng 2009-01 dated 2009-03-23. Certificate no. Hong Teng 2009-02 dated 2009-06-24. Certificate no. Hong Teng 2011-02 dated 2011-06-20. Certificate no. Hong Teng 2011-04 dated 2011-12-14. 3. M3: serial no. 96212993, accuracy 0.2S: Certificate no. Hong Teng 2011-02 dated 2011-06-20. 4. M4: serial no. 96212994, accuray 0.2S: Certificate no. Hong Teng 2011-02 dated 2011-06-20. 5. M_{backup}: serial no. 2008-0312377, accuracy 1.0S: Certificate no. Hong Teng 2011-02 dated 2011-06-30. The entity has the qualification certificate, issued by Quality & Technology Supervision Bureau of Inner Mongolia, certificate no. 200915021.
/DBL/	Description of electricity importation from 10kV backup line from May 2009 to Dec. 2011 confirmed by Baotou City Environmental Protection Bureau.
/ECA/	Approval of Environmental Protection Check & Acceptance, issued by Baotou City Environmental Protection Bureau on 2011-12-21. ref no. Bao Huan Yan[2011]48.
/ESD/	Evidence of Sustainable Development (SD) indicator: a) Soil Condition: Site protection confirmation issued by soil protection office of Damao

Reference	Document
	County, dated 2008-03-16 b) Human and institutional capacity Contract between Honiton Energy and Education Bureau of Damao City for Hiring 1 English teacher, dated 2011-05-01. Contract for hiring 1 Physics teacher, dated 2011-05-01. c) Water quality and noise pollution: Waste water and noise verification report issued by Lvjie Environment Company, dated 2009-05-26. d) Grassland owner compensation fees Grassland compensation contract between Honiton Energy and local residents, dated Sep.2006 to Jan.2009. Land Occupation Compensation, signed by Honiton Energy (Baotou) Co., Ltd. and People's Government of Bailingmiao Town, Damao County in 2007 and 2008.
/GDA/	Grid-connected Dispatch Agreement, signed by Honiton Energy (Baotou) Co., Ltd. and Baotou Power Supply Company.
/MEI/	Monthly Electricity Invoice: - Monthly Electricity Sales Invoice, issued by Honiton Energy (Baotou) Co., Ltd. from May 2009 to March 2010 and from April 2011 to Dec. 2011. - Monthly electricity purchase invoice, issued by Baotou Power Supply Company from May 2009 to Dec. 2011. - Monthly electricity purchase invoice for 10kV backup line, issued by Damao Electric Power Co., Ltd.
/MIA/	Monthly Internal Auditing Report
/MMR/	Monthly meter reading summary, including daily start reading, end reading of M1, M1 _{backup} , M3 covering from May 2009 to Dec. 2011.
/MM/	GS-VER Monitoring manual for Bailingmiao Phase One Wind Farm.
/MR/	GS-VER-MR titled "Honiton Energy Bailingmiao Phase one Wind Farm Project" - ver. 1, dated 2012-03-21. - ver. 1.1, dated 2012-07-16. - Final ver. 2, dated 2012-11-02.
/OMR/	Operation and Management Regulation for Bailingmiao wind farm, compiled by Honiton Energy (Baotou) Co., Ltd dated 01/12/2007.
/PGL/	Power Generation License, issued by State Electricity Regulatory Commission of People's Republic of China.
/PPA/	Power Purchase and Sale Agreement, signed by Honiton Energy (Baotou)

Reference	Document
	Co., Ltd. and Inner Mongolia Electric Power Co., Ltd.
/SPS/	Staff list and Salary Payment Sheet of Honiton Energy (Baotou) Co., Ltd. dated March 2012, including(housing allowance and healthcare insurance)
/TCR/	Training and competence record: 1. GS-VER Training, dated Jan. 2008. 2. Health and safety training records by Suzlon. 3. Training record regarding safe Operation, Emergency procedure, Protection Equipment etc from 2010 to June 2012. 4. Sample copy of Qualification certificate of the operation staff including Power dispatch, Electric Equipment Maintenance Engineer, Special Equipment Maintenance.
/XLS/	Emission Reduction Calculation spreadsheet

Table 7-2: Background investigation and assessment documents

Reference	Document
/ACM0002/	Approved CDM Methodology ACM0002, version 07: "Consolidated baseline methodology for grid-connected electricity generation from renewable sources"
/CPM/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)
/GL/	1. Grassland Administration regulation in Inner Mongolia. 2. Grassland Law of P.R.China.
/GS-VER-PDD/	Project Design Document for Gold Standard Voluntary Offset projects: "Honiton Energy Bailingmiao Phase One Wind Farm Project" version 03, dated 2009-04-13.
/IPCC/	1. 1996 IPCC Guidelines for National Greenhouse Gas Inventories: work book 2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories: work book
/IWD/	GB8978-1996 Integrated Wastewater Discharge Standard.
/KPI/	Kyoto Protocol (1997)
/MA/	Decision 3/CMP. 1 (Marrakesh – Accords)

Reference	Document
/SN/	GB12348-90 Standard of Noise at Boundary of Industrial Enterprises
/VAL-GS/	Validation Report for GS-VER project.
/VER-GS/	Documents of previous GS-VER verifications.
/VVM/	UNFCCC Validation and Verification Manual (Version 01.2, EB 55)

Table 7-3: Websites used

Reference	Link	Organisation
/dna-HP/	http://cdm.ccchina.gov.cn/english/index.asp	National Development and Reform Commission (DNA of China)
/gs/	http://www.cdmgoldstandard.org/index.php	Gold Standard
/ipcc/	www.ipcc-nggip.iges.or.jp	IPCC publications
/unfccc/	http://cdm.unfccc.int	UNFCCC

Table 7-4: Interviewed Persons

Reference	Mol ¹		Name	Organisation / Function
/IM01/	V	☒ Mr. ☐ Ms	Li Ling	Honiton Energy (Baotou) Co., Ltd. / Technical Support
/IM01/	V	☒ Mr. ☐ Ms	Yue Jianzhong	Bailingmiao Wind Farm, Honiton Energy (Baotou) Co., Ltd. / Engineer
/IM01/	V	☒ Mr. ☐ Ms	Tian Xiaobo	Bailingmiao Wind Farm, Honiton Energy (Baotou) Co., Ltd. / Monitor
/IM01/	V	☒ Mr. ☐ Ms	Wu Jiehui	Bailingmiao Wind Farm, Honiton Energy (Baotou) Co., Ltd. / Monitor
/IM02/	V	☒ Mr. ☐ Ms	Li Ning	CAMCO International Ltd. / Project Manager
/IM02/	V	☒ Mr. ☐ Ms	Fang Liqiang	CAMCO International Ltd. / Project Manager

Reference	Moi ¹		Name	Organisation / Function
/IM03/	V	☒ Mr. ☐ Ms	Liu Jianming	220kV Hongta Substation / Monitor

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

ANNEX

A1: Verification Protocol

A2: Statements of Competence of
involved Personnel

ANNEX 1: VERIFICATION PROTOCOL

Table A-1: Project specific Periodic Verification Checklist

Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
1. Project history				
Open issues from GS validation <i>Check (esp. in case of 1st periodic verification) whether there are any open issues indicated in the validation report (e.g. FAR)?</i>	/VAL-GS/	It is 2 nd GS periodic verification. No FAR has been issued in the GS validation report related to this verification or in the previous verification report.	OK	OK
Open issues from previous verification <i>Check in case of further periodic verifications whether there are any open issues indicated in previous verification (FAR)?</i>	/VER-GS/	No FAR was raised in the 1st verification.	OK	OK
Requests for Deviations / Revisions of MP <i>Check if there have been any requests for deviations from the registered monitoring plan or requests for revisions of the monitoring plan. If any, make sure that they are considered during verification?</i>	/gs/ /GS-VER-PDD/ /VAL-GS/ /VER-GS/	The published project related documentation including GS-VER-PDD and the 1 st verification documents were checked. No Requests for Deviations or Revisions of MP have been published before the start of the verification.	OK	OK
Initial project implementation <i>In case of first GS verification: Assess whether the</i>	/GS-VER-	Through on-site investigation and documentation reviewing, it is confirmed that the operation was implemented in line with the	CL-B1	OK

¹ Provide means and results of assessment

Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
<i>project has been implemented and operated as per the registered PDD and are all physical features of the project in place?</i> <i>In case of further periodic verifications: Go to next chapter.</i>	PDD/ /VER- GS/	registered PDD. The main technical specifications of main equipment i.e. generator units, including rated power capacity and output is consistent with the PDD. CL B1 regarding the project downtime for almost one year was raised.		
2. Update on Changes and Incidents (during the Monitoring Period)				
Technical equipment <i>Check if relevant technical equipment of the project activity has been exchanged or modified during the monitoring period.</i> <i>Check whether any changes occurred that may have impact on the GS qualification of the project, in particular with reference to any potential changes in key parameters leading to an overall impact on sustainable development of the project.</i> <i>Consider e.g. interviews with operational personnel, QMS records, maintenance records, instrument specifications.</i> <i>In case of changes, check whether the project is still in line with the registered PDD and assure that these changes have been considered in the monitoring report, the emission reduction calculation and/or the scoring of the sustainability indicators.</i>	/IM01/ /VER- GS/ /MR/ /GS- VER- PDD/	During the verification a site visit was carried out. On the basis of this site visit and the reviewed project documentation it can be confirmed that the installed technology and the operation modes have been implemented and operated as described in the registered GS-VER-PDD. No change or modification occurred to the main equipment during this monitoring period. The technical equipment of the project and monitoring is consistent with the registered PDD and the MR. No changes have been evidenced that may have impact on the GS qualification.	OK	OK
Operation modes <i>Check if relevant operation modes of the project</i>	/IM01/ /MR/	By means of interviews with the operational personnel it was evidenced that no relevant equipment and operation modes	OK	OK

Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
<i>activity have been exchanged or modified during the monitoring period.</i> <i>Check whether any changes occurred that may have impact on the GS qualification of the project, in particular with reference to any potential changes in key parameters leading to an overall impact on sustainable development of the project.</i> <i>Consider e.g. interviews with operational personnel, operation log sheets, data management system records.</i> <i>In case of changes, check whether the project is still in line with the registered PDD and assure that these changes have been considered in the monitoring report, the emission reduction calculation and/or the scoring of the sustainability indicators.</i>	/MEW/ /LOG/	were exchanged within the monitoring period and that impacted the sustainability of the project.		
Incidents <i>Identify if there have been any significant incidents, deviant operation modes and / or downtimes of the equipment?</i> <i>Consider e.g. interviews with operational personnel, operational log sheets, analysis of performance data.</i>	/IM01/ /MR/ /LOG/	It was verified during the site visit that no significant incidents have occurred during the monitoring period except the one year downtime from April 2010 to March 2011 due the reorganization of the assets, which has been confirmed through on-site interview with the project owner.	OK	OK
Personnel <i>Find out, if relevant personnel w.r.t. monitoring has been exchanged?</i> <i>In case of changes, assure that the implemented</i>	/IM01/ /MM/	The monitoring structure is in line with the registered PDD. No personnel were exchanged.	OK	OK

Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
<i>monitoring procedures have not been affected.</i>				
Legislation Find out whether relevant legislation with effect on the project activity in the host country has been changed.	/IM01/ /CMM/ /SR/ /EL/	Relevant legislation was considered. No relevant changes since the validation were identified.	OK	OK
3. Monitoring Report – General				
Monitoring period Check if the monitoring period is in line with a) the crediting period and/or b) previous monitoring periods?	/gs/ /MR/	On 15.05.2009 the project was registered as a Gold Standard project. The 1 st monitoring period is from 2008-01-07 to 2009-04-30. Therefore the 2 nd monitoring period is from 2009-05-01 to 2011-12-31. Both days are included.	OK	OK
References Check if the monitoring report provides the correct references.	/MR/	All the required references have been provided correctly.	OK	OK
Completeness Assess if the monitoring report monitoring report are complete, i.e. have all relevant issues been addressed?	/MR/	All relevant issues are covered in details.	OK	OK
Transparency Assess if the carbon monitoring report and sustainability monitoring report are transparent, i.e. clear and unequivocal in all respect?	/MR/ /PDD-GS/	Yes, draft and final monitoring report are transparent, the data and references are available.	OK	OK

Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
Misstatements on general issues <i>Assess whether the carbon monitoring report and sustainability monitoring report are free of material misstatements regarding issues other than the monitoring parameters.</i> <i>Discuss the monitoring parameters in detail in chapter "Monitoring Parameters".</i>	/MR/ /IM01/ /PDD-GS/	No discrepancy was identified.	OK	OK
Deviations from the validated monitoring plan and GS monitoring matrix <i>Assess whether the carbon monitoring report and sustainability monitoring report are in line with the validated monitoring plan and the GS monitoring matrix?</i>	/MR/ /ACM0002/ /gs/	No deviations from the validated monitoring plan and GS monitoring matrix have been identified.	OK	OK
Deviations from the approved methodology <i>Assess whether the MR is in line with the applied monitoring methodology?</i>	/MR/ /ACM0002/ /gs/	The monitoring reports were assessed against the requirements of the GS. No deviations were identified.	OK	OK
4. Monitoring Parameters <i>(List all parameters of the PDD chapter B.7.1 and the GS monitoring matrix; pl. copy the 6 lines below for each parameter)</i>				
GHG emission parameters				
4.1. EG_y (Electricity Generation)		Description: Electricity Generation of the Project delivered to the Grid.		

Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
Measurement / Determination method <i>Describe how the monitoring parameter was measured / determined.</i> <i>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used.</i> <i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</i>	/PDD-GS/ /IM01/ /MR/ /MMR/ /MM/	Electricity generated by the project is boosted from 660V to 35kV through box transformer installed along with each wind turbine and then the voltage is lifted to 220kV through the main transformer installed at Honiton Bailingmiao wind farm plant. Then the electricity is delivered to 220kV Hongta substation through the transmission lines which belongs to NCPG. The project and Bailingmiao phase two share the same main meter (M1). There are three sets of meters (M1 install at 220kV lines in Bailingmiao wind farm plant, M3 for monitoring $E_{out,y}$ and $E_{in,y}$ of Bailingmiao phase one and M4 for monitoring $E_{out,y}$ and $E_{in,y}$ of Bailingmiao phase two) installed at the four busways to monitor the electricity exportation and importation from grid. The cut-off time for the three sets of meters is set at 24:00h last day of every month. The aggregated daily readings were converted to Monthly Meter Reading Summary^{/MMR/} by qualified staff, the MMR were approved and signed by the operational manager then archived. The meter M2 installed at the 220kV Hongta substation were read and recorded by the local grid company, and the readings were provided to the wind farm on a monthly basis. The sales invoices were issued by the wind farm to the local grid company based on the readings of M2 as per signed PPA. All the sales invoices were kept by the wind farm for double check. The grid company has the accessory to the meter reading of M2, M2_{backup} and M_{backup}. The project owner has the accessory to the meter reading of M1 and M3. All the meter reading is recorded daily and summarized monthly manually by operation staff. . Meanwhile Digital Control system was also applied for hourly reading recorded. The electronic and hard copies will be archived 2 years after the crediting period.	CAR D1	OK

Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
		For the issues identified, please see CAR 1 for more details.		
Correctness <i>Determine whether the value given in the carbon monitoring report is correct.</i> <i>In case of mistakes pl. provide details and descriptions of the CARs raised.</i>	/XLS/ /IM01/ /LOG/ /MR/	Please refer to CAR D1. Correction is necessary.	CAR D1	OK
QA/QC Procedure <i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel.</i>	/PDD-GS/ /IM01/ /MR/ /CAL/	Monitoring meters were calibrated by the authorized entity, Electrical Metrology Centre of Inner Mongolia Electric Power Research Institute. The accuracy of all the meters is 0.2S. Normal measurement is ensured. The original calibration certificate of Electrical Metrology Centre of Inner Mongolia Electric Power Research Institute was reviewed. The qualification certificate of the calibration entity was also checked. The entity was authorized by Quality and Technology Supervision Bureau of Inner Mongolia. All the meters are in normal operational condition during this monitoring period. No malfunction regarding the monitoring meters was detected during the monitoring period. However, a time gap between the valid calibration of meter M1 from June 2010 to April 2011, delay of calibration of meter M3 from May 2011 to June 2011 and delay of calibration of meter M_{backup} from May 2009 to June 2011 were observed, the conservative determination approach in EB guidelines EB52/ Annex 60 was shall be applied in emission reduction calculation. CAR D1 and CAR E1 were raised.	CAR D1 CAR E1	OK
Accuracy <i>In case of measured (or estimated) values, check whether significant inaccuracies occur; in this case,</i>	/CAL/ /MM/	The accuracy of all the meters is 0.2S which is consistent with local regulation JJG596-1999. By means of on-site investigation and calibration certificating records review, the accuracy is	OK	OK

Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
<i>make sure that appropriate discounts have been considered for ER calculation.</i>		sufficient.		
Verification Describe how the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences.	/PDD-GS/ /IM01/ /IMR/ /XLS/	During the on-site visit, validation team observe that the calibrate time of the meters is not covering this monitoring period. According to the Meter Calibration Record/MCR/, meter M1 and M4 were calculated on 20/06/2011 and the project was put into operation on 06/05/2011, so there is a time gap. So the value of the monitoring meter M3 from June 2010 to June 2011 was made a conservative calculation for $E_{out,y}$ and $E_{in,y}$ of Bailingmiao phase two wind farm project . As stated in paragraph 4 of Guidelines for assessing compliance with the calibration frequency requirements ver.01, EB52/Annex 60: (a) Applying the maximum permissible error of the instrument to the measured values, if the results of the delayed calibration do not show any errors in the measuring equipment, or if the error is smaller than the maximum permissible error; (b) The error shall be applied in a conservative manner such that the adjusted measured values shall result in lower baseline emissions and higher project emissions / leakage." As the maximum permissible error for the 0.2S level meter of 0.2% and 1.0S level of 1% were applied for the measured value in a conservative manner. The electricity export and import during June 2010 to April 2011 for M1 and from May 2011 to June 2011 for M3 were calculated as: Export=measured value *(1-0.2%)	CAR E1	OK

Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
		Import=measured value $\times (1+0.2\%)$ The conservative determination approach for delay calibration of meter M_{backup} from May 2010 to June 2011 was also applied as: E_{backup}=Measured value $\times (1+0.01)$ Hence, the net electricity delivered to NCPG is can be confirmed that the calculation is conservative and acceptable. Please refer to CAR E1.		
Sustainability indicators				
4.2. Number and Quality of permamnent local employees				
Measurement / Determination method <i>Describe how the monitoring parameter was measured / determined.</i> <i>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used.</i> <i>Assess whether the measurement / determination method is in line with the registered GS monitoring plan.</i>	/IM01/ /SQC/ /SPS/ /MR/ /FFT/ /GVT/ /HST/	Following the registered PDD, until site visiting, 18 employees have been employed permanently working in the wind farm, the name list and salary payment sheet^{/SPS/} have been reviewed by the verification team. The interview of relevant staff on site also confirmed the fact. Furthermore, there are still 10 employees in Beijing office take charge of the wind farms. Totally more than 20 persons were employed during the monitoring period. Relevant trainings including the technical training, GS-CER monitoring training, Fire Fighting Training and Health and Safety training have been carried out. Verification team has checked the salary payment sheets and interviewed with the plant staffs that indicated the welfare have been paid in accordance with local laws. Hence the verification team confirm that the in the aspect of Number and Quality of permanent local employees, it satisfied	OK	OK

Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
		the description in the registered PDD.		
Correctness <i>Determine whether the value or information given in the monitoring report is correct.</i> <i>In case of mistakes pl. provide details and descriptions of the CARs raised.</i>	/ESD/ /MR/	Appropriate documentation of the monitoring of this parameter has to be provided. The value and information given in the monitoring report is correct.	OK	OK
QA/QC Procedure <i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel (if applicable).</i>	/ESD/	The positive impact of the project to the development of job opportunities was also confirmed by interviews of staffs worked for Bailingmiao wind farm plant during the verification period.	OK	OK
Accuracy <i>In case of measured (or estimated) values, check whether significant inaccuracies occur.</i>	/MR/ /IM01/	CAR D1 regarding the time gap between calibration of M1 and delay calibration of M3 and M _{backup} was raised.	CAR D1	OK
Verification <i>Describe how the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences.</i>	/IM01/ /ESD/	During the on-site visit, it was clarified by interviews with the employees and evidenced the salary payment sheets, training records, as described ID1 and ID2 in the Monitoring Report, which were done well during the monitoring period.	OK	OK
4.3. Soil and land recovery after construction				
Measurement / Determination method <i>Describe how the monitoring parameter was measured / determined.</i>	/IM01/ /PDD- GS/ /MR/	The site environmental management review report including soil condition report issued by Mott MacDonald dated 03/06/2009 have been obtained and checked by the assessment team. The continuously improvement of soil condition on site have been	OK	OK

Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
<i>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used.</i> <i>Assess whether the measurement / determination method is in line with the registered GS monitoring plan.</i>	/ESD/	documented in reports, reflecting the action on soil condition rehabilitation carried out by the project owner. It is also observed on site that the land occupied for construction has been rehabilitation. Furthermore the project has obtained the final acceptance on environment protection issued by Baotou environmental protection bureau officially on 21/12/2011, Reference no. Bao Huan Yan[2011]48. It means that the remediation outcome is satisfactory and accepted.		
Correctness <i>Determine whether the value or information given in the monitoring report is correct.</i> <i>In case of mistakes pl. provide details and descriptions of the CARs raised.</i>	/PDD-GS/ /MR/ /ESD/	Appropriate documentation of the monitoring of this parameter has to be provided. The value and information given in the monitoring report is correct.	OK	OK
QA/QC Procedure <i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel (if applicable).</i>	/MR/	Approval of Environmental Protection Check & Acceptance and pictures of restored areas are verified by site visits.	Ok	OK
Accuracy <i>In case of measured (or estimated) values, check whether significant inaccuracies occur.</i>	/MR/ /ESD/	No significant inaccuracies were identified. Please see comment below.	OK	OK
Verification <i>Describe how the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value</i>	/MR/ /IM01/ /ESD/	During on-site visit, the soil condition described as ID3 in the MR were inspected by verification team and counter-checked with documents, i.e., Approval of Environmental Protection Check & Acceptance, pictures and map of restored areas.	OK	OK

Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
<i>could be backed up by corresponding evidences.</i>				
4.4. Human and Institutional Capacity				
Measurement / Determination method <i>Describe how the monitoring parameter was measured / determined.</i> <i>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used.</i> <i>Assess whether the measurement / determination method is in line with the registered GS monitoring plan.</i>	/IM01/ /MR/ /PDD-GS/ /ESD/	By means of documentation review and according to on-site visit, 1 English teacher and 1 physics teacher had been employed by the project owner to support the local education in Damaoqi Mongolian school from May 2011 to May 2012. The contracts between the project owner, Baotou Damaoqi Education Bureau and Damaoqi Mongolia School have been obtained and the salary sheet as also provided by the project owner and assessed as convincing.	OK	OK
Correctness <i>Determine whether the value or information given in the monitoring report is correct.</i> <i>In case of mistakes pl. provide details and descriptions of the CARs raised.</i>	/MR/ /ESD/	The information given in the monitoring report is correct.	OK	OK
QA/QC Procedure <i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel (if applicable).</i>	/MR/ /ESD/ /IM01/	The contracts between the project owner and the local educational bureau are verified by verification team during the on site visit.	OK	OK
Accuracy <i>In case of measured (or estimated) values, check</i>	/MR/	No significant inaccuracies were identified. Please see comment below.	OK	OK

Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
<i>whether significant inaccuracies occur.</i>				
Verification <i>Describe how the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences.</i>	/IM01/ /ESD/ /MR/	During on-site visit, the Human and Institutional capacity described as ID4 in the MR were inspected by verification team and counter-checked with documents, i.e., The contracts between the project owner and the local educational bureau and the contracts between local school and English teachers.	OK	OK
4.5. Water Quality and Noise Pollute				
Measurement / Determination method <i>Describe how the monitoring parameter was measured / determined.</i> <i>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used.</i> <i>Assess whether the measurement / determination method is in line with the registered GS monitoring plan.</i>	/ESD/ /IM01/ /MR/ /PDD-GS/	The waste water and noise verification has been carried out by Lvjie environment company which an independent third party accredited by Inner Mongolia Quality and Technique Supervision. The verification report (report no. SW2009-05-26-010) issued on 26/05/2009 indicated that the effluent sewerage was in compliance with relevant national standard GB8978-1996 and the noise at the boundary of the project was in compliance with relevant national standard GB-12348-90. Therefore, no further monitoring regarding water quality and noise is required according to the registered GS-VER-PDD. The verification report and accreditation certificates have been obtained and verified by verification team.	OK	OK
Correctness <i>Determine whether the value or information given in the monitoring report is correct.</i> <i>In case of mistakes pl. provide details and descriptions of the CARs raised.</i>	/MR/	Yes, the information provide in the MR is correct.	OK	OK
QA/QC Procedure	/PDD-	The waste water and noise verification report and the	OK	OK

Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
<i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel (if applicable).</i>	GS/ /MR/	qualification certificate are verified by verification team during the on site visit.		
Accuracy <i>In case of measured (or estimated) values, check whether significant inaccuracies occur.</i>		No significant inaccuracies were identified. Please see comment below.	Ok	Ok
Verification <i>Describe how the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences.</i>	/IM01/ /ESD/ /MR/ /PDD-GS/	During on-site visit, the water quality and noise pollution described as ID5 and ID6 in the MR were inspected by verification team. The verification report and the qualification certificate were available to verification team to evidence this parameter.	OK	OK
4.6. Grassland owner compensation				
Measurement / Determination method <i>Describe how the monitoring parameter was measured / determined.</i> <i>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used.</i> <i>Assess whether the measurement / determination method is in line with the registered GS monitoring plan.</i>	/MR/ /ESD/	Grassland compensation contract between Honiton Energy and local residents signed between the project owner and local grassland owners have been verified by the verification team. It has been confirmed that all the compensation fees have been paid directly to the grassland owner in accordance with national regulation.	OK	OK

Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
Correctness <i>Determine whether the value or information given in the monitoring report is correct.</i> <i>In case of mistakes pl. provide details and descriptions of the CARs raised.</i>	/MR/ /ESD/	Yes, the information provide in the MR is correct.	OK	OK
QA/QC Procedure <i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel (if applicable).</i>	/PDD-GS/ /MR/	The Grassland compensation contract is verified by verification team during the on site visit.	OK	OK
Accuracy <i>In case of measured (or estimated) values, check whether significant inaccuracies occur.</i>	/MR/ /ESD/	No significant inaccuracies were identified. Please see comment below.	OK	OK
Verification <i>Describe how the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences.</i>	/ESD/	During on-site visit, the Grassland owner compensation fees described as ID7 in the MR were inspected by verification team. The contract was available to verification team to evidence this parameter.	OK	OK
5. ER Calculation				
Traceability <i>Assess if the calculation is fully traceable. In case of complex calculations an Excel calculation spreadsheet shall be used. All applied formulae must be visible.</i>	/ACM0002/ /MR/ /XLS/	The calculation is consisting of the net electricity for the monitoring period multiplied by the EF validated ex-ante. The emission reduction calculation-sheet provided by PP was checked against the applied formulas. For the registered GS-PDD, the emission factor validated ex-ante is	CAR E1	OK

Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
		1.0548tCO₂e/MWh. The emission reduction during this monitoring period can be calculated as follows: $ERs = BEy - PEy - Ly$ $= EGy * EFy$ Where: BEy is the baseline emissions; PEy is the project emissions, PEy equals zero as per registered PDD. Ly is the leakage, Ly equals zero as per registered PDD. EGy is the net electricity supplied by the proposed project to the grid. The emission reduction excel is assessed as traceable. Please refer to CAR E1.		
Parameter consistency <i>Assess whether all internal and external parameters and data used for calculation are applied consistently in the carbon monitoring report and the calculation spreadsheet?</i> <i>Consider only the correct data exchange between the carbon monitoring report and the calculation spreadsheet (if any). The evaluation of the correctness of the parameter values itself should be discussed in the chapter "Monitoring Parameters".</i>	/dna/ /MR/ /PDD- GS/ /XLS/	The carbon emission factor is calculated as Combined Margin (CM), determined as combination of simple Operating Margin (OM) and Build Margin (BM). As indicated in the <i>Tool to calculate emission factor for an electricity system</i>. The EF_{CM} is calculated ex-ante in the registered PDD and remains fixed through the first crediting period. The applied EF_{CM} value is 1.0548 tCO₂e/MWh. Further the monitoring report and the Excel calculation sheet do not show inconsistencies. The ER calculation-sheet is completely in line with the MR.	OK	OK

Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
Applied formulae <i>Check if the applied formulae are in accordance with the monitoring plan and / or the approved methodology.</i>	/ACM2/ /MR / /PDD-GS/ /gs/	The applied formula is in accordance with the monitoring plan set out in the PDD, the approved methodology and the registered additional annexes for the GS (where the emission factor of 1.0548tCO ₂ e/MWh applied is described.	OK	OK
Completeness of calculation <i>Assess whether the provided calculations are complete and reflect all requirements of the monitoring plan.</i> <i>Check especially that no standard or old values have been used for calculation where calculations based on up-to-date data is required.</i>	/MRer/ /VER-GS/ /VAL-GS/	The calculation is completely traceable. No information/calculation gaps have been identified.	OK	OK
6. Quality Management; defined organisational structure, responsibilities and competencies Internal QA/QC and document control				
Management System <i>Check if the GHG data and sustainability monitoring system is embedded in a (certified) company quality management system, if so, check if all CDM and GS monitoring procedures been fully integrated in the project participant's quality management system. If not how the GHG management system has been implemented.</i>	/MR/ /IM01/ /MMR/	Management system and QA/QC procedures have been stipulated in the registered MP and have been established and implemented during daily operation. The project office of the project owner took the overall responsibility of the monitoring. Other staffs have been allocated for corresponding duties such as operation and maintains, data recording, data processing, etc. Relevant trainings have been carried out for Bailingmiao phase one and phase two wind farm operation and monitoring. Monthly internal auditing has been carried out by the operational manager to ensure the quality of data and evidences. Relative documents including the monitoring manual, training records,	OK	OK

Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
		monthly internal auditing reports and staff qualification have been review by verification team during site visiting. It is confirmed that the management system of the GS-VER project is in place, with the responsibilities properly identified and in place.		
Roles and Positions <i>Check if all roles and positions of each person in the GHG data management and sustainability monitoring process are clearly defined and implemented, from raw data generation to submission of the final data.</i> <i>Check further if only duly qualified personnel is involved in the monitoring procedures.</i>	/IM01/ /MM/ /ESD/	The roles and positions were evidenced on the list of employees and VER Management Group Exchange Demonstration. Responsibility for electricity measurement is carried out by Mr. Zhang Longwei. Data collection and compilation of data, data storage and archiving are carried out by Mr. Lang Huiming. Mr. Yue Pengfei is in charge of maintenance of equipment and meters. The calibration of meters is carried out by Mr. Yang Zhihui and Ms. Liang Caixia. The invoice management and storage is carried out by Mr. Zhang Guorong. Mr. Yu Rong is in charge of the overall management for GS-VER activity such as the monthly electricity generation data check and the report preparation for external check. All appointed persons involved are duly qualified.	OK	OK
Trainings <i>Check if initial trainings have been carried out, in case deemed necessary.</i>	/IM01/ /TCR/	Relevant trainings have been carried out for Bailingmiao phase one and phase two wind farm operation and monitoring, which including the technical training, GS-CER monitoring training, Fire Fighting Training and Health and Safety training have been carried out. Verification team has checked the internal and external training records.	OK	OK
Troubleshooting procedures <i>Assess whether troubleshooting procedures have been implemented.</i>		No troubleshooting procedures are required.	OK	OK
Maintenance procedures	/IM01/	The maintenance engineer carries out preventive maintenance on a monthly basis. There is a maintenance logbook form which	OK	OK

Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
Are appropriate maintenance procedures in place?	/MR/	is daily filled out by the power house operators.		
Internal QA/QC <i>Assess whether there are any procedures in place on when, where and how checks and reviews are to be carried out, and what evidence needs to be documented? (This might include 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>	/IM01/ /MM/ /MR/	The counter-checking of the energy generated is carried out by Mr. Yu Rong and local grid company. The cut-off time for the monitoring meter is set at 24:00h last day of every month. The aggregated daily readings were converted to Monthly Meter Reading Summary ^{/MMR/} by qualified staff, the MMR were approved and signed by the Mr. Yu Rong then archived. The meter M2 installed at the 220kV Hongta substation were read and recorded by the local grid company, and the readings were provided to the wind farm on a monthly basis. Yu Rong who counter check it against the data of meter M2 before preparing the monthly invoice, which is submitted to local grid company. The corrected/approved amount of energy which the local grid company will accept to pay for. As part of this procedure all internal monitoring results were critically counterchecked before results have been submitted to the DOE.	OK	OK
Data archive Check whether all records of monitoring parameters are archived according to the monitoring plan.	/IM01/	All relevant monitoring data was available and procedures are in place so that relevant monitoring data will be retained at least till 2 years after the end of the current crediting period.	OK	OK
Data protection Assess whether appropriate measures have been taken in order to avoid unintended or intended manipulation of the measured data.	/IM01/ /MM/	The danger of unintended or intended data manipulation can be considered as low. The monitoring meter installed at Bailingmiao plant and the 220KV Hongta substation are-- locked to preserve its integrity and measurements are taken monthly. Furthermore, the corrected amount of energy recorded by the local grid company staffs, is the amount which is finally invoiced and therefore used to calculate emission reductions.	OK	OK

ANNEX 2: STATEMENTS OF COMPETENCE OF INVOLVED PERSONNEL



Statement of Competence
Appointment and authorization according to the procedures
of the TÜV NORD JI/CDM Certification Program

Ms. Huang Jie

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification)	2015-07-01
VCS / ISO 14064-2	Senior Assessor	2015-07-01

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewable Energies

108 – Rev. 1, Date: 2012-07-02

108_S01-F003_2012-07-02_rev1.doc

S01-F003 rev2 / 2012-04-05



Statement of Competence
Appointment and authorization according to the procedures
of the TÜV NORD JI/CDM Certification Program

Mr. Haixu Liu

SCHEME	STATUS	VALID UNTIL
CDM	Assessor (Validation, Verification)	2015-09-28
VCS / ISO 14064-2	Assessor	2015-09-28

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewable energies

301 – Rev. 3, Date: 2012-09-29

301_S01-F003_2012-09-29_rev3.doc

S01-F003 rev2 / 2012-04-05



Statement of Competence
Appointment and authorization according to the procedures
of the TÜV NORD JI/CDM Certification Program

Mr. Dirk Speyer

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor (Validation, Verification) Technical Reviewer	2015-07-10
VCS / ISO 14064-2	Lead Assessor Technical Reviewer	2015-07-10

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
4.4	Refinery
5.1	Chemical Process Industries
11.1	Chemical Process Industries
11.2	GHG Capture and Destruction
12.1	Chemical Process Industries

244 – Rev. 4, Date: 2012-07-11

244_S01-F003_2012-07-11_rev1.doc

S01-F003 rev2 / 2012-04-05



Statement of Competence
Appointment and authorization according to the procedures
of the TÜV NORD JI/CDM Certification Program

Mr. Dr. Jochen Schubert

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2014-05-11
VCS	Senior Assessor (Validation, Verification) Technical Reviewer	2014-05-11

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR INCLUDE SUB-AREAS
1.2	Renewable Energies	1.2.1 Hydro 1.2.2 Wind 1.2.3 Geothermal 1.2.4 Solar 1.2.5 Tidal
13.1	Waste handling and disposal	13.1.1 Waste management 13.1.2 Waste water management

056 – Rev. 2, Date: 2011-07-29

056_S01-F003_2011-07-29_rev2

S01-F003 rev0 / 2010-04-19