
Project Title	Gansu Guazhou Ganhekou No.8 Wind Farm Project
ERM CVS Reference	2353.V1
CDM Project Reference Number	4138
Client Name	Gansu Guazhou Xiehe Wind Power Co., Ltd.
Client Address	CWP Building No. 9, South Shouti Rd, Haidian District, Beijing 100048, P.R.China

CDM Verification and Certification Report

And

Request for Approval of Post Registration Changes

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Version Control	Date
Version 01	23 July 2012 (Draft Verification Report)
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Abbreviations

CAR	Corrective Action Request
CDM	Clean Development Mechanism
EB	Executive Board
CER	Certified Emission Reduction(s)
CL	Clarification Request
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
DNA	Designated National Authority
DOE	Designated Operational Entity
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse Gas
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
PCP	Project Cycle Procedure
PDD	Project Design Document
PP	Project Participant
PS	Project Standard
QA/QC	Quality Assurance / Quality Control
UNFCCC	United Nations Framework Convention for Climate Change
VVS	CDM Validation and Verification Standard

Project/Host Party specific abbreviations

DCS	Data collection system
NWCPG	Northwest China Power Grid

1 Project information

Project Title	Gansu Guazhou Ganhekou No.8 Wind Farm Project
CDM Project reference	4138
Project Location	Guazhou County, Jiuquan City, Gansu Province
Host Party	People's Republic of China
Annex I Party(s)	United Kingdom of Great Britain and Northern Ireland (withdrawn)
Project Participants	Gansu Guazhou Xiehe Wind Power Co., Ltd. United Carbon Credits Limited (withdrawn)
Methodology	ACM0002: Consolidated baseline methodology for grid-connected electricity generation from renewable sources
Methodology version number	version 11

Monitoring report version made publicly available	Monitoring Report Version 01 dated 27 June 2012 Published on UNFCCC website on 29 June 2012
Final monitoring report version	Monitoring Report Version 02, dated 05 December 2012
Monitoring Period	1 st Monitoring Period: 19 February 2011-31 May 2012(first and last day included)
Date(s) of Site Visit	14 July 2012


PDD and monitoring plan	PDD Version 2.0, dated 05 August 2010 Updated PDD version 3.0, dated 29 November 2012 ¹
Approved revised PDD (if applicable)	N/A
Approved revised Monitoring plan (if applicable)	N/A
Date of Registration	19 February 2011
Crediting Period	19 February 2011 to 18 February 2018 (renewable) Changed from: 10 March 2011 - 09 March 2018

Number of emission reductions certified	280,605tCO ₂ e
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¹ Throughout this report, reference to the PDD /3/ and monitoring plan /4/ refer to the updated PDD, version 3.0 unless otherwise stated.

2 Verification Opinion and Certification Statement


ERM Certification and Verification Services (ERM CVS) was commissioned by Gansu Guazhou Xiehe Wind Power Co., Ltd. to verify and certify the emissions reductions reported for the period 19 February 2011-31 May 2012 as set out in the monitoring report of the CDM project activity Gansu Guazhou Ganhekou No.8 Wind Farm Project, Registration Reference 4138.

Basis of verification	ERM CVS based its verification work on: <ul style="list-style-type: none"> the approved methodology applied in the project design document (PDD) the registered PDD and the updated PDD the CDM Validation and Verification Standard (VVS) version 2.0. the CDM Project Standard (PS) and Project Cycle Procedure (PCP) UNFCCC criteria referred to in the Kyoto Protocol criteria and the CDM modalities and procedures as agreed in the Bonn Agreement and the Marrakech Accords Relevant decisions, guidance and clarifications of the CMP and CDM Executive Board and any other information and references relevant to the project activity's reported emission reductions Relevant guidance and clarification of the Executive Board applicable to this project:
Responsibilities of ERM CVS	ERM CVS is responsible to provide an independent verification conclusion on the reported greenhouse gas (GHG) emission reductions for the project during the relevant monitoring period. The verification activities included desk review, site visit, close out of open issues, preparation of report and technical review.
Responsibilities of Project Participants	The Project Participants (PPs) are responsible for the preparation of the information and GHG emissions data and the reported GHG emissions reductions of the project on the basis set out within the applicable monitoring plan.
ERM CVS Opinion	<p>Based on the verification activities undertaken, ERM CVS concludes that the project activity is implemented and operated as described in the Project Design Document.</p> <p>The GHG emissions reductions set out in the monitoring report dated 05 December 2012 were found to be appropriately measured and calculated in accordance with the applied monitoring methodology ACM0002: Consolidated baseline methodology for grid-connected electricity generation from renewable sources version 11 and the monitoring plan set out in the Project Design Document, version 2.0 dated 05 August 2010.</p> <p>Based on the verification activities undertaken, ERM CVS concludes that the reported emission reductions for the monitoring period 19 February 2011-31 May 2012 are fairly stated.</p>
Total GHG emission reductions certified	Emission reductions: 280,605tCO ₂ equivalent
Report approved by Name: Melanie Eddis Date: 18 December 2012	Signature 

2.1 ERM CVS Opinion – Post Registration Changes

ERM Certification and Verification Services (ERM CVS) was commissioned by Gansu Guazhou Xiehe Wind Power Co., Ltd. to verify and certify the emissions reductions reported for the period 19 February 2011-31 May 2012 as set out in the monitoring report of the CDM project activity Gansu Guazhou Ganhekou No.8 Wind Farm Project, Registration Reference 4138.

During the verification, post registration changes were identified that are of a type included in the Project Standard, Appendix 1. Details of the change and ERM CVS's validation of the changes are set out in Section 6 of this report.

Basis of verification	<p>ERM CVS based its verification work on:</p> <ul style="list-style-type: none"> the approved methodology applied in the project design document (PDD) the registered PDD the updated PDD the CDM Validation and Verification Standard (VVS) version 2.0 the CDM Project Standard (PS) and Project Cycle Procedure (PCP) UNFCCC criteria referred to in the Kyoto Protocol criteria and the CDM modalities and procedures as agreed in the Bonn Agreement and the Marrakech Accords Relevant decisions, guidance and clarifications of the CMP and CDM Executive Board and any other information and references relevant to the project activity's reported emission reductions Relevant guidance and clarification of the Executive Board applicable to this project: 	
Responsibilities of ERM CVS	ERM CVS is responsible to provide an independent conclusion on the impact of the changes that have occurred in accordance with the CDM Validation and Verification Standard.	
Responsibilities of Project Participants	The Project Participants (PPs) are responsible for the preparation of the updated PDD and monitoring report.	
ERM CVS Opinion	<p>ERM CVS assessed the post registration changes described in the updated PDD.</p> <p>Corrections</p> <p>The project participants have made corrections in the updated PDD to elaborate the detail of calculated parameter $EG_{facility,y}$ in section B.7.1.</p> <p>ERM CVS confirms that:</p> <ul style="list-style-type: none"> The corrected information is an accurate reflection of actual project information; The corrected parameters are in accordance with the applied methodology and monitoring plan. 	
<p>Request approved by</p> <hr/> <p>Name:</p> <p>Melanie Eddis</p> <hr/> <p>Date:</p> <p>18 November 2012</p>		<p>Signature</p> 

3 Introduction

This report sets out the methodology and conclusions of the verification process and the ERM CVS Certification Statement. ERM CVS assessed and verified whether the implementation of the project activity and the steps taken to report emission reductions comply with the CDM criteria and relevant guidance provided by the CMP and the CDM Executive Board.

3.1 Verification Objectives

As set out in the CDM modalities and procedures, verification is the periodic independent review and ex post determination by the Designated Operational Entity (DOE) of the monitored reductions in anthropogenic emissions by sources of greenhouse gases (GHGs) that have occurred as a result of a registered CDM project activity during the verification period. Certification is the written assurance by the DOE that, during a specified time period, a project activity achieved the reductions in anthropogenic emissions by sources of GHGs as verified.

The objective of the verification is to establish whether sufficient evidence exists to confirm, to reasonable assurance:

- Whether the project activity has been implemented and is being operated as per the PDD/3/ and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project activity are in place.
- Whether the applied monitoring plan/4/ is in compliance with the relevant approved CDM monitoring methodology /6/
- Whether the monitoring report /1/ and other supporting documents provided are complete and verifiable and in accordance with the monitoring plan and applicable CDM requirements.
- Whether the emission reductions as set out in the monitoring report /1/ have been measured, calculated and reported in accordance with the requirements of the monitoring plan /4/.
- Whether the reported data meet the key principles of data quality and are complete, reliable, consistent, accurate, valid, transparent and conservative.

ERM CVS also assessed whether the monitoring report and other supporting documents provided are complete in accordance with the latest applicable UNFCCC checklists and guidance for documentation required to be submitted with the Request for Issuance.

3.2 Scope and basis of verification work

The verification is an independent and objective review and ex-post determination of the monitored reductions in GHG emissions by the DOE.

Based on the key project information set out on page 4, the verification addresses the implementation and operation of the project activity as set out in the PDD /3/, and the information and reported emissions reductions set out in the monitoring report prepared by the project participant (PP) for this monitoring period.

The verification tests the data and assertions set out in the monitoring report prepared for this monitoring period by the PPs and is based on:

- the approved methodology /6/ applied in the PDD /3/
- the PDD /3/ and monitoring plan /4/
- UNFCCC criteria referred to in the Kyoto Protocol criteria and the CDM modalities and procedures as agreed in the Bonn Agreement and the Marrakech Accords
- the CDM Validation and Verification Standard (VVS) /7/
- the CDM Project Standard (PS) and Project Cycle Procedure (PCP)
- Relevant decisions, guidance and clarifications of the CMP and CDM Executive Board and any other information and references relevant to the project activity's reported emission reductions

Only verification activities undertaken after the publication of the monitoring report on the UNFCCC CDM website are used as a basis for ERM CVS to conclude the verification and submit a request for issuance of CERs to the CDM EB.

The verification considers both quantitative and qualitative information on emission reductions. The monitoring report is assessed, using a rules based approach, against the principles of accuracy, relevance, credibility, reliability, completeness, consistency, and transparency. Conservativeness is applied throughout the process to ensure that emission reductions are not overstated.

ERM CVS conducts all its work under strict rules to safeguard impartiality and ensure the independence of the verification team. The verification does not provide any consulting or recommendations for the client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the monitoring activities.

3.3 Appointment of Team Members and Technical Reviewer

Based on ERM CVS's review of the project, a verification team was established that takes into account the coverage of the technical area(s), sectoral scope(s) and relevant host country experience for verifying the emission reductions achieved by the project activity in the relevant monitoring period for this verification

Personnel who undertook this verification were:

Verification Team	Role	CDM Knowledge	Technical Area	Host country	Participated in site visit?
Peter Huang	Lead Verifier	Full	Fully competent	Yes	Yes
Jessie Zhang	AUO (Assessor Under Observation)	No	Partially competent	Yes	Yes

Technical Review	Role	CDM Knowledge	Knowledge relevant to the Technical Area
Ina Ballik	Technical Reviewer	Full	Fully competent

Peter Huang is a Lead Auditor based in Beijing with experience in the validation and verification of more than 90 CDM projects, including wind power, hydro power, LNG cogeneration and energy efficiency projects, and also involved in more than 50 ACM0002 validation and verification projects. He is trained and well verse with the carbon market, CDM Methodology for various case studies, group work, emission reduction monitoring and financial analysis. He is fully competent as a lead for CDM validation and verification. He has more than 5 years working experience on energy efficiency and energy conservation project. He has had responsibility to investigate new energy conservation technology, working together with the staffs on-site, establish and perform monitoring plan to confirm the actual effect of the technology, mainly focus on Boilers, Steam turbines, furnace efficiency, TRT, CDQ and Iron-steel production line, frequency control of motor speed, green light and efficiency of hydro turbines and then transfer to the relevant industry in China.

Jessie Zhang is a GHG AUO (Assessor under observation) based in Beijing, China. Ms. Zhang holds Master Degree in Environmental Science, and has four years working experience in CDM project development, validation and verification in the field of hydropower, wind, methane recovery, and waste heat. She also has extensive experience in WCD assessment for large hydropower projects, participated in over 10 WCD projects as site lead/technical reviewer/project manager. She had gained the knowledge and experience with regards to the resettlement laws & regulations and compensation standards in areas of Sichuan province, Yunnan province, Chongqing city and Qinghai province etc.

Ina Ballik has 6 years of CDM experience, having worked for 5 years with a project developer before joining ERM CVS as a Technical Reviewer and Assessor. Since working at ERM CVS Ina has undertaken more than 20 validations and 4 verifications, and has reviewed more than 80 validations and 10 verifications. These projects included Waste Water, Hydro, Wind, Solar, LFG, Composting and Natural Gas. Ina has completed the ERM CVS CDM training and holds a BSc and MSc in Civil Engineering.

3.4 Verification activities

The verification approach is based on the approach depicted in the CDM VVS. The verification activities are designed to evaluate:

- Whether sufficient evidence is available, both in terms of frequency (time period between evidence) and coverage (in covering the full monitoring period);

- The source and nature of the evidence (external or internal, oral or documented);
- Cross checks against other sources such as comparable information, where available, from sources other than those used in the monitoring report to determine whether the stated figures are correct.

3.4.1 Desk review

A detailed desk review was undertaken prior to the site visit. This included the PDD /3/, the monitoring plan /4/, the validation report /5/, the applied monitoring methodology /6/, relevant external data and reports, on-site documents, and relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board.

The desk review included

- A review of the data and information presented to verify completeness and consistency in accordance with relevant CDM requirements
- A review of the monitoring plan and monitoring methodology, including applicable tools, paying particular attention to the frequency of measurements, quality of metering equipment (including calibration requirements) and the quality assurance and quality control (QA/QC) procedures
- An evaluation of data management and the QA/QC system in the context of their influence on the generation and reporting of emission reductions.
- Review of the monitoring report to ensure it is completed as per the standardised format

A complete list of all documents reviewed is contained in Annex A.

3.4.2 Site Visit

A site visit to the project activity was undertaken to assess implementation and operation of the project activity and to review evidence, and interview key personnel to confirm evidence associated with the data generation, aggregation, calculation and reporting of the monitoring parameters.

The site visit addressed:

- An assessment of the project implementation and operation as per the registered PDD /3/(including site walk through to confirm physical existence and operation of project components) or any approved revised PDD;
- Review of information flows for generating, aggregating and reporting the monitoring parameters;
- Interviews with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan /4/. A list of all interviewees is included in Annex A.
- A cross-check between information provided in the monitoring report /1/ and data from other sources such as log books, inventories, purchase records or similar data sources to establish the existence of a clear audit trail and records that validate or invalidate the stated data;
- A check of monitoring equipment including calibration performance and observations of the monitoring practices against the requirements of the PDD /3/ and the selected methodology /6/ and corresponding tool(s), where applicable;
- A review of calculations and assumptions made in determining the GHG data and emission reductions;
- Identification of quality control procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters

3.4.3 Reporting

After the site visit, a draft report is prepared with the preliminary findings of the verification. Where issues are identified relating to the monitoring, implementation and operation of the registered project activity that could impair the capacity of the registered project activity to achieve emission reductions or influence the monitoring and reporting of emission reductions, these issues are discussed and concluded in the verification report through the following approaches:

- Clarification Request (CL): where information is insufficient or not clear enough to determine whether the applicable

CDM requirements have been met.

- Corrective Action Request (CAR): This is issued where:
 - Non-compliance with the monitoring plan or methodology are found in monitoring and reporting and has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient;
 - Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants;
 - Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impair the estimate of emission reductions;
 - Issues identified in a Forward Action Request (FAR) during validation (or previous verification) to be verified have not been resolved by the project participants.

The verification process may be stopped until this information has been made available to the verifiers' satisfaction. Failure to address a CL may result in a CAR. Information or clarification provided as a result of a CL may also lead to a CAR.

Forward Action Requests (FAR) may also be raised for actions if the monitoring and reporting require attention and/or adjustment for the next verification period. These have no impact upon the completion of the current verification activity.

After satisfactory close out of CARs and CLs, the final report presents the verification activities undertaken, the issues raised, and explains how these issues have been closed out to enable the final verification conclusions to be made.

3.4.4 Independent technical review

The verification activities and content of the report are subject to a review by an independent technical reviewer. The role of the Technical Reviewer is to provide oversight that all procedures have been followed by the verification team and all conclusions justified and supported by evidence. The Technical Reviewer will either accept or reject the recommendations made by the verification team.

4 Verification Findings

4.1 Status of open issues from validation or previous verifications (if applicable)

Forward Action Request	Date and document (Validation or verification)	Verification activities undertaken to close the FAR	Draft OK/ CAR/CL	Final OK/ Not OK
N/A	N/A	This is the first verification of the project. The validation report /5/ has been reviewed, and it is confirmed that there is no remaining issue from validation.	N/A	N/A

4.2 Monitoring report form

ERM CVS evaluated whether the monitoring report has been prepared in accordance with the applicable Monitoring Report Form.

Compliance question	Verification activities undertaken	Verification findings (including justification/substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
Has the monitoring report been prepared using a valid monitoring report form available on the UNFCCC CDM website?	ERM CVS compared the monitoring report with the applicable monitoring report form.	ERM CVS confirms that the monitoring report has been appropriately prepared using the applicable monitoring report form, and that all sections are completed.	OK	OK

4.3 Compliance of the project implementation with the registered project design document

As per VVS chapter IX section D.1, ERM CVS evaluated the conformity of the project activity and its operation with the PDD /3/, in particular, whether:

- The implementation and operation of the project activity has been conducted in accordance with the description contained in the PDD; or
- Any deviation or the proposed or actual changes in the implementation or operation of the project activity comply with the requirements of the Project Standard.

This assessment was undertaken on the basis of the site visit, review of documents and interviews with relevant personnel.

During the site visit, ERM CVS assessed whether all physical features of the project as described in the PDD are in place and that the PP has operated the project in accordance with operational criteria set out in the PDD /3/.

Based on the information available on the UNFCCC website/14/, the project was registered on 19 February 2011. This monitoring period dates are 19 February 2011-31 May 2012, which is within the crediting period of 19 February 2011 to 18 February 2018 (renewable) .

4.3.1 Overview of project design

The project activity is a Greenfield wind farm project, located in Guazhou County, Jiuquan City, Gansu Province, P.R. China. The project supplies renewable electricity to Northwest China Power Grid (NWCPG) through the Gansu Provincial Power Grid and the operation life is 20 years. The project activity involves the operation of a 201 MW wind power plant that consisting of 134 sets of 1.5 MW wind turbine-generator sets. The Project commenced construction in 11 April 2010. The first wind turbine was put into operation on 11 December 2010, and all 134 turbines were installed and fully operational on 08 March 2011. In the registered PDD the annual operation hour were expected to be 2,205 hours and the load factor was expected to be 25.17% /3/.

According to the PDD /3/ the estimated electricity generated by the project activity is 443,278 MWh per year, and the expected volume of emission reduction is 411,927 tCO₂e per year

The project was registered as CDM project on 19 February 2011, which is determined as the start date of the crediting period /3/. According to the methodology /6/, the project supplies zero-emitting energy to the NWCPG.

Compliance question	Verification activities undertaken	Verification findings (including justification/substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
<p>What is the Implementation and operation status of the project?</p> <p>Are all physical features of the project activity in place as per the PDD?</p>	<p>Based on the review of documentation provided, and the site visit, ERM CVS evaluated whether the project has been implemented and equipment installed and operated as described in the PDD/3/.</p> <p>During the ERM CVS site visit, the verification team</p> <ul style="list-style-type: none"> Walked through the project site and inspected the project facility and its operations; Checked the installed equipment, including the monitoring instruments, their name plates, and cross-checked them against the PDD and monitoring plan/3//4/and the monitoring report/1/. Interviewed the staff responsible for the monitoring and implementation of the project /IV3//IV4//IV5/ Reviewed the relevant training materials and training records /18/ 	<p>Based on Plant operational log/8/, ERM CVS confirmed that the starting date of the operation was 11 December 2010, the date on which the first turbine was commissioned. All turbines were installed and fully operational on 08 March 2011. This information was crosschecked against the Turbine Onsite Commissioning Report issued by Sionvel Wind Group Co., Ltd. /9/.</p> <p>The project has been implemented and all physical features installed as described in the PDD and monitoring plan/3//4/.</p> <p>The operation of the project during the monitoring period was confirmed to be in line with the operational assumptions made in the PDD /3/.</p> <p>During this monitoring period, all the generators and turbines/ wind turbines/ and monitoring equipment operated in normal conditions. There were no special events or situations that may impact the applicability of the methodology.</p> <p>ERM CVS confirmed that the project activity operates as per the registered PDD /3/.</p>	OK	OK
<p>Is any information (data and variables) provided in the monitoring report different from those set out in the registered PDD or any approved revised PDD, which has caused an increase in estimates of the emission reductions in the current monitoring period or likely to increase the estimates in future monitoring periods?</p>	<p>The verification team compared the data and variables set out in the monitoring report with those in the registered PDD.</p> <p>Furthermore, the verification team performed the following actions to evaluate the reasons for the difference:</p> <ul style="list-style-type: none"> Walked through the project site and inspected the project facility and its operations. Checked the installed equipment, including the monitoring instruments, their name plates, and cross-checked them against the PDD/3/, monitoring plan /4/, validation report /5/and the monitoring report/1/. 	<p>ERM CVS confirms that there are no discrepancies between the data and information considered for the ex-ante calculation of emission reductions in the registered PDD/3/ and the data and variables provided in the monitoring report which resulted in an <i>increase</i> in emission reductions, or are likely to increase the estimates in future monitoring periods.</p>	OK	OK

Compliance question	Verification activities undertaken	Verification findings (including justification/substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
	<ul style="list-style-type: none"> Interviewed the staff responsible for the monitoring and implementation of the project/IV3//IV4//IV5/. Reviewed the relevant training materials and training records /18/. Review of electricity daily running records /11/ and monthly reports /12/, electricity sales receipts/13/. Review of emission reduction calculation spreadsheet /2/. 			
Does the monitoring report (sections A and B.1) correctly state the project description, and the implementation and operational status of the project activity in accordance with the applicable version of the 'Guidelines for completing the monitoring report form (CDM-MR).?	<p>ERM CVS carried out the following activities to evaluate whether the sections A and B of the Monitoring Report correctly describes the implementation and operational status of the project activity:</p> <p>Review of monitoring report (sections A and B)</p> <p>Review the information of the project in the website of UNFCCC</p>	<p>ERM CVS reviewed the monitoring report version 01, dated 27 June 2012, and found the details of Annex I party are missing from the monitoring report.</p> <p>CL 1 was raised for clarification of the missing information of the Annex I party in the monitoring report.</p> <p>ERM CVS was informed by the PP (Gansu Guazhou Xiehe Wind Power Co., Ltd.) that the Annex I party (United Carbon Credits Limited) has withdrawn from this project. ERM CVS checked the website of UNFCCC and confirms that the Annex I party (United Carbon Credits Limited) is shown as "withdrawn" in the project view page/14/as of 20 November 2012.</p> <p>Therefore, CL 1 is closed.</p> <p>ERM CVS has checked the monitoring report version 02 (sections A and B) which was found to correctly state the implementation and operational status of the project activity, in accordance with the Guidelines.</p>	CL-1	OK
Does the monitoring report section B.2 correctly present any post registration changes in the implementation or operation of the project activity	ERM CVS evaluated whether the monitoring report presents any post registration changes in accordance with the Guidelines for completing the monitoring report form (CDM-MR).	<p>ERM CVS reviewed the registered PDD and found that the parameter $EG_{facility,y}$ was described in section B.7.2, but was missing from section B.7.1 as referenced in the methodology ACM002 version 11. ERM CVS requested a correction to include this missing information as per Appendix 1 para.1 of the Project Standard. Please see section 6.</p> <p>CL 3 was raised to include this information in section B.2. This correction is appropriately described in section B.2 of the monitoring report.</p> <p>CL 3 is closed.</p>	CL-3 Error! Reference source not found.	OK

Compliance question	Verification activities undertaken	Verification findings (including justification/substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
		Before this verification, the crediting period was changed from 10 Mar 11 - 09 Mar 18 to 19 Feb 11 - 18 Feb 18 is correctly indicated in B.2, which was checked by comparing the MR /1/ with the information on the UNFCCC project view page/14/. This is correctly stated in section B.2.		

Conclusion

Based on the verifier's site visit, it can be confirmed that all physical features of the project activity have been fully implemented in accordance with the PDD /3/ and the monitoring equipment was installed as described in the approved Monitoring Plan /4/. ERM CVS confirmed, through the visual inspection that all physical features of the proposed CDM project activity have been implemented in accordance with the PDD.

The project activity was also confirmed to be fully operational in accordance with the PDD /3/.

The information provided in the monitoring report sections A and B correctly states the implementation and operational status of the project activity.

ERM CVS confirmed during the site visit that:

- the installed capacity and number of units have not changed;
- no component has been added nor the technology has been extended;
- the project is still a single site activity;
- the scale of the project has not changed.

4.4 Compliance of the monitoring plan with the monitoring methodology including applicable tool(s)

As per VVS chapter IX section D.2, ERM CVS evaluated whether the monitoring plan complies with the requirements of the applied methodology including applicable tool(s).

Compliance question	Verification activities undertaken	Verification findings (including justification/substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
Is the monitoring plan in compliance with the applied methodology including applicable tool(s)?	The verification team reviewed the monitoring plan in the PDD /3/ and compared it against the requirements of the applied methodology and the tools referred in the methodology	<p>ERM CVS confirms that the monitoring plan includes appropriate provisions for the organization and management structure, monitoring and reporting procedures, measuring instruments, staff training, QA/QC procedures, data management and improvement to comply with the monitoring methodology.</p> <p>ERM CVS confirms that monitoring processes for the data and parameters, which are required to be monitored by the methodology, are included in the monitoring plan.</p> <p>However ERM CVS identified that the parameter $EG_{facility,y}$ was described in section B.7.2 of the registered PDD, but was missing from section B.7.1 as referenced in the methodology ACM0002 version 11. ERM CVS therefore requested a correction to include this missing information as per Appendix 1 para.1 of the Project Standard. Please see CL 3 and section 6. The parameter has been</p>	-CL3	OK

		described in section B.7.1 of the updated PDD /3/ and CL 3 is closed. The application of the monitoring methodology was found to be appropriate and ERM CVS confirms that the monitoring plan is consistent with the requirements of ACM0002: Consolidated baseline methodology for grid-connected electricity generation from renewable sources version 11 /6/.		
Are there any monitoring aspects that are not specified in the methodology, particularly in the case of small-scale methodologies (e.g. additional monitoring parameters, monitoring frequency and calibration frequency), which may enhance the level of accuracy and completeness of the monitoring plan?	The verification team reviewed the methodology/6/.	ERM CVS did not note any relevant monitoring aspects that are not specified in the methodology, which may enhance the level of accuracy and completeness of the monitoring plan.	OK	OK

Conclusion

ERM CVS confirms that the monitoring plan is in accordance with the approved methodology applied by the CDM project activity.

4.5 Compliance of monitoring activities with the registered monitoring plan

As per VVS chapter IX section D.3, ERM CVS evaluated whether the monitoring of parameters relating to the GHG emissions reductions in the project activity has been implemented in accordance with the monitoring plan contained in the registered PDD or any accepted revised monitoring plan /4/. The verification team evaluated that:

- The monitoring plan has been properly implemented and followed by the PPs,
- All parameters stated in the monitoring plan, the applied methodology and relevant EB decisions have been sufficiently monitored and updated as applicable, including:
 - Project, baseline and leakage emission parameters (see section 4.5.3 and section 4.5.4);
 - Management and operational system (see section 4.5.5);
- The equipment used for monitoring is in accordance with required calibration frequency and is controlled and calibrated in accordance with the monitoring plan /4/, the applied methodology, the Board guidance, local/national standards, or as per the manufacturer's specification.
- Monitoring results are consistently recorded as per approved frequency;
- Quality assurance and quality control procedures have been applied in accordance with the monitoring plan or the revised monitoring plan.

4.5.1 Compliance with calibration frequency requirements for measuring instruments

ERM CVS evaluated whether the calibration of measuring equipment that can have an impact on the claimed emission reductions was conducted at the frequency specified in the applied monitoring methodology and/or the monitoring plan. ERM CVS has confirmed that calibrations were conducted at the required frequency – please see section 4.5.4 for further details.

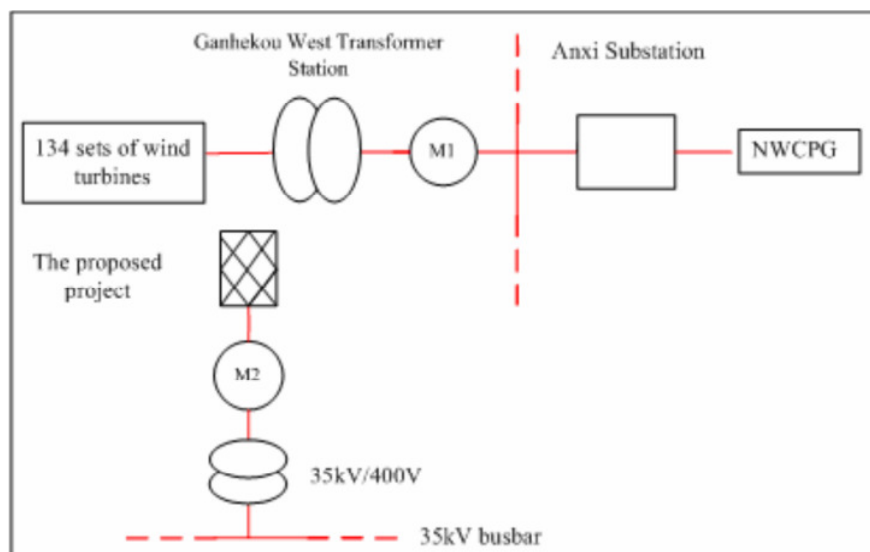
4.5.2 Overview of monitoring system

The monitoring system is established to monitor the quantity of net electricity supplied to the grid ($EG_{\text{facility},y}$). For the determination of $EG_{\text{facility},y}$, the main meter (M1 main) and backup meter (M1 backup) are used by the CDM project during this monitoring period. Both M1 main and M1 backup are bi-directional revenue meters with accuracy class of 0.2s, installed in the main line at the Ganhekou West transformer substation. They measure both the electricity exported to the grid ($EG_{\text{export},y}$) and the electricity imported from the grid ($EG_{\text{import},y}$). A meter (M2) is installed in an auxiliary line that is used for supplying auxiliary power, should the project fail to generate power. The accuracy level of the meter M2 is 0.5s.

$EG_{\text{facility},y}$ is calculated by the electricity exported to the grid ($EG_{\text{export},y}$) minus the electricity imported from the grid ($EG_{\text{import},y}$) minus electricity imported from the emergency line ($EG_{\text{auxiliary},\text{line},y}$)

$$EG_{\text{facility},y} = EG_{\text{export},y} - EG_{\text{import},y} - EG_{\text{auxiliary},\text{line},y}$$

Please refer to the below diagram for an overview on how the project activity is connected to the grid, and the location of the electricity meters described above.



4.5.3 Completeness of monitoring parameters

The verification team evaluated the monitoring of each parameter stated in the monitoring plan /4/. The parameters included in the monitoring plan are listed below and a full description of each parameter and the verification activities associated with monitoring of each one is included in Section 4.5.4.

Monitored parameter in monitoring plan				
Parameter	Description	Included in section D.2 of the Monitoring Report?	Draft OK/ CAR/CL	Final OK/ Not OK
$EG_{\text{export},y}$	Electricity exported to grid by the proposed project through the main line in year y .	Yes, this parameter is included.	OK	OK
$EG_{\text{import},y}$	Electricity imported from the grid to the project through the main line in year y .	Yes, this parameter is included.	OK	OK
$EG_{\text{auxiliary},\text{line},y}$	Electricity delivered to the project through the auxiliary line in year y .	Yes, this parameter is included.	OK	OK
$EG_{\text{facility},y}$	Quantity of net electricity generation supplied to the Grid by the project activity in year y .	Yes, this parameter is included.	OK	OK

4.5.4 Data and parameters monitored

The verification findings for the monitoring of each parameter are set out below

Data / Parameter:	EG _{export,y}	Baseline																								
Data unit:	MWh																									
Description:	Electricity exported to grid by the proposed project through the main line in year y.																									
Measured/calculated/default	Continuously measured by meter at the Ganhekou West transformer substation and monthly recording.																									
Compliance question	Verification findings (including verification activities undertaken and justification/substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK																							
Is the monitoring equipment appropriately installed and operated and are the QA/QC procedures appropriately applied?	<p>ERM CVS evaluated whether this parameter was monitored as required in the monitoring plan.</p> <p>a) Equipment specification</p> <p>During the site visit, ERM CVS checked the equipment that had been installed to monitor this parameter.</p> <p>The parameter is monitored by a bidirectional electricity meter (M1 main) serial number 57036858, which is located at the Ganhekou West transformer substation. Another bidirectional electricity meter (M1 backup) serial number 57036859 is installed at the Ganhekou West transformer substation as the backup meter. The accuracy class of M1 main and M1 backup is 0.2s, which is in line with the ‘Verification Regulation of Electrical Energy Meters with Electronics’ (JJG 596-1999) /15/. All aspects of the installation of the meter and the monitoring procedures were found to be consistent with the monitoring plan/4/.The multiplication factor of M1 main and M1 backup is confirmed to be 2,640,000 by checking the meter calibration report/16/.</p> <p>b) Calibration</p> <p>According to the monitoring plan /4/ and the Verification Regulation of Electrical Energy Meters with Electronics (JJG 596-1999) /15/, calibration should be performed every year. ERM CVS confirmed the detailed information based on review of calibration records /16/:</p> <table><thead><tr><th>Ref</th><th>Serial Number</th><th>Instrument type</th><th>Date of calibration</th><th>Valid until (date)*</th></tr></thead><tbody><tr><td rowspan="3">M1 main</td><td rowspan="3">57036858</td><td rowspan="3">Bidirectional Electricity Meter 0.2s</td><td>25/11/2010</td><td>24/11/2011</td></tr><tr><td>11/05/2011</td><td>10/05/2012</td></tr><tr><td>21/12/2011</td><td>20/12/2012</td></tr><tr><td rowspan="3">M1 backup</td><td rowspan="3">57036859</td><td rowspan="3">Bidirectional Electricity Meter 0.2s</td><td>25/11/2010</td><td>24/11/2011</td></tr><tr><td>11/05/2011</td><td>10/05/2012</td></tr><tr><td>21/12/2011</td><td>20/12/2012</td></tr></tbody></table> <p>*According to the calibration certificate /16/.</p> <p>The meters were calibrated by Electric Energy Measurement Centre, Gansu Electric Power Corporation. As per Certificates of Metrological Authorization for Electric Energy Measurement Centre, Gansu Electric Power Corporation, which was issued by Gansu Province Quality Supervision Administration and</p>	Ref	Serial Number	Instrument type	Date of calibration	Valid until (date)*	M1 main	57036858	Bidirectional Electricity Meter 0.2s	25/11/2010	24/11/2011	11/05/2011	10/05/2012	21/12/2011	20/12/2012	M1 backup	57036859	Bidirectional Electricity Meter 0.2s	25/11/2010	24/11/2011	11/05/2011	10/05/2012	21/12/2011	20/12/2012	OK	OK
Ref	Serial Number	Instrument type	Date of calibration	Valid until (date)*																						
M1 main	57036858	Bidirectional Electricity Meter 0.2s	25/11/2010	24/11/2011																						
			11/05/2011	10/05/2012																						
			21/12/2011	20/12/2012																						
M1 backup	57036859	Bidirectional Electricity Meter 0.2s	25/11/2010	24/11/2011																						
			11/05/2011	10/05/2012																						
			21/12/2011	20/12/2012																						

	<p>valid from 26 January 2011 to 25 January 2016/17/, Electric Energy Measurement Centre, Gansu Electric Power Corporation is qualified to conduct calibrations for electricity meters with the accuracy class of 0.2s.</p> <p>c) Measurement/reading/recording frequency</p> <p>The monitoring plan /4/ requires this parameter to be measured continuously and recorded monthly. ERM CVS checked the meters M1 main, and M1 backup on site, and confirms that these meters are online electronic meters, which are continuous monitoring meters. Besides, ERM CVS checked the meter reading on the DCS system, and interviewed the site operational staff /IV3/-/IV5/ during site inspection, confirms that the electricity is continuous monitored by the monitoring equipment. ERM CVS also reviewed the monthly report/12/ and confirmed that all the monitoring data are monthly recorded. Therefore, ERM CVS confirms that the monitoring measurements are in compliance with the requirements in the methodology /6/ and the monitoring plan /4/.</p> <p>ERM CVS concluded that the monitoring data was continuously measured and recorded monthly as required by the monitoring plan.</p> <p>d) QA/QC procedures applied</p> <p>QA/QC procedures conducted onsite were verified via review of following documents:</p> <ul style="list-style-type: none"> Electricity daily running records/11/ Electricity sales receipts/13/ Calibration reports as described above /16/ Employee CDM and operation training record /18/ CDM Monitoring Management Manual/19/ <p>The data are recorded by trained staff and checked by the project manager on site, and a hard copy of the data is stored. According to the onsite interview with the operational staff /IV3/-/IV5/, data measured by meters are crosschecked by electricity sales receipts each month.</p> <p>The verification team has checked the CDM Management and Monitoring Manual/19/ for the site management team, the calibration reports of the meters/16/, and interviewed the operational staff on site/IV3/-/IV5/, confirms the QA/QC procedures, including calibration, that are required for this parameter in the monitoring plan have been implemented.</p> <p>e) Check of information flow and cross check</p> <p>ERM CVS checked and verified the flow of information from data generation, aggregation, to recording, calculation and reporting.</p> <p>The data are recorded by trained staff and checked by a project manager on site, and a hard copy of the data is stored. The data is cross-checked with electricity sales receipts issued by the local Grid Company /13/. The calculation in the spreadsheet was checked by the verification team to be correct.</p> <p>ERM CVS cross-checked the quantity of electricity supplied to the grid with the electricity sales receipts /13/ and the data are consistent.</p> <p>ERM CVS was able to trace the data for this parameter from its measurement source and confirms that it is correctly reported in the monitoring report /1/ and the emissions reduction spreadsheet /2/.</p>		
Does the monitoring report (section D) correctly state all relevant information and data	ERM CVS reviewed the content of the revised monitoring report section D /1/ and evaluated and confirmed its alignment with the requirements of the monitoring plan /4/ and the actual monitoring observed during the site visit	OK	OK

Data / Parameter:	EG _{import,y}	Baseline												
Data unit:	MWh													
Description:	Electricity imported from the grid to the project through the main line in year y.													
Measured/calculated/default	Continuously measured at the Ganhekou West transformer substation and monthly recording.													
Compliance question	Verification findings (including verification activities undertaken and justification/substantiation of information, data and evidence)		Draft OK/ CAR/CL	Final OK/ Not OK										
Is the monitoring equipment appropriately installed and operated and are the QA/QC procedures appropriately applied?	<p>ERM CVS evaluated whether this parameter was monitored as required in the monitoring plan.</p> <p>a) Equipment specification</p> <p>During the site visit, ERM CVS checked the equipment that had been installed to monitor this parameter.</p> <p>The parameter is monitored by a bidirectional electricity meter (M1 main) serial number 57036858, which is located at the Ganhekou West transformer substation. Another bidirectional electricity meter (M1 backup) serial number 57036859 is installed at the Ganhekou West transformer substation as the backup meter. The accuracy class of M1 main and M1 backup is 0.2s, which is in line with the 'Verification Regulation of Electrical Energy Meters with Electronics' (JJG 596-1999) /15/. All aspects of the installation of the meter and the monitoring procedures were found to be consistent with the monitoring plan/4/. The multiplication factor of M1 main and M1 backup is confirmed to be 2,640,000 by checking the meter calibration report/16/.</p> <p>b) Calibration</p> <p>According to the monitoring plan /4/ and the Verification Regulation of Electrical Energy Meters with Electronics (JJG 596-1999) /15/, calibration should be performed every year. ERM CVS confirmed based the detailed information on review of calibration records /16/. Detailed information.</p> <table border="1"> <thead> <tr> <th>Ref</th><th>Serial Number</th><th>Instrument type</th><th>Date of calibration</th><th>Valid until (date)*</th></tr> </thead> <tbody> <tr> <td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>		Ref	Serial Number	Instrument type	Date of calibration	Valid until (date)*						CAR-4	OK
Ref	Serial Number	Instrument type	Date of calibration	Valid until (date)*										

M1 main	57036858	Bidirectional Electricity Meter 0.2s	25/11/2010 11/05/2011 21/12/2011	24/11/2011 10/05/2012 20/12/2012
M1 backup	57036859	Bidirectional Electricity Meter 0.2s	25/11/2010 11/05/2011 21/12/2011	24/11/2011 10/05/2012 20/12/2012

*According to the calibration certificate /16/.

The meters were calibrated by Electric Energy Measurement Centre, Gansu Electric Power Corporation. As per Certificates of Metrological Authorization for Electric Energy Measurement Centre, Gansu Electric Power Corporation, which was issued by Gansu Province Quality Supervision Administration and valid from 26 January 2011 to 25 January 2016/17/, Electric Energy Measurement Centre, Gansu Electric Power Corporation is qualified to conduct calibrations for electricity meters with the accuracy class of 0.2s.

c) Measurement/reading/recording frequency

The monitoring plan /4/ requires this parameter to be measured continuously and recorded monthly. ERM CVS checked the meters M1 main and M1 backup on site, and confirms that these meters are online electronic meters, which are continuous monitoring meters. Besides, ERM CVS checked the meter reading on the DCS system, and interviewed the site operational staff /IV3/-/IV5/ during site inspection, confirms that the electricity is continuous monitored by the monitoring equipment. ERM CVS also reviewed the monthly reports /12/ and confirmed that all the monitoring data are monthly recorded. Therefore, ERM CVS confirms that the parameter is monitored in compliance with the requirements in the methodology /6/ and the monitoring /4/.

CAR 1: However, after ERM CVS reviewed the monitoring report /1/ and ER calculation spreadsheet /2/, the validation team noted that the table of monitored data in the monitoring report and calculations spreadsheet shows a combined number for the first three months of imported electricity data. This is not in line with the requirement of the monitoring plan for monthly data collection and recording. During the site visit ERM CVS also found that the imported electricity data from 21 May 2012 to 31 May 2012 are not included in the emission reduction calculation sheet. Therefore CAR 1 was raised..

ERM CVS has checked the revised monitoring report/1/ and ER calculation spreadsheet/2/ against the official electricity data from local State Grid company/13/ and confirms that monthly data collection and recording of the monitoring period are correctly indicated. The emission reduction of the monitoring period has been reduced from 280,671 tCO₂e in the GSP MR to 280,605 tCO₂e in the updated MR due to the inclusion of imported electricity data from 21 May 2012 to 31 May 2012.

CAR 1 is closed.

d) QA/QC procedures applied

QA/QC procedures conducted onsite were verified via review of following documents:

- Electricity daily running records/11/
- Electricity sales receipts/13/
- Calibration reports as described above /16/
- Employee CDM and operation training record /18/
- CDM Monitoring Management Manual/19/

	<p>The data are recorded by trained staff and checked by the project manager on site, and hard copy of the data is stored organized. According to the onsite interview with the operational staff /IV3/-/IV5/, data measured by meters are crosschecked by electricity sales receipts each month.</p> <p>The verification team has checked the CDM Management and Monitoring Manual/19/ for the site management team, the calibration reports of the meters/16/, and interviewed the operational staff on site/IV3/-/IV5/, confirms that the QA/QC procedures, including calibration, that are required for this parameter in the monitoring plan have been implemented.</p> <p>e) Check of information flow and cross check</p> <p>ERM CVS checked and verified the flow of information from data generation, aggregation, to recording, calculation and reporting.</p> <p>The data are recorded by trained staff and checked by a project manager on site, and a hard copy of the data is stored. It is cross-checked with electricity sales receipts issued by the local Grid Company /13/. The calculation in the spreadsheet was checked by the verification team to be correct.</p> <p>ERM CVS cross-checked the quantity of electricity imported to the grid with the electricity sales receipts /13/, and the data are consistent.</p> <p>ERM CVS was able to trace the data for this parameter from its measurement source and confirms that it is correctly reported in the monitoring report /1/ and the emissions reduction spreadsheet /2/.</p> <p>ERM CVS has checked the revised monitoring report/1/ and ER calculation spreadsheet/2/ against the official electricity data from local State Grid company/13/and confirms that monthly data collection and recording of both electricity export and import in the monitoring period are correctly indicated.</p>		
Does the monitoring report (section D) correctly state all relevant information and data relating to the monitoring of this parameter during the monitoring period?	<p>ERM CVS reviewed the content of the revised monitoring report section D /1/ and evaluated and confirmed its alignment with the requirements of the monitoring plan /4/ and the actual monitoring observed during the site visit and document review.</p> <p>ERM CVS confirms that the monitoring report (section D) correctly states all relevant information and data relating to the monitoring of this parameter during the monitoring period.</p>	OK	OK
Conclusion	<p>ERM CVS has checked the revised monitoring report and confirmed that</p> <ul style="list-style-type: none"> The equipment for monitoring has an appropriate accuracy and has been installed and operated in accordance with the monitoring plan /4/. The calibration has been conducted at the frequency as specified by the methodology and the monitoring plan /4/. The monitoring results have been recorded consistently as per the approved frequency in the monitoring plan /4/. QA/QC procedures have been applied in accordance with the monitoring plan /4/. 		

Data / Parameter:	$EG_{auxiliary, line, y}$	Baseline
Data unit:	MWh	
Description:	Electricity delivered to the project through the auxiliary line in year y	

Measured/calculated/default	Measured and calculated												
Compliance question	Verification findings (including verification activities undertaken and justification/substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK										
Is the monitoring equipment appropriately installed and operated and are the QA/QC procedures appropriately applied?	<p>ERM CVS evaluated whether this parameter was monitored as required in the monitoring plan.</p> <p>a) Equipment specification</p> <p>During the site visit, ERM CVS checked the equipment that had been installed to monitor this parameter.</p> <p>ERM CVS reviewed the monitoring report version 01, and found that the information of parameter of EG_{auxiliary line,y} in the table D.2 was not consistent with the PDD as below:</p> <ol style="list-style-type: none">1. It was shown in the GSP monitoring report that the parameter was “Continuously measured at the spare 10kV agriculture line and monthly recording”, which was not consistent with the description in the registered PDD, that the electricity delivered to the project through the auxiliary line.2. The information of type, accuracy class, serial number, calibration frequency, date of last calibration and validity was missing in the GSP monitoring report. . <p>CL 2 was raised to ask the PP to provide the correct information of M2 in the monitoring report. Please refer to section 6.1 of this report.</p> <p>ERM CVS has checked the revised monitoring report/1/ and confirms that the description of M2 (the meter measuring the electricity delivered to the project through the auxiliary line) has been updated in line with the PDD, which was confirmed by site inspection. The detail of type, accuracy class, serial number, calibration frequency, date of last calibration and validity for meter M2 is included in the revised monitoring report, which is confirmed by reviewing the calibration report of the M2, and is in line with the guidelines for competing the Monitoring Report, EB66 Annex 20.</p> <p>Therefore, CL 2 is closed.</p> <p>During the site visit, ERM CVS confirmed that the parameter is monitored by a bidirectional electricity meter (M2), serial number 10699437, which is located at the auxiliary line from 35kV bus-bar. The accuracy class is 0.5s which is in line with the ‘Verification Regulation of Electrical Energy Meters with Electronics’ (JJG 596-1999) /15/, and the monitoring plan /4/. The meter M2 is directly monitoring the amount of power imported from the auxiliary line, therefore, the multiplication factor of M2 is 1.</p> <p>b) Calibration</p> <p>According to the monitoring plan /4/ and the Verification Regulation of Electrical Energy Meters with Electronics (JJG 596-1999) /15/, calibration should be performed every year. ERM CVS confirmed based on the detailed information review of calibration records /16/ that calibration had been conducted at the required frequency. Detailed information is as below.</p> <table><tr><th>Ref</th><th>Serial Number</th><th>Instrument type</th><th>Date of calibration</th><th>Valid until (date)*</th></tr><tr><td>M2</td><td>10699437</td><td>Bidirectional Electricity Meter 0.5s</td><td>22/12/2010</td><td>21/12/2011</td></tr></table>	Ref	Serial Number	Instrument type	Date of calibration	Valid until (date)*	M2	10699437	Bidirectional Electricity Meter 0.5s	22/12/2010	21/12/2011	CL-2	OK
Ref	Serial Number	Instrument type	Date of calibration	Valid until (date)*									
M2	10699437	Bidirectional Electricity Meter 0.5s	22/12/2010	21/12/2011									

			21/12/2011	20/12/2012		
<p>*According to the calibration certificate /16/.</p> <p>The meters were calibrated by Electric Energy Measurement Centre, Gansu Electric Power Corporation. As per Certificates of Metrological Authorization for Electric Energy Measurement Centre, Gansu Electric Power Corporation, which was issued by Gansu Province Quality Supervision Administration and valid from 26 January 2011 to 25 January 2016/17/, Electric Energy Measurement Centre, Gansu Electric Power Corporation is qualified to conduct calibrations for electricity meters with the accuracy class of 0.5s.</p> <p>c) Measurement/reading/recording frequency</p> <p>The monitoring plan /4/ requires this parameter to be measured continuously and recorded monthly. ERM CVS checked the meter M2 on site, and confirms that the meter is an online electronic meter, which is a continuous monitoring meter. Besides, ERM CVS checked the meter reading on the DCS system, and interviewed the site operational staff /IV3/-/IV5/ during site inspection, confirms that the electricity is continuously monitored by the monitoring equipment. ERM CVS also reviewed the monthly report/12/ and confirmed that all the monitoring data are monthly recorded. Therefore, ERM CVS confirms that the measurements are monitored in compliance with the requirements in the methodology /6/ and the monitoring plan /4/.</p> <p>ERM CVS concluded that the monitoring data was continuously measured and recorded monthly as required by the monitoring plan.</p> <p>d) QA/QC procedures applied</p> <p>ERM CVS reviewed the QA/QC procedures that were applied during the monitoring period.</p> <p>QA/QC procedures conducted onsite was verified via review of following documents:</p> <ul style="list-style-type: none"> • Electricity daily running records/11/ • Electricity sales receipts/13/ • Calibration reports as described above /16/ • Employee CDM and operation training record /18/ • CDM Monitoring Management Manual/19/ <p>The data are recorded by trained staff and checked by the project manager on site, and a hard copy of the data is stored. According to the onsite interview with the operational staff /IV3/-/IV5/, data measured by meters are crosschecked by electricity sales receipts each month.</p> <p>The verification team has checked the CDM Management and Monitoring Manual/19/ for the site management team, the calibration reports of the meters/16/, and interviewed the operational staff on site/IV3/-/IV5/, confirms that the QA/QC procedures, including calibration, that are required for this parameter in the monitoring plan have been implemented.</p> <p>e) Check of information flow and cross check</p> <p>ERM CVS checked and verified the flow of information from data generation, aggregation, to recording, calculation and reporting.</p> <p>The data are recorded by trained staff and checked by project manager on site, and hard copy of the data is stored. It is crosschecked with electricity sales receipts issued by the local Grid Company /13/. And the calculation in the spreadsheet was checked by the verification team to be correct.</p> <p>ERM CVS was able to trace the data for this parameter from its measurement source and confirms that it is correctly reported in the monitoring report /1/</p>						

	<p>and the emissions reduction calculation spreadsheet /2/.</p> <p>ERM CVS has checked the revised monitoring report/1/ and confirms that the description of M2 (the meter measuring the electricity delivered to the project through the auxiliary line) has been updated in line with the registered PDD, which is confirmed by site inspection. The detail of the calibration information of meter M2 is included in the revised monitoring report, which is confirmed by reviewing the calibration reports of the M2, and is in line with the guidelines for completing the Monitoring Report, EB66 Annex 20.</p> <p>ERM CVS also has checked the revised monitoring report/1/ and ER calculation spreadsheet/2/ against the official electricity data from local State Grid company /13/ and confirms that monthly data collection and recording of both electricity export and import in the monitoring period are correctly indicated.</p> <p>Therefore, CL 2 is closed.</p>		
Does the monitoring report (section D) correctly state all relevant information and data relating to the monitoring of this parameter during the monitoring period?	<p>ERM CVS reviewed the content of the revised monitoring report section D /1/ and evaluated its alignment with the requirements of the monitoring plan /4/ and the actual monitoring observed during the site visit and document review.</p> <p>ERM CVS confirms that the monitoring report (section D) correctly states all relevant information and data relating to the monitoring of this parameter during the monitoring period.</p>	OK	OK
Conclusion	<p>ERM CVS has checked the revised monitoring report and confirmed that</p> <ul style="list-style-type: none"> The equipment for monitoring has an appropriate accuracy and has been installed and operated in accordance with the monitoring plan /4/. The calibration has been conducted at the frequency as specified by the methodology and the monitoring plan /4/. The monitoring results have been recorded consistently as per the approved frequency in the monitoring plan /4/. QA/QC procedures have been applied in accordance with the monitoring plan /4/. 		

Data / Parameter:	EG _{facility, y}	Baseline	
Data unit:	MWh		
Description:	Quantity of net electricity generation supplied to the Grid by the project activity in year y.		
Measured/calculated/default	Calculated by EG _{export,y} minus EG _{import,y} minus EG _{auxiliary,line,y}		
Compliance question	Verification findings (including verification activities undertaken and justification/substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
Is the monitoring equipment appropriately installed and operated and are the QA/QC procedures appropriately applied?	ERM CVS identified that the parameter EG _{facility,y} was described in section B.7.2 of the registered PDD, but was missing from section B.7.1 as referenced in the methodology ACM0002 version 11. ERM CVS therefore requested a correction to include this missing information as per Appendix 1 para.1 of the Project Standard. Please see CL 3 and section 6. The parameter has been described in section B.7.1 of the updated PDD /3/ and CL 3 is closed. a) Equipment specification	CL-3	OK

During the site visit, ERM CVS checked the equipment that had been installed to monitor this parameter.

The parameter is calculated by:

$$EG_{\text{export},y} \text{ minus } EG_{\text{import},y} \text{ minus } EG_{\text{auxiliary,line},y}$$

$EG_{\text{export},y}$ and $EG_{\text{import},y}$ are monitored by a bidirectional electricity meter (M1 main) serial number 57036858, which is located at the Ganhekou West transformer substation. Another bidirectional electricity meter (M1 backup) serial number 57036859 is installed at the Ganhekou West transformer substation as the backup meter.

$EG_{\text{auxiliary,line},y}$ is monitored by a bidirectional electricity meter (M2), serial number 10699437, which is located at the auxiliary line from 35kV bus-bar.

The accuracy class of M1 main, M1 backup and M2 is 0.2s, 0.2s and 0.5s respectively. This is in line with the 'Verification Regulation of Electrical Energy Meters with Electronics' (JJG 596-1999) /15/. and the monitoring plan /4/. The multiplication factor of M1 main and M1 backup is confirmed to be 2,640,000 by checking the meter calibration reports /16/. The meter M2 is directly monitoring the amount of power imported from the auxiliary line, therefore, the multiplication factor of M2 is 1.

All aspects of the installation of the meter and the monitoring procedures were found to be consistent with the monitoring plan /4/.

b) Calibration

According to the monitoring plan /4/ and the Verification Regulation of Electrical Energy Meters with Electronics (JJG 596-1999) /15/, calibration should be performed every year. ERM CVS confirmed based on review of calibration records /16/. Detailed information is as below.

Ref	Serial Number	Instrument type	Date of calibration	Valid until (date)*
M1 main	57036858	Bidirectional Electricity Meter 0.2S	25/11/2010	24/11/2011
			11/05/2011	10/05/2012
			21/12/2011	20/12/2012
M1 backup	57036859	Bidirectional Electricity Meter 0.2S	25/11/2010	24/11/2011
			11/05/2011	10/05/2012
			21/12/2011	20/12/2012
M2	10699437	Bidirectional Electricity Meter 0.5S	22/12/2010	21/12/2011
			21/12/2011	20/12/2012

*According to the calibration certificate /16/.

The meters were calibrated by Electric Energy Measurement Centre, Gansu Electric Power Corporation. As per Certificates of Metrological Authorization for Electric Energy Measurement Centre, Gansu Electric Power Corporation, which was issued by Gansu Province Quality Supervision Administration and valid from 26 January 2011 to 25 January 2016/17/, Electric Energy Measurement Centre, Gansu Electric Power Corporation is qualified to conduct calibrations for electricity meters with the accuracy class of 0.2s and 0.5s.

c) Measurement/reading/recording frequency

The monitoring plan /4/ requires this parameter to be measured continuously and recorded monthly. ERM CVS checked the meters M1 main, M1 backup and M2 on site, confirms that these meters are online electronic meters, which

	<p>are continuous monitoring meters. Besides, ERM CVS checked the meter reading on the DCS system, and interviewed the site operational staff /IV3/-/IV5/ during site inspection, confirms that the electricity is continuous monitored by the monitoring equipment. ERM CVS also reviewed the monthly reports /12/ and confirmed that all the monitoring data are monthly recorded. Therefore, ERM CVS confirms that the parameter is monitored in compliance with the requirements in the methodology /6/ and the monitoring plan /4/.</p> <p>d) QA/QC procedures applied</p> <p>QA/QC procedures conducted onsite were verified via review of following documents:</p> <ul style="list-style-type: none"> Electricity daily running records/11/ Electricity sales receipts/13/ Calibration reports as described above /16/ Employee CDM and operation training record /18/ CDM Monitoring Management Manual/19/ <p>The data are recorded by trained staff and checked by the project manager on site, and hard copy of the data is stored organized. According to the onsite interview with the operational staff /IV3/-/IV5/, data measured by meters are crosschecked by electricity sales receipts each month/13/.</p> <p>The verification team has checked the CDM Management and Monitoring Manual/19/ for the site management team, the calibration reports of the meters/16/, and interviewed the operational staff on site/IV3/-/IV5/, confirms that the QA/QC procedures, including calibration, that are required for this parameter in the monitoring plan have been implemented.</p> <p>e) Check of information flow and cross check</p> <p>ERM CVS checked and verified the flow of information from data generation, aggregation, to recording, calculation and reporting.</p> <p>The data are recorded by trained staff and checked by a project manager on site, and a hard copy of the data is stored. It is cross-checked with electricity sales receipts issued by the local Grid Company /13/. The calculation in the spreadsheet was checked by the verification team to be correct.</p> <p>ERM CVS cross-checked the quantity of electricity imported to the grid with the electricity sales receipts /13/, and the data are consistent.</p> <p>ERM CVS was able to trace the data for this parameter from its measurement source and confirms that it is correctly reported in the monitoring report /1/ and the emissions reduction spreadsheet /2/.</p> <p>ERM CVS has checked the revised monitoring report/1/ and ER calculation spreadsheet/2/ against the official electricity data from local State Grid company/13/and confirms that monthly data collection and recording of both electricity export and import in the monitoring period are correctly indicated.</p>		
Does the monitoring report (section D) correctly state all relevant information and data relating to the monitoring of this parameter during the monitoring period?	<p>ERM CVS reviewed the content of the revised monitoring report section D /1/ and evaluated and confirmed its alignment with the requirements of the monitoring plan /4/ and the actual monitoring observed during the site visit and document review.</p> <p>ERM CVS confirms that the monitoring report (section D) correctly states all relevant information and data relating to the monitoring of this parameter during the monitoring period.</p>	OK	OK
Conclusion	<p>ERM CVS has checked the revised monitoring report and found that:</p> <ul style="list-style-type: none"> 		

	<ul style="list-style-type: none"> The equipment for monitoring has an appropriate accuracy and has been installed and operated in accordance with the monitoring plan /4/. The calibration has been conducted at the frequency as specified by the methodology and the monitoring plan /4/. The monitoring results have been recorded consistently as per the approved frequency in the monitoring plan /4/. QA/QC procedures have been applied in accordance with the monitoring plan /4/.
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Conclusion

ERM CVS confirmed that the monitoring of all relevant parameters has been carried out in accordance with the monitoring plan /4/ and relevant EB requirements. It is confirmed that data acquisition process, data transferring process, archiving process and reporting process occur as required by the monitoring plan. The final monitoring report provides an accurate description of the monitoring for all parameters throughout the monitoring period.

4.5.5 Management and operational system

ERM CVS evaluated the management systems in place to implement the monitoring of the project activity. This included the organisational structure, roles and responsibilities, data collection, transfer and aggregation procedures, training of personnel, data storage and archiving and emergency procedures for the monitoring system.

Detailed procedures for management and implementation of the monitoring of the project activity have been established in the CDM Management and Monitoring Manual /19/, and are summarised as follows:

Compliance question	Verification activities undertaken	Verification findings (including justification/substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
Has an appropriate management and operational system for monitoring and reporting, including responsibilities and authorities, been established in accordance with the monitoring plan?	<p>ERM CVS carried out the following activities:</p> <ul style="list-style-type: none"> Reviewed the CDM Monitoring Manual /19/, Reviewed training records /18/ Interviews during the site visit with key personnel /IV3//IV4//IV5/ Cross checked information with section B.7.2 of the monitoring plan /4/ 	<p>Based on document review and interviews undertaken during the site visit, ERM CVS confirmed that:</p> <p>A monitoring manual has been developed and implemented that appropriately controls all aspects of CDM monitoring, including organisation and responsibilities, equipment maintenance and calibration, data collection, recording and reporting, data archiving and transfer, treatment of equipment failure; quality control; training and emergency response.</p> <p>The documents for this monitoring period were found to be complete. Management and operational systems are in place. The members of the team received appropriate training.</p>	OK	OK

Conclusion

ERM CVS confirmed that the monitoring of all relevant parameters has been carried out in accordance with the monitoring plan /4/ and relevant EB requirements. It is confirmed that data acquisition process, data transferring process, archiving process and reporting process occur as required by the monitoring plan. The final monitoring report provides an accurate description of the monitoring for all parameters throughout the monitoring period.

4.6 Data and parameters determined at registration and not monitored

The verification team evaluated the status of data and parameters that were determined at registration and not monitored during the monitoring period, including default values and factors, and confirmed whether they were correctly presented in Section D.1 of the monitoring report and applied correctly in the emission reduction calculations.

Data and parameters that were determined at registration and not monitored during the monitoring period				
Parameter	Description	Presented correctly in section D.2 of the Monitoring Report and applied correctly in the emission reduction calculations?	Draft OK/ CAR/CL	Final OK/ Not OK
EF _{grid,CM,y}	Combined emission factor.	<p>This is a monitoring parameter, according to the applied methodology. However, as it is defined <i>ex ante</i>, it has been considered a fixed parameter available at the validation, which is considered an appropriate approach.</p> <p>ERM CVS confirms that this parameter is consistent with the registered PDD /3/ and it is accurately presented in section D.1 of the monitoring report and applied appropriately in the emission reduction calculations /2/.</p>	OK	OK

4.7 Assessment of data and calculation of emission reductions

As per VVS chapter IX section D.5, ERM CVS evaluated the data and calculations of GHG emission reductions achieved by/resulting from the project activity by the application of the selected approved methodology.

In conducting this evaluation, the verification team evaluated whether:

- A complete set of data for the monitoring period was available,
 - If only partial data are found to be available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan (or approved revised monitoring plan), ERM CVS will raise a CAR for the project participants to comply with the requirements of appendix 1 of the Project standard or submit a request for deviation prior to submitting the request for issuance,
- Information provided in the monitoring report has been cross checked with other sources such as log books, inventories, purchase records, laboratory analysis;
- Calculations of baseline emissions, and project activity emission and leakage emissions as appropriate have been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology;
- Any assumptions used in the emission calculations have been justified;
- Appropriate emission factors, IPCC default factors and other reference values have been correctly applied.

4.7.1 Emission reduction calculations

ERM CVS reviewed the emission reduction calculations in Section E of the monitoring report.

In accordance with the methodology /6/ the GHG emission reductions achieved by the project activity are calculated using the following equation:

$$ER_y \text{ (tCO}_2\text{e/yr)} = BE_y - PE_y - LE_y$$

According to the applied methodology the project emission $PE_y = 0$, and the project leakage $LE_y = 0$. Therefore, the project emission reduction is equal the baseline emission:

$$ER_y = BE_y = EG_{PJ,y} * EF_{grid, CM,y}$$

Since,

$$EG_{PJ,y} = EG_{facility,y}$$

Therefore,

$$ER_y = BE_y = EG_{facility,y} * EF_{grid, CM,y} = (EG_{export,y} - EG_{import,y} - EG_{auxiliary, line,y}) * EF_{grid, CM,y}$$

A fixed emission factor (EF) was determined in the registered PDD of 0.92928 tCO₂/MWh to be used in the emission reduction calculation for the first crediting period /3/.

The net electricity supplied to the grid $EG_{facility,y}$ is calculated by total electricity supplied to the grid by the project activity and the electricity supplied to the project by the grid, which are monitored by the bidirectional meter installed at the project site and cross checked by the sales receipts /13/. When comparing the actual meter readings with the electricity transaction notes / sales receipts /13/, the PP has chosen to use the lower value of the two for the electricity supplied to the grid and the higher value of the two for the electricity exported from the grid, which is conservative.

The total net electricity ($EG_{facility,y}$) supplied to the grid during this monitoring period was 301,959.70MWh and the calculation of this is clearly presented in the emission reduction (ER) spreadsheet /2/ and supported by appropriate evidence (see Annex A).

Hence emission reductions are confirmed by ERM CVS to be:

$$ER_y = EG_{facility,y} * EF_{grid, CM,y} = 301,959.70 \text{ MWh} * 0.92928 \text{ tCO}_2/\text{MWh} = 280,605 \text{ tCO}_2\text{e.}$$

Compliance question	Verification activities undertaken	Verification findings (including justification/substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
Were data available throughout the monitoring period in accordance with the monitoring plan and methodology?	<p>In order to verify whether data was available throughout the entire monitoring period in accordance with the monitoring plan and methodology, the verification team:</p> <ul style="list-style-type: none"> Reviewed data presented in the emissions reduction calculation spreadsheet /2/ Reviewed the electricity daily running records /11/ and the electricity monthly reports /12/ Cross checked the data with Electricity sales receipts issued by Northwest China Power Grid Company /13/. 	As shown in the emission reduction calculation spreadsheet /2/ and confirmed by ERM CVS during the site visit, data were available throughout the monitoring period in accordance with the monitoring plan and methodology.	OK	OK
Has the project participant used appropriate methods and formulae for calculating baseline, project and leakage emissions?	<p>In order to verify whether the project participant used appropriate methods and formulae to calculate the baseline project and leakage emissions in line with the monitoring plan and methodology, the verification team:</p> <ul style="list-style-type: none"> Reviewed the formulae used in the emissions reduction calculation spreadsheet /2/ against the PDD /3/ and the methodology /6/ 	ERM CVS confirmed that the calculation of baseline, project and leakage emissions as set out in the emission reduction calculation spreadsheet /2/ has been based on appropriate methods and formulae and that the calculation of emission reductions during the monitoring period is accurate and in line with the monitoring plan and methodology.	OK	OK

Has the project participant justified all assumptions, emission factors and default values that have been applied?	ERM CVS evaluated the emission reduction calculation spreadsheet /2/ and reviewed all assumptions, emission factors and default factors that have been applied against the registered PDD /3/ and the methodology /6/	ERM CVS has confirmed that the emission reduction calculation spreadsheet /2/ and all assumptions, emission factors and default factors that have been applied have been appropriately justified and applied.	OK	OK
Do the monitoring report (section E) and associated emission reduction spreadsheet correctly present the data and formulae used to calculate the reported emission reductions?	ERM CVS reviewed the emission reduction spreadsheet /2/ and monitoring report section E /1/ to evaluate whether the data and formulae to calculate the emission reductions have been correctly presented.	ERM CVS confirmed that all data and formulae in the final documents have been correctly presented.	OK	OK

Conclusion

Emission reductions have been calculated in accordance with the monitoring plan and the applied methodology, and it was determined that the data processing and emission reductions calculations resulted in real and measurable emission reductions. Where there was any unavailability of data, conservative assumptions have been made. All assumptions, emission factors and default values have been justified and the information has been cross checked with other sources.

4.8 Comparison of emission reductions with those predicted in the PDD

ERM CVS reviewed the monitoring report to confirm that the PP has compared the emission reductions with the number of emission reductions estimated in the PDD for an equivalent number of days as the monitoring period.

Emission reductions for this monitoring period predicted in the registered PDD = **528,169 tCO₂e**

Emission reductions reported in the monitoring report for this monitoring period = **280,605 tCO₂e**

Compliance question	Verification findings (including justification/substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
Has the PP included (in section E.5 of the monitoring report) a comparison of the emission reductions for this monitoring period with the emission reductions for an equivalent length of monitoring based on the estimates in the PDD?	ERM CVS has reviewed the emissions reductions stated in the monitoring report and confirmed that the PP has presented a clear comparison of the emission reductions during the monitoring period with the prediction in the PDD. The emission reductions for this monitoring period (468 days) predicted in the registered PDD have been correctly calculated as 528,169 tCO ₂ e: $ER_{PDD}/365 \times 468 = 411,927 / 365 \times 468 = 528,169 \text{ tCO}_2\text{e}$	OK	OK
Has the PP provided appropriate explanation for any increase in emission reductions compared with the prediction made in the PDD?	As the emission reductions are less than the estimation in the PDD for an equivalent number of days, no further explanation is required.	OK	OK

Conclusion

The PP has appropriately presented the emission reductions for the monitoring period, where lower than predicted, no further explanation is required.

4.9 Other observations

N/A

5 Remediation Requests

5.1 Clarification Requests

Where information was insufficient or not clear enough to determine whether the applicable CDM requirements have been met ERM CVS raised a Clarification Request (CL). The CLs are raised, and a description of how each was resolved is set out below.

CL 1	
Comment:	ERM CVS reviewed the monitoring report version 01, dated 27 June 2012, and found the details of Annex I party are missing from the monitoring report.
Clarification Request:	Please clarify.
PP Response	
<i>Annex I party (United Carbon Credits Limited) has withdrawn from the Project.</i>	
Documentation provided	<i>Project view page on UNFCCC website/14/:http://cdm.unfccc.int/Projects/DB/DNV-CUK1290404178.75/view</i>

Verification activity

ERM CVS has checked PP in the webpage of UNFCCC, and confirms that the PP of the project is Gansu Guazhou Xiehe Wind Power Co., Ltd and that United Carbon Credits Limited has voluntarily withdrawn as a PP from this project activity. The withdrawal is valid as of 20 November 2012 /14/.

Conclusion

This CL is closed.

CL 2	
Comment:	<p>ERM CVS reviewed the GSP monitoring report version 01, dated 27 June 2012, and found that information for parameter EG_{auxiliary line,y} in the table D.2 was not consistent with the registered PDD as below: .</p> <ol style="list-style-type: none"> 1. It was shown in the GSP monitoring report that the parameter was “Continuously measured at the spare 10kV agriculture line and monthly recording”, which was not consistent with the description in the PDD, that the electricity delivered to the project through the auxiliary line. 2. The information of type, accuracy class, serial number, calibration frequency, date of last calibration and validity was missing from GSP monitoring report.
Clarification Request:	Please revise the information in the monitoring report, as required by EB 66 Annex 20.

PP Response	
<p>PP has revised the description of EG_{auxiliary line,y} in MR. Auxiliary power was supplied by auxiliary line from 35kV bus-bar.</p> <p>The information of the meter M2 has been added in the MR(version 02).</p>	
Documentation provided	Photo for M2 meter/21/and related certification report/16/.

Verification activity

ERM CVS has checked the revised monitoring report/1/ and reviewed the calibration report of the M2, confirms that the description of EG_{auxiliary line,y} was "Continuously measured at the spare 10kV agriculture line and monthly recording", which is consistent with the description in the PDD. The detail of the calibration information of meter M2 is correctly included in the revised monitoring report in line with the national standard/industrial standard JJG596-1999 as below:

Meters	Serial No.	Accuracy class	Calibration date	Validity	Calibration frequency
M2	10699437	0.5s	22/12/2010 21/12/2011	one year	annually

Conclusion

This CL is closed.

CL 3	
Comment:	ERM CVS reviewed the registered PDD and noted that the monitoring parameter EG _{facility,y} was not included in the section B.7.1 'Data and parameters monitored', as required by methodology ACM0002 version 11. However, this parameter was included in the MR and was duly monitored in line with the methodological requirements set out in the applied methodology during the monitoring period, as verified in section 4.5.4 of this report.
Clarification Request:	Please include a description of EG _{facility,y} in section B.7.1 as well as section 7.2 of the PDD. .
PP Response	
<p>PP has corrected the PDD, EG_{facility,y} has been added in the section B.7.1 'Data and parameters monitored' of the updated PDD.</p> <p>The updated PDD was submitted to ERM CVS.</p>	
Documentation provided	
<p>PDD version 3.0 /3/</p> <p>MR version 02 /1/</p>	

Verification activity
ERM CVS has checked the updated PDD and updated MR, confirms that the parameter $EG_{facility,y}$ has been added in the section B.7.1 'Data and parameters monitored' and is in line with the methodology ACM0002 version 11. For details on validation activities for this post registration change please refer to section 6 of this report.
Conclusion
This CL is closed.

5.2 Corrective Action Requests

ERM CVS raised a Corrective Action Request (CAR) where:

- Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;
- Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impair the estimate of emission reductions;
- a Forward Action Request (FAR) during validation (or previous verification) to be verified have not been resolved by the project participants

CAR 1	
Comment:	The table of monitored data in the Monitoring Report and calculations spreadsheet shows a combined number the first three months of imported electricity data ($EG_{import,y}$). This is not in line with the requirement of the monitoring plan for monthly data collection and recording. During the site visit ERM CVS found that the imported electricity data from 21 May 2012 to 31 May 2012 are not included in the emission reduction calculation sheet. Please revise the monitoring report and spreadsheet.
Corrective Action Request:	Please revise the calculations in the emission reduction spreadsheet and update the monitoring report accordingly.
PP Response	
<p><i>The counting time for the project's import electricity is 24:00 20th of every month, so there is no related settlement receipt for the time between 24:00 20th May to 24:00 31st May 2012.</i></p> <p><i>PP has submitted the official electricity data from local State Grid company.</i></p>	
Documentation provided	
<p><i>The imported electricity data from 24:00 20th May to 24:00 31st May 2012/13/</i></p>	

Verification activity
ERM CVS has checked the revised monitoring report/1/ and ER calculation spreadsheet /2/ against the official electricity data from local State Grid company, confirms that the imported electricity data first three months has been broken down into each month, and the imported electricity data from 24:00 20 May 2012 to 24:00 31 May 2012 are included in the emission reduction calculation sheet. All the monthly data collection and recording of the monitoring period are correctly indicated and confirmed by the electricity data from local State Grid company/13/, which are in line with the requirement of the monitoring plan. The emission reduction of the monitoring period has been reduced from 280,671 tCO ₂ e in the GSP MR to 280,605 tCO ₂ e in the updated MR due to the inclusion of imported electricity data from 21 May 2012 to 31 May 2012.
Conclusion
This CAR is closed.

5.3 Forward Action Requests

No FAR raised in this monitoring period

5.4 Minor Issues

In addition some minor editorial or reporting changes were made by the PPs that do not have impact on the project's conformance with the requirements of the methodology, PDD, monitoring plan or other CDM requirements, for example correcting typos.

According to the registered PDD, the project electricity system is Northwest China Power Grid (NWCPG); however, it was shown in section E of the GSP MR that the net electricity generated by the project will be supplied to NCPG. This was a typo mistake as clarified by the PP, which was considered as a minor issue and is revised in the updated MR.

6 Validation of Post registration Changes

6.1 Changes approved prior to the start of verification

Change	Approval Date
Change to crediting period from 10/03/2011-09/03/2018 to 19/02/2011-18/02/2018	n/a (confirmed on project view page)

6.2 Temporary deviations from the registered monitoring plan or applied methodology

No temporary deviations from the registered monitoring plan and/or methodology were identified during the verification.

6.3 Corrections

The following correction(s) to project information or parameters fixed at validation, as described in the registered PDD, have been made.

Description of correction	ERM CVS validation whether the correction is an accurate reflection of actual project information	ERM CVS validation whether the correction is in accordance with the applied methodology and/or selected monitoring plan
The parameter $EG_{\text{facility}, y}$ was included in section B.7.2, but was missing from section B.7.1 'Data and parameters monitored' of the PDD, as set out in by methodology ACM0002 version 11. EG_{facility} has therefore been included in section B.7.1	The correction is an accurate reflection of the actual project information.. ERM CVS noted that the parameter had been already included in B.7.2 of registered PDD; There was nothing to suggest that the monitoring plan in the PDD could not be implemented, since $EG_{\text{facility}, y}$ is a calculated parameter based on $EG_{\text{export}, y}$ minus $EG_{\text{import}, y}$ minus $EG_{\text{auxiliary, line}, y}$. All input parameters to this calculation are clearly described in section B.7.1 of the monitoring plan in the registered PDD. Hence it is deemed to have been an oversight to not include $EG_{\text{facility}, y}$ appropriately in B.7.1. Therefore, the correction to Section B.7.1 of the registered PDD (inclusion of parameter table for $EG_{\text{facility}, y}$)	As per methodology ACM0002 version 11, the $EG_{\text{facility}, y}$ is a required monitoring parameter and applicable for this project activity. The missing description of monitoring parameter table for $EG_{\text{facility}, y}$ is included in Section B.7.1 of the updated PDD, and the provided information was verified to be in accordance with the applied methodology.

Conclusion:

The corrections made to the PDD are an accurate reflection of the actual project information and are in accordance with the applied methodology.

6.4 Changes to the start date of the crediting period

No changes to the start date of the crediting period have been made that have not already been approved.

6.5 Permanent changes from the registered monitoring plan or monitoring methodology

No changes to the registered monitoring plan or monitoring methodology have been made that have not already been approved.

6.6 Changes to the project design of a registered project activity

There are no proposed or actual changes to the project design of a registered CDM project activity

6.7 Findings of previous verification reports

Not applicable since this is the first monitoring period.

6.8 Completeness Check of the updated PDD

Not applicable.

Annex A: Reference Documents and Interviews

A.1: Documents

Reference	Title and version	Date
/1/	Monitoring Report for 'Gansu Guazhou Ganhekou No.8 Wind Farm Project', Version 01 (made publicly available) Version 02	27 June 2012 05 December 2012
/2/	ER calculation spreadsheet(s) Version 01 Version 02	27 June 2012 01 November 2012
/3/	Project Design Document Registered PDD for Gansu Guazhou Ganhekou No.8 Wind Farm Project, version 2.0 Updated PDD for Gansu Guazhou Ganhekou No.8 Wind Farm Project, version 3.0	05 August 2010 29 November 2012
/4/	Monitoring Plan Monitoring Plan included in the registered PDD, version 2.0 Monitoring Plan in the updated PDD, version 3.0	05 August 2010 29 November 2012
/5/	Validation Report Validation report prepared by DOE (DNV) for Gansu Guazhou Ganhekou No.8 Wind Farm Project, Report version:01 Report number: DNV 2010-9187	08 November 2010
/6/	Approved Methodology and methodological tools applied for the project "Consolidated methodology for grid-connected electricity generation from renewable sources", ACM0002, version 11, EB52 Annex 7. Tool to calculate the emission factor for an electricity system Version 02 Tool for the demonstration and assessment of additionality Version 05.2	12 February 2010 16 October 2009 26 August 2008
/7/	CDM Validation and Verification Standard, version 2.0 (EB65)	25 November 2011
/8/	Plant operational log of the operational start date for the first turbine and the last turbine	11 December 2010 and 08 March 2011
/9/	The Turbine Onsite Commissioning Report issued by Sionvel Wind Group Co., Ltd. for the 1st wind turbine and for all the 134 wind turbines.	11 December 2010 08 March 2011
/10/	Power Purchase Agreement signed by Gansu Province Power Grid Company and Gansu Guazhou Xiehe Wind Power Co., Ltd.	25 December 2010
/11/	Electricity daily running record Meter readings recorded by the duty staff during the monitoring period.	From 19 February 2011-31 May 2012

Reference	Title and version	Date																														
/12/	Monthly report during the monitoring period (19 February 2011-31 May 2012)																															
/13/	Electricity sales receipts during the monitoring period issued by Jiayugua Power Supply Company of Gansu Provincial Power Grid Company Clarification on power import, issued by Jiayugua Power Supply Company of Gansu Provincial Power Grid Company	19 February 2011-31 May 2012 22 August 2012																														
/14/	Project view page on the UNFCCC website http://cdm.unfccc.int/Projects/DB/DNV-CUK1290404178.75/view																															
/15/	Verification Regulation of Electrical Energy Meters with Electronics (JJG 596-1999)	21 October 1999																														
/16/	Meter calibration certificates issued by Electric Energy Measurement Centre, Gansu Electric Power Corporation. <table><tr><th>Ref</th><th>S/N</th><th>Instrument type</th><th>Date of calibration</th><th>Valid until (date)</th></tr><tr><td rowspan="3">M1 main</td><td rowspan="3">57036858</td><td rowspan="3">Bidirectional Electricity Meter 0.2s</td><td>25/11/2010</td><td>24/11/2011</td></tr><tr><td>11/05/2011</td><td>10/05/2012</td></tr><tr><td>21/12/2011</td><td>20/12/2012</td></tr><tr><td rowspan="3">M1 backup</td><td rowspan="3">57036859</td><td rowspan="3">Bidirectional Electricity Meter 0.2s</td><td>25/11/2010</td><td>24/11/2011</td></tr><tr><td>11/05/2011</td><td>10/05/2012</td></tr><tr><td>21/12/2011</td><td>20/12/2012</td></tr><tr><td rowspan="2">M2</td><td rowspan="2">10699437</td><td rowspan="2">Bidirectional Electricity Meter 0.5s</td><td>22/12/2010</td><td>21/12/2011</td></tr><tr><td>21/12/2011</td><td>20/12/2012</td></tr></table>	Ref	S/N	Instrument type	Date of calibration	Valid until (date)	M1 main	57036858	Bidirectional Electricity Meter 0.2s	25/11/2010	24/11/2011	11/05/2011	10/05/2012	21/12/2011	20/12/2012	M1 backup	57036859	Bidirectional Electricity Meter 0.2s	25/11/2010	24/11/2011	11/05/2011	10/05/2012	21/12/2011	20/12/2012	M2	10699437	Bidirectional Electricity Meter 0.5s	22/12/2010	21/12/2011	21/12/2011	20/12/2012	
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			11/05/2011	10/05/2012																												
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M2	10699437	Bidirectional Electricity Meter 0.5s	22/12/2010	21/12/2011																												
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/17/	Certificates of Electric Energy Measurement Centre, Gansu Electric Power Corporation issued by Gansu Province Quality Supervision Administration. <table><tr><td>Ref.</td><td>Issued date</td><td>Valid until (date)</td></tr><tr><td>Valid version</td><td>26 January 2011</td><td>25 January 2016</td></tr></table>	Ref.	Issued date	Valid until (date)	Valid version	26 January 2011	25 January 2016	26 January 2011 to 25 January 2012																								
Ref.	Issued date	Valid until (date)																														
Valid version	26 January 2011	25 January 2016																														
/18/	Employee operation training record Employee CDM training record	11 October2010 22 November 2011																														
/19/	CDM Management and Monitoring Manual, version 01	December 2010																														
/20/	Technical administrative code of electric Energy metering DLT 448-2000	2000																														
/21/	Photo for M2 meter	-																														

A.2: Persons interviewed

Reference	Name	Title & Organisation	Main topics discussed
/IV 1/	Mr. Gou Pengfei	Vice General Manager, Beijing Hope Rise Environmental Technology Co., Ltd.	MR, methodology
/IV 2/	Mr. Song Ze	CDM Project Manager, Beijing Hope Rise Environmental Technology Co.,	MR, methodology

		Ltd.	
/IV 3/	Mr. Du Shurao	General ManagerAssistant, China Wind Power Group Co., Ltd.	MR, methodology
/IV 4/	Ms. Bai Xiaoling	Operation Manager, Gansu Guazhou Xiehe Wind Power Co., Ltd.	Project operation, data record, QA/QC procedure. etc
/IV 5/	Mr. Qi Zhengfu	CDM Manager, Gansu Guazhou Xiehe Wind Power Co., Ltd.	Project operation, data record, QA/QC procedure. etc

Document template history

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Date	Version Number	Change
09 February 2009	Version1	Initial Adoption
30 November 2009	Version 1.1	Editorial and structural updates
22 July 2010	Version 2	Editorial and structural updates
22 October 2011	Version 3	Editorial and structural updates
01 May 2012	Version 4	Revision of template to comply with the VVS