Verification and Certification Report

of

Jilin Zhenlai Mali Wind Power Project

GLC Report No: 326, Rev. 05

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Handelsregister Hamburg, Abt. B., Nr. 52078

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Organisational Unit Germanischer Lloyd Certification GmbH (GLC), Greenhouse Gas Services		
Client Carbon Asset Management Sweden AB	Client reference person Ms. Susanne Haefeli-Hestvik	
Summary:		
UNFCCC Ref.	3314	
Project Name:	Jilin Zhenlai Mali Wind Power Project	
Project Country:	China	
Sectoral Scope, Technical Area	CDM Sectoral Scope 1, Technical Area 1.2	
Methodology(ies) / Version(s):	ACM0002 version 9	
Project Size:	☒ Large Scale	☐ Small Scale
Number of verification:	2nd	
Dates of monitoring period (incl. both days)	2011-04-26 to 2012-12-31	
Verified emission reductions	133,808 t CO_2	
Included post registration changes	☐ yes ☒ no	
Project Assessment Team:	Technical Review Team:	Approval by:
Ruifeng Li Dong Yuan	Hang Zhou	Markus Weber
Date of this revision:	Revision No.	Number of pages
2013-04-03	05	34

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History of report revisions:

Rev.	Date	Person (short sign or name)	Function	Action
01	2013-03-10	Ruifeng Li Dong Yuan	Assessment team leader Auditor	Reporting
02	2013-03-18	Hang Zhou	Reviewer	TR comments
03	2013-03-21	Dong Yuan	Auditor	Report revision based on TR comments
04	2013-03-25	Hang Zhou	Reviewer	Minor wording revision
05	2013-04-03	Markus Weber	Final reviewer and approver	Final reviewed and approved

Abbreviations

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM-EB	CDM Executive Board (the board)
CER	Certified Emission Reduction
CL	Clarification request
CMP	Meeting of the Parties to the Kyoto Protocol
CO_2	Carbon dioxide
CO_{2eq}	Carbon dioxide equivalent
COP/MOP	The Conference of the Parties to the United Nations Framework Convention on Climate Change serving as the Meeting of the Parties to the Kyoto Protocol
DNA	Designated National Authority
DOE	Designated Operation Entity
ER	Emission Reduction
ETN	Electricity Transaction Note
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GLC	Germanischer Lloyd Certification GmbH
MP	Monitoring Plan
MR	Monitoring Report
PDD	Project Design Document
PPA	Power Purchase Agreement
PP	Project Participant
QA/QC	Quality Assurance / Quality Control
UNFCCC	United Nations Framework Convention on Climate Change
XLS	Emission Reduction Calculation Spread Sheet

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1 INTRODUCTION

Carbon Asset Management Sweden AB has commissioned the Germanischer Lloyd Certification GmbH (GLC) to carry out the 2nd verification of the project, Jilin Zhenlai Mali Wind Power Project, registered by the UNFCCC as CDM project "<3314>" with regard to the relevant requirements for CDM project activities. The verifiers have reviewed the implementation of the monitoring plan (MP) as described in the registered PDD /2/ and the Monitoring Report /4/, version 02, dated 2013-02-17.

GHG data for the monitoring period was verified in detailed manner applying the set of requirements, audit practices and principles as required under the Validation and Verification Standard /1/ of the UNFCCC. This report summarizes the findings and conclusions of the 2nd verification of the above mentioned UNFCCC registered project activity.

1.1 Objective

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

- that the project activity has been implemented and operated as per the registered PDD and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- that the monitoring report and other supporting documents provided are complete and verifiable and in accordance with applicable CDM requirements;
- that actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved methodology;
- that the data is recorded and stored as per the monitoring methodology.

1.2 Scope

The verification of this registered project is based on the validated project design document /2/, the monitoring report /4/, emission reduction calculation spread sheet /13/, supporting documents made available to the verifier and information collected through performing interviews and during the on-site assessment. Furthermore publicly available information was considered as far as available and required.
The verification is carried out on the basis of the following requirements, applicable for this project activity:

- Article 12 of the Kyoto Protocol /8/,
- guidelines for the implementation of Article 12 of the Kyoto Protocol as presented in the Marrakech Accords under decision 3/CMP.1 /9/ and subsequent decisions made by the Executive Board and COP/MOP,
- other relevant rules, including the host country legislation,
- CDM Validation and Verification Standard /1/,
- monitoring plan as given in the registered PDD /2/,
- Approved CDM Methodology "ACM0002" "version 9", "Consolidated methodology for grid-connected electricity generation from renewable resources".

2 VERIFICATION TEAM

2.1 Assessment Team

A competent team with relevant knowledge and experience in the specific sectoral scopes and project activity was appointed by GLC. Furthermore the appointment of the team takes into account the required knowledge of the host country and general project activity knowledge requirements for validating the project activity design and the relevant CERs will be achieved. The assessment team can be composed of an Assessment Team Leader (ATL), auditors (A) and host country or technical expert (E). Table 1 below shows the composition of the assessment team, the qualification of the team members and their functions.

Table 1: Verification team

Name	Function [1)]	Sectoral scope specific knowledge	Technical area specific knowledge	Local knowledge	Type of involvement				
					Desk review	On-site visit / interviews	Reporting	Supervision of work	Expert input
Ruifeng Li	ATL+ LE	X	X	X	X	X	X	X	X
Dong Yuan	A			X	X	X	X		

A	Auditor	FE	Financial expert	T-ATL	Trainee ATL
ATL	Assessment team leader	LE	Local expert	T-A	Trainee auditor
				TE	Technical expert

2.2 Technical Review Team and Approval

Before submission of the final validation report to the CDM EB of the UNFCCC, a technical review of the whole validation and the draft report was carried out by an appointed technical review (TR) team. The TR team is composed of persons competent to the technical area and project activity this CDM project falls under. Each person involved in the reviewer is independent to the validation assessment.

The complete assessment prepared by the validation team is checked, if required adjusted and finally confirmed by the TR process.
The TR team and the person responsible for approval of the report are found in the table below:

Table 2: Technical review team and approval

Name	Function [2)]	Technical area specific knowledge	Sectoral scope specific knowledge	Supervision of work
Hang Zhou	R+TE	X	X	
Markus Weber	AP+FR	X	X	X

AP Approver
FR Final reviewer
TE Technical expert
T-R Trainee reviewer
R Reviewer

3 METHODOLOGY

3.1 Verification Process

The verification process is based on the guidelines described in the Validation and Verification Standard. In addition to that standard auditing techniques have been applied. The verification team performs first a desk review, followed by an on-site visit to review the project realisation. The findings will be collected and described in a questionnaire. In case of lack of clarity or inconsistencies related findings will be raised. The next step is to close out the findings through direct communication with the PPs and finally prepare the final verification report. This verification report and other supporting documents then undergo a technical review by the "GLC GmbH" prior to the submission to the CDM-EB.

3.2 Desk review

During 2012-01-24 to 2012-01-25, GLC has conducted a desk review of all documents initially provided by the client and publicly available documents relevant for the verification. The main reviewed documents are listed below:

- The registered PDD, including the monitoring plan and the corresponding validation report/3/;
- Previous verification report/12/;
- The applied monitoring methodology/5/;
- Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board;
- Any other information and references relevant to the project activity's resulting emission reductions (e.g., IPCC reports, data on electricity generation in the national grid or laboratory analysis and national regulations).

3.3 On-site assessment

On 2013-01-28 and 2013-01-29, Mr. Ruifeng Li and Mr. Dong Yuan of GLC's verification team carried out an on-site visit.

The main tasks covered during the on-site visit include:

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

The main topics of the interviews and interviewed persons are summarized in the Table 3. The main topics of the interviews were:

- General aspects of the project
- Technical equipment and operation
- Changes since validation
- Monitoring and measurement equipment
- Remaining issues from validation
- Calibration procedures
- Quality management system
- Involved personnel and responsibilities
- Training and practice of the operational personnel
- Implementation of the monitoring plan
- Monitoring data management
- Data uncertainty and residual risks
- GHG calculation
- Procedural aspects of the verification
- Maintenance

Table 3: Interviewed persons

Name	Organization/Function
Mr. Haisong Song	Jilin Huaneng Renewable Energy Co., Ltd./ Deputy Director
Mr. Jiageng Yang	Jilin Huaneng Renewable Energy Co., Ltd./ Project Manager

Ms. Xia Wang	Sinocarbon Innovation & Investment Co., Ltd/ Project Manager
Mr. Shaofeng Jiang	Sinocarbon Innovation & Investment Co., Ltd/ Project Manager

3.4 Resolution of Findings and Reporting

On the basis of the desk review, the on-site visit, follow-up interviews and further background investigation the verification questionnaire is completed. In case any inconsistencies or lack of clarity were identified during the verification the team has raised a
Corrective Action Requests (CARs), if:

- the project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
- the CDM requirements have not been met;
- there is a risk that emission reductions cannot be monitored or calculated.

Clarification Request (CL), if:

- information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

In case the team has identified essential risks for further verifications or the actual status requires a special focus on this item for the next consecutive verification, or an adjustment of the monitoring plan is recommended a Forward Action Request (FAR) was raised.
All CARs, CLs and FARs raised have been send to the client with the request to address the findings. After the findings have been answered by the client in an appropriate manner, the CARs, CLs and FARs will closed out.

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

The questionnaire together with a general project and procedural description of the verification and a detailed list of the verification findings will form the draft verification report.

4 VERIFICATION REPORTING

4.1 Verification of Compliance

4.1.1 Compliance of the Project implementation in Accordance with the Registered Project Design Document

During the verification an on-site visit was carried out. Based on this on-site visit and the reviewed project documentation, the verification team confirms that the realized technology, the project equipment, as well as the monitoring and metering equipment, has been implemented and operated as described in the registered PDD/2/.

The Project is a newly built wind farm with designed capacity of 49.5MW, which is located at Zhenlai County, Baicheng City, Jilin Province of China. The central geographical coordinates of the project is longitude 123°08'09''E and latitude 45°49'38''N. During the on-site visit, the assessment team found that total 33 sets of 77/1500 type wind turbines manufactured by Xinjiang Goldwind Science& Technology Co., Ltd. and Sinovel Wind Co., Ltd. with a unit capacity of 1500 kW are selected for the project. Each wind turbine is installed along with a 0.65KV/35KV transformer. The electricity generated by the proposed project will be upgraded to 220kV via the domestic equipment in the power plant, and then connected to Jilin Electric Power Co., Ltd. on behalf of the Northeast China Power Grid (NECPG) as per the signed PPA/14/. Name plates of the wind turbines and generators were checked by the assessment team/25/, which are in accordance with the data shown in the main equipment contracts/49/ provided by the project owner Therefore, GLC is able to confirm that all facilities and equipments as described in the registered PDD/2/ have been installed and the total installed capacity, all technical parameters of wind turbines and generators are consistent with the registered PDD/2/. The technology applied in the project activity is to convert wind energy into electricity using wind turbines and generators, which is a course of transformation from kinetic energy into mechanical energy, then into electrical energy. When the wind blows to the wind turbines, the wind blades are driven to rotate by kinetic energy and then the speed of rotation is increased to generate electricity by generators.

The project was implemented and commissioned on 2009-12-29/45/, which is prior to its CDM registration on 2010-07-19, therefore, only the emission reductions occurred after this date can be claimed. The selected monitoring period from 2011-04-26 to 2012-12-31 is within the first crediting period of 2010-07-19 to 2017-07-18. Based on daily operation logs/16/ review, GLC found that no outstanding events of situations had occurred during this monitoring period.

Based on this on-site visit and the reviewed project documentation, the assessment team confirms that the realized technology, the project equipments, as well as the monitoring and metering equipments, have been implemented and operated as described in the registered PDD/2/.

However, four findings were issued due to the inconsistencies between project implementation and monitoring report.

CAR 1
According to the Guidelines: Completing the monitoring report form, Version 3.2, “For the description of the installed technology(ies), technical process and equipment, include diagrams shall be listed in B.1 of the monitoring report”, thus revision is requested.

CAR 2
The calibration information of the main energy meter with serial number 78040208 and backup energy meter with serial number 78040191 in 2010 should be provided.

CAR 3
The calibration information of the main energy meter with serial number 96917077 and backup energy meter with serial number 96917078 is not in consist with those presented in the calibration records based on on-site inspection, revision is requested.

CAR 4
The monthly electricity sales receipts for imported and exported electricity should be provided to DOE.

PP has made the required corrections or supplementary information in the revised monitoring report version 02/4/. The relevant calibration information and evidence, as well as the required monthly electricity sales receipts are provided later. GLC hereby confirms that the required actions have been done and reflect the real situation as observed from on-site inspection. Thus the above mentioned CARs have been closed out (for more detailed information, please refer to Annex A).

4.1.2 Compliance of the Monitoring Plan with the Monitoring Methodology Including Applicable Tools

During the document review and furthermore during the on-site visit, the assessment team has reviewed the registered monitoring plan and compared it with the monitoring methodology to verify their compliance. Based on this review, the assessment team confirms that the monitoring plan of the registered PDD/2/ is in compliance with the monitoring methodology and tools applied to this project/5//27/.

4.1.3 Compliance of Monitoring Activities with the Registered Monitoring Plan

During the verification, an on-site visit was carried out. On the basis of this on-site visit and the reviewed project documentation, the verification team confirms that the project was implemented as described in the monitoring plan of the registered PDD/2/.

During this monitoring period, a CDM group was established by Jilin Huaneng Renewable Energy Co., Ltd. to carry out the monitoring work. The plant manager of wind farm is responsible to record and collect the information and data required by the monitoring plan. And the required information and data are documented and sent to the CDM officer monthly. The CDM officer works out the monitoring plan and verifies the metering and recording, meanwhile collects all the electricity sales/purchase receipts, and reports to the General Manager of the company. The General Manager of the company makes the confirmations on monitoring calculation data and reports. Members of CDM group got well trained before start the monitoring work. The training records and staff competence certificates/23/ of the CDM group were checked by the assessment team, on which the assignment and responsibility of each person was clearly indicated. The CDM monitoring management manual/22/ was also provide to GLC, which could ensure all CDM group members understand this work clearly. Therefore, GLC is able to confirm the monitoring organization is consistent with the registered PDD/2/.

According to the Power Purchasing Agreement (PPA)/14/ signed between project owner and Jilin Electric Power Co., Ltd., three bi-directional electricity meters (main meter, backup meter and the auxiliary meter) and control equipments should be installed at output of the main transformer in the wind power

plant to monitor electricity from and to the NECPG. During on-site visit, the assessment found that both main meter and backup meter are installed at outlet of the main transformer in the wind power plant, operated and maintained by Jilin Electric Power Co., Ltd; while the auxiliary meter is installed at the inlet side of the backup line in the wind power plant, operated and maintained by Jilin Electric Power Co., Ltd. Electricity generated is sent to NECPG via the local substation, which is consistent with the monitoring plan of registered PDD/2/. Accuracy of both main meter and backup meter is 0.2S, and auxiliary meter is 0.5S, which in line with the registered PDD/2/ and the national requirement of host country (JJG596-99)/46/. When the main meter is found out of action, meter reading of the backup meter will be adopted for electricity calculation (both imported and exported), after take the transmission loss into consideration. In case of emergency, the back up line will start up, and the auxiliary meter will record relevant auxiliary electricity imported from the grid. The technical specifications of all the electricity meters are in line with the National Standardization Management Committee: Verification regulation of electronic electric energy meter JJG 596-1999/46/ and DL/T448-2000/28/. Therefore, GLC is able to confirm that the installation of monitoring equipments, meter accuracy, technical specifications of the electricity meters, and grid connection of the project is in line with the registered PDD/2/ and relevant requirements.

Serial number of the main meter is 78040208, which is later replaced by a new one with serial number 96917077 on 2011-11-24/33//34/. The calibrations of the main meter with serial number 78040208 were conducted on 2010-07-06/29/ and 2011-07-05/30/, and for the main meter with serial number 96917077, it's on 2011-11-24/31/ and 2012-03-05/31/, which covered this monitoring period.

Serial number of the backup meter is 78040191, which is later replaced by a new one with serial number 96917078 on 2011-11-24/33//39/. The calibrations of the backup meter with serial number 78040191 were conducted on 2010-07-06/35/ and 2011-07-05/36/, and for the main meter with serial number 96917078, it's on 2011-11-24/37/ and 2012-03-05/38/, which covered this monitoring period.

Serial number of the auxiliary meter is 0600193049. The calibrations of the auxiliary meter were conducted on 2011-01-02/40/, 2011-12-31/41/ and 2012-12-30/42/, which covered this monitoring period.

The calibration frequency of main meters, backup meters and auxiliary meter is annually, which is consistent with the requirement of ACM0002 Version 9/5/ and registered PDD/2/. Calibration agency of the main meter and backup meter is Jilin Electric Power Research Institute Company Limited/29//30//31//32//35//36//37//38/. Calibration agency of the auxiliary meter is Electric Energy Measurement Center of Baicheng City/40//41//42/. The assessment team checked the Certificates of Metrological Authorization/43//44/ of the calibration agencies and confirm the calibration agencies are qualified for the calibration of electricity meter with the accuracy of 0.2S and 0.5S, and the accreditations are valid during this monitoring period. Therefore, GLC is able to confirm that calibration and maintenance of the electricity meters of the project as appropriate.

The electricity generated by the project is continuously monitored, hourly recorded manually by project personnel/16/. The electricity consumed by the project is also continuously monitored and monthly recorded manually by the project personnel/16/. At 00:00 of the 25th of each month, the representatives of the grid company and the project owner jointly record the readings of the main meter/18/ and the auxiliary meter/18/, while at 00:00 of the 20th of each month, the representatives of the grid company and the project owner jointly record the readings of the backup meter/18/. The recording frequency is consistent with the requirement of PPA/14/. Base on the meter reading, the monthly electricity is calculated..

According to the requirement in the methodology ACM0002 (version 9)/5/, the meters' readings are continuously measured and at least monthly recorded. Therefore GLC is able to confirm that the monitoring frequency meets the requirement of methodology and is consistent with registered PDD/2/.

Every month the grid company inform the project owner about the meter readings of all the meters and calculate the electricity from and to the grid base on the reading of main meter/18/ and the auxiliary meter/18/. Base on the meter reading of main meter and auxiliary meter, the grid company issues the Electricity Transaction Notes (ETN)/17/ on monthly basis to the project owner. Based on these ETNs/17/, the project owner prepares the monthly electricity sales receipts/20/ which will be provided to the grid company. Meter readings of electricity imported by this project via the main meter and auxiliary meter /18/ will also be supplied to project owner, and based on the meter readings, the grid company prepares the monthly electricity purchase receipts/21/ which will be provide to the project owner.

During the on-site visit, the assessment team noticed that the monthly electricity exported and imported is recorded jointly by both representatives and project owner at an agreed fixed time point, but in January 2012, the grid company recorded the exported electricity through the main line and imported electricity through backup line 5 days earlier (on 19th January, 2012) than as usual (24th every month), that's because of vacation of Chinese Spring Festival. Based on review of daily operation logs/16/ and interview with the wind power plant staff, the assessment team found it reliable and reasonable.

As the electricity sales receipts are issued periodically for a whole month (from 00:00 of 25th to 24:00 of 24th next month) by both parties, the data of electricity exported by the project to the grid on 2011-04-25 has to be deducted for emission reduction calculation from the period from 2011-04-25 to 2011-05-24 (a whole month shown on the electricity sales receipt and ETN). Based on review of the daily operation logs/16/ and interview with the wind power plant staff, the assessment team found that there was no electricity generation on the day 2011-04-25 due to no wind on that day, thus the data of electricity exported by the project to the grid shown on the electricity sales receipts/20/ and ETNs/17/ for the period from 2011-04-25 to 2011-05-24 could be used for emission reduction calculation appropriately and directly for the period from 2011-04-26 to 2011-05-24 within this monitoring period.

For the electricity imported through the main line by the project from the grid, the data for the period from 2010-04-20 to 2011-05-19 based on the meter readings from the main meter has already been used for emission reduction calculation during the 1st monitoring period from 2010-07-19 to 2011-04-25 for conservative consideration/12/. Thus, the data will not be re-calculated for this monitoring period, and it's considered as zero in the relevant tables and calculations in the monitoring report/4/ and emission reduction calculation spreadsheet/13/.

For the electricity imported through the backup line by the project from the grid, the data on 2011-04-25 based on meter readings from the auxiliary meter has also already been used for emission reduction calculation during the 1st monitoring period. But as mentioned above, the relevant electricity purchase receipts are also issued periodically for a whole month (00:00 of 20th to 24:00 of 19th next month) by both parties, thus the data on that day shall be theoretically deducted from the amount shown on relevant electricity purchase receipts (from 2011-04-25 to 2011-05-24) and ETNs(from 2011-04-25 to 2011-05-24) for emission reduction calculation. However, as the data on that day could not be separated from the amount the whole month on relevant receipts/21/ and ETNs/17/, the project owner decided to include the amount of imported electricity by the project from the grid on 2011-04-25 for

emission reduction calculation. As this calculation method will generate less CERs, the assessment team considers it conservative for emission reduction calculation, thus it's reasonable and acceptable.

Moreover, as this monitoring period ends at 24:00 of 2012-12-31, the electricity meter readings for all the three meters in the project at 24:00, 2012-12-31 has been provided by Jilin Power Supply Trade Center/19/, which is assessed as valid and reliable.

During the on-site inspection, GLC verified all monthly readings of exported and imported electricity/18/, daily operation logs/16/, ETNs of imported and exported electricity/17/, and all available sales receipts/20/ and electricity purchase receipts/21/ for the period from April 2011 to December 2012, which are assured as valid and reliable.

On the basis of this on-site visit and the reviewed project documentation, the verification team confirms that the project was implemented as described in the registered PDD/2/ and the applied methodology/5/.

The application of the monitoring plan for the verification period is summarized in this section. The information flow and the values in the monitoring report were verified as follows:

<table>
<tr><th></th><th>Assessment activities</th></tr>
<tr><td>Data / Parameter
(as per monitoring plan in the PDD):</td><td>$EG_{out, y}$</td></tr>
<tr><td>Type of monitoring equipment:</td><td>The electricity generation is measured by a main electricity meter with serial number 78040208 (which was later replaced by a new electricity meter with serial number 96917077 on 2011-11-24) and a backup electricity meter with serial number 78040191 (which was later replaced by a new electricity meter with serial number 96917078 on 2011-11-24), which are installed and maintained by Jilin Electric Power Co., Ltd.

The models and the technical characteristics of the electricity meters are summarized as below:

Main Meter 1:
<table>
<tr><th>Specification</th><th>Explanation</th></tr>
<tr><td>Brand Name</td><td>Landis+GyrE650</td></tr>
<tr><td>Type</td><td>ZMD402CT44</td></tr>
<tr><td>Serial No.</td><td>78040208</td></tr>
<tr><td>Accuracy</td><td>0.2S</td></tr>
</table>
Main Meter 2:
<table>
<tr><th>Specification</th><th>Explanation</th></tr>
<tr><td>Brand Name</td><td>Landis+GyrE650</td></tr>
<tr><td>Type</td><td>ZMD402CT44</td></tr>
<tr><td>Serial No.</td><td>96917077</td></tr>
<tr><td>Accuracy</td><td>0.2S</td></tr>
</table></td></tr>
</table>

	Backup Meter 1: Specification / Explanation Brand Name: Landis+GyrE650 Type: ZMD402CT44 Serial No.: 78040191 Accuracy: 0.2S Backup Meter 2: Specification / Explanation Brand Name: Landis+GyrE650 Type: ZMD402CT44 Serial No.: 96917078 Accuracy: 0.2S
Verification of data generation:	Monthly report to grid company
Measuring frequency:	Continuous monitoring and hourly recording
Is measuring frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	The measurement frequency of the above four meters is continuous monitoring and hourly recording which is in accordance with the monitoring plan of the registered PDD and the applied monitoring methodology.
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, does the monitoring equipment represent good monitoring practise?	Yes, the accuracy of the four meters is 0.2S, which is in line with the PDD.
Verification of data aggregation:	Data are collected and stored in the form of daily operation log (paper format, hand-written)/16/. At 00:00, on 25thof every month, the representatives of the grid company and project owner jointly record the readings from the meters. All the daily operation logs/16/ with hourly records have been submitted to GLC and are verified as reliable. The verification team also compared the value of daily operation logs/16/ against that of reported aggregated monthly statistics form/18/ and confirmed the consistency. The aggregation was found to be OK.
Verification of data recording:	Hourly recording, GLC verified the operational data were recorded manually by on duty staff of the project in a paper document/16/ (operation log).
Verification of data calculation and reporting	The electricity export and import was reported to the plant manager every day. The data from the main meters with serial No. 78040208 and No. 96917077 is correctly used for ER calculation.
Reporting frequency:	The monthly values will be reported to grid company every month.
Is reporting frequency in accordance with the	Yes, the reporting frequency is in accordance with the

monitoring plan and monitoring methodology? (Yes / No)	monitoring plan and monitoring methodology.
If applicable, has the reported data been cross-checked with other available data?	Electricity exported and imported data records were found to be adequate quality. The verification team has cross checked the electricity sales receipts/20/ and ETNs/17/ with the monthly meter readings/18/. Based on review of those documents, GLC found that for electricity exported from the project to the grid, the minimum data between the meter readings and electricity sales receipts was chosen for emission reduction calculation, which is considered as more conservative and reasonable. Furthermore, the data during 2012-12-25 to 2012-12-31/19/ provided by Jilin Power Supply Trade Center is also a cross-check evidence. Thus the verification team is convinced that the electricity generation and supply data are reliable.
How were the values in the monitoring report verified?	GLC has reviewed the daily operation logs/16/ and cross checked with the ETNs/17/ and sales receipts/20/, and confirm the values are reliable. Conservative values were adopted for the emission reduction calculation/13/.
Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, through site visiting and document review GLC can confirm that the data management ensures correct transfer of data and reporting of emission reductions and necessary QA/QC processes are in place.

	Assessment activities
Data / Parameter (as per monitoring plan in the PDD):	$EG_{in, y}$
Type of monitoring equipment:	The electricity imported is measured by a main electricity meter with serial number 78040208 (which was later replaced by a new electricity meter with serial number 96917077 on 2011-11-24) and a backup electricity meter with serial number 78040191 (which was later replaced by a new electricity meter with serial number 96917078 on 2011-11-24), which are installed and maintained by Jilin Electric Power Co., Ltd. The models and the technical characteristics of the electricity meters are summarized as below: Main Meter 1:

Specification	Explanation
Brand Name	Landis+GyrE650
Type	ZMD402CT44
Serial No.	78040208

<table>
<tr><td></td><td>
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<tr><td>Accuracy</td><td>0.2S</td></tr>
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Main Meter 2:
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<tr><td>Accuracy</td><td>0.2S</td></tr>
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Backup Meter 1:
<table>
<tr><th>Specification</th><th>Explanation</th></tr>
<tr><td>Brand Name</td><td>Landis+GyrE650</td></tr>
<tr><td>Type</td><td>ZMD402CT44</td></tr>
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<tr><td>Brand Name</td><td>Landis+GyrE650</td></tr>
<tr><td>Type</td><td>ZMD402CT44</td></tr>
<tr><td>Serial No.</td><td>96917078</td></tr>
<tr><td>Accuracy</td><td>0.2S</td></tr>
</table>
</td></tr>
<tr><td>Verification of data generation:</td><td>Monthly report to grid company</td></tr>
<tr><td>Measuring frequency:</td><td>Continuous monitoring and monthly recording</td></tr>
<tr><td>Is measuring frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)</td><td>The measurement frequency of the above four meters is continuous monitoring and monthly recording which is in accordance with the monitoring plan of the registered PDD and the applied monitoring methodology.</td></tr>
<tr><td>Is accuracy of the monitoring equipment as stated in the PDD?
If the PDD does not specify the accuracy of the monitoring equipment, does the monitoring equipment represent good monitoring practise?</td><td>Yes, the accuracy of the four meters is 0.2S, which is in line with the PDD.</td></tr>
<tr><td>Verification of data aggregation:</td><td>Data are collected and stored in the form of daily operation log (paper format, hand-written)/16/. At 00:00, on 20th of every month, the representatives of the grid company and project owner jointly record the readings from the meters.
All the daily operation logs/16/ with monthly records have been submitted to GLC and are verified as reliable.
The verification team also compared the value of daily operation logs/16/ against that of reported aggregated monthly statistics form/18/ and confirmed the consistency.
The aggregation was found to be OK.</td></tr>
<tr><td>Verification of data recording:</td><td>Monthly recording, GLC verified the operational data</td></tr>
</table>

	were recorded manually by on duty staff of the project in a paper document/16/ (operation log).
Verification of data calculation and reporting	The electricity export and import was reported to the plant manager every day. The data from the main meters with serial No. 78040208 and No. 96917077 is correctly used for ER calculation.
Reporting frequency:	The monthly values will be reported to grid company every month.
Is reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the reporting frequency is in accordance with the monitoring plan and monitoring methodology.
If applicable, has the reported data been cross-checked with other available data?	Electricity exported and imported data records were found to be adequate quality. The verification team has cross checked the electricity purchase receipts/21/ and ETNs/17/ with the monthly meter readings/18/. Based on review of those documents, GLC found that for the electricity imported from the grid through the main line, the maximum data between the meter readings and electricity purchase receipts is used for emission reduction calculation, which is considered as more conservative and reasonable. Furthermore, the data during 2012-12-25 to 2012-12-31/19/ provided by Jilin Power Supply Trade Center is also a cross-check evidence. Thus the verification team is convinced that the electricity generation and supply data are reliable.
How were the values in the monitoring report verified?	GLC has reviewed the daily operation logs/16/ and cross checked with the ETNs/17/ and purchase receipts/21/, and confirm the values are realiable. Conservative values were adopted for the emission reduction calculation/13/.
Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, through site visiting and document review GLC can confirm that the data management ensures correct transfer of data and reporting of emission reductions and necessary QA/QC processes are in place.

	Assessment activities
Data / Parameter (as per monitoring plan in the PDD):	$EG_{aux,\,y}$
Type of monitoring equipment:	The electricity imported from the backup line is measured by an auxiliary meter with serial number 0600193049 which are installed and maintained by Jilin Electric Power Co., Ltd. The models and the technical characteristics of the electricity meters are summarized as below:

	Auxiliary Meter: Specification: Explanation Brand Name: Linyang Type: DSSD71 Serial No.: 0600193049 Accuracy: 0.5S
Verification of data generation:	Monthly report to grid company
Measuring frequency:	Continuous monitoring and monthly recording
Is measuring frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	The measurement frequency of this meter is continuous monitoring and monthly recording which is in accordance with the monitoring plan of the registered PDD and the applied monitoring methodology.
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, does the monitoring equipment represent good monitoring practise?	Yes, the accuracy of the four meters is 0.5S, which is in line with the PDD.
Verification of data aggregation:	Data are collected and stored in the form of daily operation log (paper format, hand-written)/16/. At 00:00, on 25thof every month, the representatives of the grid company and project owner jointly record the readings from the meters. All the daily operation logs/16/ with monthly records have been submitted to GLC and are verified as reliable. The verification team also compared the value of daily operation logs/16/ against that of reported aggregated monthly statistics form/18/ and confirmed the consistency. The aggregation was found to be OK.
Verification of data recording:	Monthly recording, GLC verified the operational data were recorded manually by on duty staff of the project in a paper document/16/ (operation log).
Verification of data calculation and reporting	The electricity export and import was reported to the plant manager every day. The data from the auxiliary meter is correctly used for ER calculation.
Reporting frequency:	The monthly values will be reported to grid company every month.
Is reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the reporting frequency is in accordance with the monitoring plan and monitoring methodology.
If applicable, has the reported data been cross-checked with other available data?	Electricity exported and imported data records were found to be adequate quality. The verification team has cross checked the electricity purchase receipts/21/ and ETNs/17/ with the monthly meter readings/18/. Based on review of those documents, GLC found that for the electricity imported from the grid through the backup

	line, the maximum data between the meter readings and electricity purchase receipts is used for emission reduction calculation, which is considered as more conservative and reasonable. Furthermore, the data during 2012-12-25 to 2012-12-31/19/ provided by Jilin Power Supply Trade Center is also a cross-check evidence. Thus the verification team is convinced that the electricity generation and supply data are reliable.
How were the values in the monitoring report verified?	GLC has reviewed the daily operation logs/16/ and cross checked with the ETNs/17/ and purchase receipts/21/, and confirm the values are reliable. Conservative values were adopted for the emission reduction calculation/13/.
Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, through site visiting and document review GLC can confirm that the data management ensures correct transfer of data and reporting of emission reductions and necessary QA/QC processes are in place.

Thus GLC confirms that

- the monitoring activities comply with the monitoring plan of the registered PDD.
- all parameters that are baseline, project and leakage emission parameters are monitored as described in the registered monitoring plan.
- the frequency of monitoring and the accuracy of the measurement equipments are in line with the registered monitoring plan.

Based on the document review and on-site visit interviews, GLC verifies that the registered monitoring plan is implemented as planned and confirms that the operational and management system is implemented as per the registered monitoring plan.

During the on-site visit the verification team was able to verify that monitoring organization structure/22/ is in line with monitoring plan of the registered PDD/2/ and monitoring report/4/. Moreover, the verification team has interviewed the 4 personnel and verified certain documents, like daily operation log/16/, CDM training records/23/, monthly statistics of electricity exported and imported/18/ and systems of the company. An operational structure was established with responsibilities clearly identified. A monitoring mechanism was established and working properly.

GLC was able to verify that authorities and responsibilities for monitoring and reporting of all data related to the emission reductions were clearly defined for this monitoring period. Moreover, all project related equipments were confirmed to be operated by qualified and trained staff. The frequency of monitoring, measurement, as well as applicable calibrations and reporting details were conducted as outlined in the monitoring plan available in the registered PDD/2/.

The project is fed into the Northeast China Power Grid (NECPG) and an agreement between the project owner and the grid company provides all relevant regulations for the connection of the power plant to the grid/14/. During the on-site visit GLC was able to verify that the monitoring equipment is implemented as described in the validated registered PDD/2/. Main monitoring equipments consist main meter,

backup meter and auxiliary meter. Technical specifications of the three meters are in line with the national standard/28//45/. The net electricity supplied to the grid by the project will be calculated as: electricity exported to the grid minus the electricity imported from the grid via main line and the auxiliary electricity imported from the grid through back up line in case of emergency by the project. GLC is able to confirm the location of monitoring equipments and net electricity to the grid is consistent with the registered PDD/2/.

4.1.4 Compliance with the Calibration Frequency Requirements for Measuring Instruments

	Assessment activities
Data / Parameter (as per monitoring plan in the PDD):	$EG_{out,y}$
Calibration frequency /interval:	The calibration frequency of the electricity meters is once a year in order to ensure accuracy.
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, does the selected frequency represent good monitoring practise?	The calibration interval in line with the monitoring plan of the PDD
Company performing the calibration:	Jilin Electric Power Research Institute Company Limited Certificate of Metrological Authorization for Jilin Electric Power Research Institute Company Limited, issued by the Quality and Technical Supervision Bureau of Jilin Province on 2009-02-31, is valid until 2013-12-30.
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes. The calibration reports of the main meter and backup meter/29//30//31//32//35//36//37//38/cover this monitoring period and confirmed the proper functioning of the electricity meters.
Is(are) calibration(s) valid for the whole reporting period?	Yes. The calibration of the main meter and backup meter was done annually. Calibration reports/29//30//31//32//35//36//37//38/ for them covered this monitoring period.

	Assessment activities
Data / Parameter (as per monitoring plan in the PDD):	$EG_{in,y}$
Calibration frequency /interval:	The calibration frequency of the electricity meters is once a year in order to ensure accuracy.
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, does the selected frequency represent good monitoring practise?	The calibration interval in line with the monitoring plan of the PDD

Company performing the calibration:	Jilin Electric Power Research Institute Company Limited Certificate of Metrological Authorization for Jilin Electric Power Research Institute Company Limited, issued by the Quality and Technical Supervision Bureau of Jilin Province on 2009-02-31, is valid until 2013-12-30.
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes. The calibration reports of the main meter and backup meter/29//30//31//32//35//36//37//38/cover this monitoring period and confirmed the proper functioning of the electricity meters.
Is(are) calibration(s) valid for the whole reporting period?	Yes. The calibration of the main meter and backup meter was done annually. Calibration reports/29//30//31//32//35//36//37//38/ for them covered this monitoring period.

	Assessment activities
Data / Parameter (as per monitoring plan in the PDD):	$EG_{aux,y}$
Calibration frequency /interval:	The calibration frequency of the electricity meter is once a year in order to ensure accuracy.
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, does the selected frequency represent good monitoring practise?	The calibration interval in line with the monitoring plan of the PDD
Company performing the calibration:	Electric Energy Measurement Center of Baicheng City, issued by the Quality and Technical Supervision Bureau of Jilin Province. Certificate of Metrological Authorization for Electric Energy Measurement Center of Baicheng City, issued by the Quality and Technical Supervision Bureau of Jilin Province on 2005-07-31, is valid until 2013-12-31
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes. The calibration reports of the auxiliary meter /40//41//42/ covers this monitoring period and confirmed the proper functioning of the electricity meters.
Is(are) calibration(s) valid for the whole reporting period?	Yes. The calibration of the main meter and backup meter was done annually. Calibration reports/40//41//42/ for them covered this monitoring period.

Table 4: Delayed calibrations

Parameter	Parameter ID	Measured value	Error identified during delayed calibration	Corrected values
NA	NA	NA	NA	NA

4.1.5 Assessment of Data and Calculation of Emission Reductions

GHG emission reductions were correctly calculated in the latest version of the monitoring report/4/ dated 2013-02-17 for the monitoring period from 2011-04-26 to 2012-12-31 using the net electricity exported by the project to the grid, and the ex-ante determined grid emission factor/26/ of Northeast China Power Grid of 1.143775 tCO_2e/MWh which was calculated ex-ante as a Combined Margin, according to the baseline methodology ACM0002/5/ and the latest version of the Tool to calculate the emission factor for an electricity system/27/. The electricity exported to the grid during this monitoring period is 117739.33 MWh, while the electricity imported from the grid through the main line is 716.05 MWh and through the backup line 34.83 MWh. Therefore, the net electricity delivered to the grid is 116,988.45 MWh and the total reported emission reductions for the displacement of grid electricity is 133,808 tCO_2e for this monitoring period.

Electricity exported and imported data records were found to be adequate quality. The verification team has cross checked the electricity sales/purchase receipts/20//21/ and ETNs/17/ with the monthly meter readings/18/. Based on review of those documents, GLC found that for electricity exported from the project to the grid, the minimum data between the meter readings and electricity sales receipts was chosen for emission reduction calculation, and for electricity imported from the grid and from back-up line, the maximum data between the meter readings and electricity purchase receipts is used, which is considered as more conservative and reasonable. Thus the verification team is convinced that the electricity generation and supply data are reliable.

It was verified in the course of this verification that the above mentioned methodology has been correctly and accurately applied in calculating the total emission reductions and the emission reduction calculation is deemed accurate. All formulae and calculations in the monitoring report/4/ and emission reduction calculation sheet/13/ are in line with the methodology ACM0002, version 9/5/.

By checking publicly available sources it has been verified that the applied emission factors, IPCC default values and other reference values were applied correctly. EF, which is CO_2 emission factor of the Northeast China Power Grid (NECPG) used for emission reduction calculation. The EF is 1.143775 tCO_2e/MWh which is defined ex-ante and published by Chinese DNA. The GLC confirms that the IPCC default values/7/ are correctly applied and other values from China Energy Statistical Yearbook/47/ and China Electric Power Yearbook/48/ also are correctly applied in the registered PDD/2/.

As a conclusion, GLC thus confirms that the reported emission reductions for monitoring period from 2011-04-26 to 2012-12-31 were determined in a transparent, correct and consistent manner, and in accordance with all measurement, reporting and calculation requirements of the monitoring plan of the registered PDD/2/, Monitoring Methodology ACM0002/5/ and of all applicable CDM tools. GLC thus confirms that, as presented in the latest version of the summarized emission reduction spreadsheet/13/ and Monitoring Report/4/, the project has achieved GHG emission reductions as follows:

Emission reductions for the monitoring period from 2011-04-26 to 2012-12-31:	133,808 tCO_2

The emission reductions being claimed during this monitoring period 2011-04-26 to 2012-12-31 are

nearly 31.61% less than the estimated emission reductions in the registered PDD, as given in the table below:

Emission Reductions	As per PDD	As per Monitoring report	% Deviation (+/-) of MR from PDD
Value (t CO_2e)	195,667 (614 days)	133,808 (614 days)	- 31.61

In summary, ETNs[17] and electricity sale receipts[20] valid for the monitoring period were made available and assessed by GLC as evidence to determine emission reductions. Therefore GLC is able to confirm that the low emission reduction amount during this monitoring period is reasonable.

4.2 Post Registration Changes

This assessment:

☒ Does not include any post registration changes and therefore this section is not applicable to this project activity.

☐ Includes changes as part of the request for issuance. The assessment of the changes is done in a separated document.

☐ Includes changes that required prior approval of the Board. The assessment of the changes was done in a separated document.

5 VERIFICATION STATEMENT

Germanischer Lloyd Certification GmbH (GLC) has performed the 2nd verification of the project: Jilin Zhenlai Mali Wind Power Project, with regard to the relevant requirements for CDM project activities. The project reduces GHG emissions due to the wind resources to generate electricity which would otherwise have been produced by fossil fuel-fired power plants. This verification covers the period from 2011-04-26 to 2012-12-31(including both days).

It is GLC's responsibility to express an independent verification statement on the reported GHG emission reductions from the project. GLC does not express any opinion on the selected baseline scenario or on the validated and registered PDD. GLC conducted the verification on the basis of the monitoring methodology ACM0002, version 9, the monitoring plan included in the PDD of the project and the monitoring report of Jilin Zhenlai Mali Wind Power Project. The verification included:

i) checking whether the design of the project is implemented and installed as planned and described in the registered project design document;

ii) checking whether the provisions of the monitoring methodology and the monitoring plan in the PDD were consistently and appropriately applied

iii) the collection of evidence supporting the reported data.

iv) checking whether the installed equipment essential for measuring parameters required for calculating emission reductions are calibrated appropriately

GLC's verification approach draws on an understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. GLC planned and performed the verification by obtaining evidence and other information and explanations that GLC considers necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

In GLC's opinion, the GHG emissions reduction for the Jilin Zhenlai Mali Wind Power Project as reported in the final Monitoring Report are calculated without considerable misstatements in a conservative and appropriate manner. The GHG emission reductions were correctly calculated on the basis of the approved monitoring methodology mentioned above and the monitoring plan contained in the validated Project Design Document for the project.

Germanischer Lloyd Certification GmbH herewith confirms that the project has achieved emission reductions in the above mentioned reporting period as follows:

Emission reductions: 133,808 t CO_{2e}

2013-04-03

Germanischer Lloyd
Certification

Markus Weber

6 REFERENCES

Reference	Author: Title, version, date of issue
/1/	CDM-EB: Clean Development Mechanism Validation and Verification Standard (version 03.0)
/2/	Jilin Huaneng Renewable Energy Co., Ltd.: Project Design Document for CDM project: "<Jilin Zhenlai Mali Wind Power Project>" version 03, dated 2009-12-11
/3/	TÜV NORD JI/CDM Certification Program (CP): Validation Report for CDM project "<Jilin Zhenlai Mali Wind Power Project>" version 0, dated 2010-02-08
/4/	Jilin Huaneng Renewable Energy Co., Ltd.: Monitoring Report for CDM project "<Jilin Zhenlai Mali Wind Power Project>" version 02, dated 2013-02-17
/5/	CDM-EB: Approved CDM Methodology ACM0002, version 9: "<Consolidated methodology for grid-connected electricity generation from renewable sources>"
/6/	Germanischer Lloyd Certification GmbH CDM GHG Services Manual (incl. procedures and forms)
/7/	IPCC: 2006 IPCC Guidelines for National Greenhouse Gas Inventories: work book
/8/	UNFCCC: Kyoto Protocol to the United Nations Framework Convention on Climate Change (1998)
/9/	UNFCCC: Decision 3/CMP. 1 (Marrakesh – Accords)
/10/	CDM-EB54-A34-GUID: Guideline for Completing the monitoring report form, version 03.2
/11/	CDM-EB65-A05-STAN: Clean development mechanism project standard, version 02.1
/12/	Det Norske Veritas (DNV): Verification/Certification Report for Jilin Zhenlai Mali Wind Power Project in China, verification period: 2010-07-19 to 2011-04-25, Report No. 2011-9346, version 01, dated 2011-05-26
/13/	Jilin Huaneng Renewable Energy Co., Ltd.: Emission reduction calculation spreadsheet, version 02, dated 2013-02-19
/14/	Jilin Huaneng Renewable Energy Co., Ltd.: Power Purchase Agreement signed with Jilin Electric Power Co., Ltd, dated 2011-04-19 and 2012-01-01
/15/	Jilin Huaneng Renewable Energy Co., Ltd.: The construction joint inspection report, issued by Huaneng Jilin Power Co., Ltd., dated 2010-03-24
/16/	Jilin Huaneng Renewable Energy Co., Ltd.: Daily operation log with hourly and monthly record for all meters (hand-written)
/17/	Jilin Huaneng Renewable Energy Co., Ltd.: Electricity Transaction Notes (ETN) for electricity exported and

	imported, issued by Jilin Power Supply Trade Center, from April 2011 to December 2012
/18/	Jilin Huaneng Renewable Energy Co., Ltd.: Monthly statistics form of electricity exported and imported from 2011-04-25, 00:00 to 2012-12-31, 24:00
/19/	Electricity meters reading proof for all meters in Zhenlai Mali Wind Power Plant at 24:00, 2012-12-31, issued by Jilin Power Supply Trade Center, dated 2013-01-04
/20/	Jilin Huaneng Renewable Energy Co., Ltd.: Monthly Electricity sales receipt from April 2011 to December 2012
/21/	Jilin Huaneng Renewable Energy Co., Ltd.: Monthly Electricity purchase receipt from April 2011 to December 2012
/22/	Jilin Huaneng Renewable Energy Co., Ltd.: CDM Monitoring Management Manual
/23/	Jilin Huaneng Renewable Energy Co., Ltd.: Operation and Maintenance Training Records and Staff Competence Certificates
/24/	Jilin Huaneng Renewable Energy Co., Ltd.: Layout of monitoring meters
/25/	On-site picture: Power house, technical specifications of wind turbines, control centers, electricity meters
/26/	Chinese National Development and Reform Commission (NDRC, Chinese DNA): Notification Upon Baseline Emission Factor in China, dated 2008-12-30, http://cdm.ccchina.gov.cn/WebSite/CDM/UpFile/2008/20081230102527637.pdf
/27/	CDM-EB: Approved Methodology Tool: version 02“< Tool to calculate the emission factor for an electricity system>” EB50 Annex 14.
/28/	National Standard: Technical Administrative Code of Electric Energy Metering DL/T448-2000
/29/	Calibration Report of monitored meter with serial number 78040208, issued by Jilin Electric Power Research Institute Company Limited, Certificated No. 2010080232, dated 2010-07-06, valid from 2010-07-06 to 2011-07-05
/30/	Calibration Report of monitored meter with serial number 78040208, issued by Jilin Electric Power Research Institute Company Limited, Certificated No. 2011070522, dated 2011-07-05, valid from 2011-07-05 to 2012-07-04
/31/	Calibration Report of monitored meter with serial number 96917077, issued by Jilin Electric Power Research Institute Company Limited, Certificated No. 2011031057, dated 2011-11-24, valid from 2011-11-24 to 2012-11-23
/32/	Calibration Report of monitored meter with serial number 96917077, issued by Jilin Electric Power Research Institute Company Limited, Certificated No. 2012040213, dated 2012-03-05, valid from 2012-03-05 to 2013-03-04

/33/	Electricity Meters Replacement Proof for Zhenlai Mali Wind Power Plant, issued by Jilin Power Supply Trade Center, dated 2011-11-25
/34/	Installation Proof for electricity meter with serial number 96917077, issued by Jilin Electric Power Research Institute Company Limited, dated 2011-11-24
/35/	Calibration Report of monitored meter with serial number 78040191, issued by Jilin Electric Power Research Institute Company Limited, Certificated No. 2010080233, dated 2010-07-06, valid from 2010-07-06 to 2011-07-05
/36/	Calibration Report of monitored meter with serial number 78040191, issued by Jilin Electric Power Research Institute Company Limited, Certificated No. 2011070523, dated 2011-07-05, valid from 2011-07-05 to 2012-07-04
/37/	Calibration Report of monitored meter with serial number 96917078, issued by Jilin Electric Power Research Institute Company Limited, Certificated No. 2011031058, dated 2011-11-24, valid from 2011-11-24 to 2012-11-23
/38/	Calibration Report of monitored meter with serial number 96917078, issued by Jilin Electric Power Research Institute Company Limited, Certificated No. 2012040214, dated 2012-03-05, valid from 2012-03-05 to 2013-03-04
/39/	Installation Proof for electricity meter with serial number 96917078, issued by Jilin Electric Power Research Institute Company Limited, dated 2011-11-24
/40/	Calibration Report of monitored meter with serial number 0600193049 , issued by Electric Energy Measurement Center of Baicheng City, Certificated No. 201101023, dated 2011-01-02, valid from 2011-01-02 to 2012-01-01
/41/	Calibration Report of monitored meter with serial number 0600193049, issued by Electric Energy Measurement Center of Baicheng City, Certificated No. 2011123113, dated 2011-12-31, valid from 2011-12-31 to 2012-12-30
/42/	Calibration Report of monitored meter with serial number 0600193049, issued by Electric Energy Measurement Center of Baicheng City, Certificated No. 2012123012, dated 2012-12-30, valid from 2012-12-30 to 2013-12-29
/43/	Certificate of Metrological Authorization for Jilin Electric Power Research Institute Company Limited, issued by the Quality and Technical Supervision Bureau of Jilin Province on 2009-02-31, valid until 2013-12-30
/44/	Certificate of Metrological Authorization for Electric Energy Measurement Center of Baicheng City, issued by the Quality and Technical Supervision Bureau of Jilin Province on 2005-07-31, valid until 2013-12-31
/45/	Jilin Huaneng Renewable Energy Co., Ltd.: Generators commission permit, dated 2009-12-29
/46/	National Standardization Management Committee: Verification regulation of electronic electric energy meter JJG 596-1999, 1999.

/47/	China Energy Statistical Yearbook 2005-2007
/48/	China Electric Power Yearbook,2005-2007
/49/	Jilin Huaneng Renewable Energy Co., Ltd.: Main Equipments purchasing Contracts a) Wind Turbines & Generators Purchasing Contract dated on 2008-12-04; b) Fan Tower Purchasing Agreement dated on 2008-12-05; c) 35KV Switchgear Purchasing contract dated on 2008-12-10; d) Main Transformer Purchasing Contract dated on 2009-01-05.

ANNEX A: RESOLUTION OF CORRECTIVE ACTION AND CLARIFICATION REQUESTS (LIST OF FINDINGS)

Resolution of Corrective Action and Clarification Requests including list of Forward Action Requests

Description of Finding (CAR, CL, FAR)	Project Participants Response	GLC's Assessment	Final Conclusion (OK or OPEN)
CAR 1 (2013-02-04) According to the Guidelines: Completing the monitoring report form, Version 3.2, "For the description of the installed technology(ies), technical process and equipment, include diagrams shall be listed in B.1 of the monitoring report", thus revision is requested.	2013-02-17(1st round): The monitoring report has been revised and the description of the installed technology(ies), technical process and equipment, including the Project diagram has been listed in B.1 of the monitoring report.	2013-02-19 (1st round): OK. Main parameters of the wind turbine are listed and project diagram is added in section B.1 of the updated monitoring report.	OK
CAR 2 (2013-02-04) The calibration information of the main energy meter with serial number 78040208 and backup energy meter with serial number 78040191 in 2010 should be provided.	The calibration information about the main energy meter 78040208 and backup energy meter 78040191 in 2010 has been provided.	2013-02-19 (1st round): Calibration information of main energy meter 78040208 and backup energy meter 78040191 is supplied in the updated monitoring report. Calibration of main meter and backup meter has covered this monitoring period.	OK
CAR 3 (2013-02-04) The calibration information of the main energy meter with serial number 96917077 and backup energy meter with serial number 96917078 is not in	This is typographic error and the calibration information of the main energy meter 96917077 and backup energy meter 96917078 has been revised.	2013-02-19 (1st round): OK. Information is correct in the updated monitoring report.	OK

consist with those presented in the calibration records based on on-site inspection, revision is requested.			
CAR 4 (2013-02-04) The monthly electricity sales receipts for imported and exported electricity should be provided to DOE.	The monthly electricity sales receipts for imported and exported electricity have been provided to DOE.	2013-02-19 (1st round): OK. Monthly electricity sales receipts are supplied and cross checked with the meter readings, and conservative values are adopted.	OK