
VERIFICATION AND CERTIFICATION REPORT

**Jilin Taihe Windpower Development Co.,
Ltd**

**Jilin province Zhenlai Heiyupao
49.5MW the first phase wind farm
project**

(UNFCCC Ref. No. 3111)

The 2nd Monitoring Period: 25/03/2011 to 24/06/2012 (both days inclusive)

SGS Climate Change Programme

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Organisation:		Client:	
SGS United Kingdom Limited		Jilin Taihe Windpower Development Co., Ltd	
Publication of Monitoring Report:			
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Final Monitoring Report Version and Date:		Version 3.0, dated 19/12/2012	
Summary:			
<p>SGS United Kingdom Ltd has performed the 2nd periodic verification of the CDM project Jilin province Zhenlai Heiyupao 49.5MW the first phase wind farm project, with UNFCCC reference number of 3111, registration date of 30/05/2010 and crediting period from 30/05/2010 to 29/05/2017 (renewable). The verification includes confirming the implementation of the monitoring plan of the registered PDD version 05 dated 28/10/2009, the revised PDD version 06.1 dated 19/12/2012 and the application of the monitoring methodology as per ACM0002 version 9 dated 13/02/2009. A site visit was conducted to verify the data submitted in the Monitoring Report. SGS confirms the following has been reviewed:</p> <ul style="list-style-type: none"> (a) The registered PDD and the revised PDD, including the monitoring plan and the corresponding validation report; (b) Monitoring Report, ERs calculation spreadsheet and previous verification report; (c) The applied monitoring methodology; (d) Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board; (e) All information and references relevant to the project activity's resulting in emission reductions. <p>Jilin province Zhenlai Heiyupao 49.5MW the first phase wind farm project utilizes wind resource to generate electricity. The electricity generated from the project is fed to the Northeast China Power Grid (NEPG). As per the registered PDD of the project, the project involves the installation of 33 sets of wind turbines with unit capacity of 1,500kW, reaching a total installed capacity of 49.5MW. The annual grid-connected output of the project is estimated to be 100,120MWh.</p> <p>SGS confirms that the project is implemented in accordance with the registered and the revised Project Design Document. The monitoring system is in place and the emission reductions are calculated without material misstatements. Our opinion relates to the projects GHG emissions and the resulting GHG emission reductions reported and related to the valid and registered project baseline and monitoring and its associated documents. Based on the information seen and evaluated we confirm that the implementation of the project has resulted in 107,424 tCO₂e emission reductions during period 25/03/2011 up to 24/06/2012.</p>			
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CDM Verification			
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Abbreviations

BE	Baseline Emission
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CERs	Certified Emission Reductions
CL	Clarification Request
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
CMP (COP/MOP)	the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol
DRRs	Daily Reading Records
EB	Executive Board
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
GSP	Global Stakeholder Process
LE	Leakage
MP	Monitoring Period
MR	Monitoring Report
MRRs	Monthly Reading Records
N/A	Not applicable
NDRC	National Development and Reform Commission
NEPG	Northeast China Power Grid
PE	Project Emission
PDD	Project Design Document
PP	Project Participant
QA/QC	Quality Assurance / Quality Control
RMP	Revised Monitoring Plan
SGS	SGS United Kingdom Limited
TA	Technical Area
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard

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1. Introduction

1.1 Objective

SGS United Kingdom Ltd has been contracted by Jilin Taihe Windpower Development Co., Ltd to perform an independent verification of its CDM project, Jilin province Zhenlai Heiyupao 49.5MW the first phase wind farm project. CDM projects must undergo periodic audits and verification of emission reductions as the basis for issuance of Certified Emission Reductions (CERs).

The objectives of this verification exercise are, by review of objective evidence, to establish that:

- The emissions report conforms with the requirements of the revised monitoring plan, the registered PDD and the approved methodology; and
- The data reported are complete and transparent.

1.2 Scope

The scope of the verification is the independent and objective review and ex post determination of the monitored reductions in GHG emission by the project activity. The verification is based on the validated and registered project design document, the revised monitoring plan and the Monitoring Report. The project is assessed against the requirements of the Kyoto Protocol, the CDM Modalities and Procedures and related rules and guidance.

SGS has, based on the recommendations in the Validation and Verification Standard, employed a risk-based approach in the verification, focusing on the identification of significant reporting risks and the reliability of project monitoring.

Due professional care has been exercised and ethical conduct has been followed by the assessment team during the verification process. The verification report is a fair presentation of the verification activity.

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

1.3 Project Activity and Period Covered

This engagement covers emissions and emission reductions from anthropogenic sources of greenhouse gases included within the project boundary of the following project and period.

Title of Project Activity:	Jilin province Zhenlai Heiyupao 49.5MW the first phase wind farm project
UNFCCC Registration Number:	3111
Monitoring Period Covered in this Report:	25/03/2011 to 24/06/2012
Project Participants:	Jilin Taihe Windpower Development Co., Ltd (Host Country: China)
Location of the Project Activity:	Zhenlai County, Baicheng City, Jilin Province, People's Republic of China

Jilin province Zhenlai Heiyupao 49.5MW the first phase wind farm project utilizes wind resource to generate electricity. The electricity generated by the project is fed to the Northeast China Power Grid (NEPG). As per the registered PDD of the project, the project involves the installation of 33 sets of wind turbines with a unit capacity of 1,500kW, reaching a total installed capacity of 49.5MW. The project commenced full operation on 25/09/2009 when all 33 sets of wind turbines were put into operation.

2. Methodology

2.1 General Approach

SGS performs the verification work using a Periodic Verification Checklist prepared following the VVS. The Periodic Verification Checklist describes the verification approach and the sampling plan.

The checklist gives the assessment team a full understanding of:

- Activities associated with all the sources contributing to the project emissions and emission reductions, including leakage if relevant;
- Protocols used to estimate or measure GHG emissions from these sources;
- Collection and handling of data;
- Controls on the collection and handling of data;
- Means of verifying reported data; and
- Compilation of the Monitoring Report.

Using the Periodic Verification Checklist, SGS verified the implementation of the monitoring plan and the data presented in the Monitoring Report for the period in question. This involved a site visit and a desk review of the Monitoring Report. This verification report describes the findings of this assessment.

Only verification activities undertaken after the publication of the Monitoring Report on the UNFCCC CDM website were used as a basis for SGS to conclude our verification and submit a request for issuance of CERs to the Board.

2.2 Verification Team for this Assessment

A team of competency has been selected to perform the verification of the project.

Name	Role
Sarah Chan	Team Leader/ Lead Assessor/ Local Assessor
Yolanda Zheng	Technical Area Expert (TA1.2)

2.3 Means of Verification

2.3.1 Review of Documentation

The validated PDD, the revised PDD and the Monitoring Report submitted by the client and additional background documents related to the project performance were reviewed. A complete list of all documents reviewed is attached in section 8 of this report.

2.3.2 Site Visits

As part of the verification, the following on-site inspections have been performed by all members of the assessment team.

Location: Zhenlai County, Baicheng City, Jilin Province, People's Republic of China	
Date: 28/09/2012	
Coverage:	Source of Information / Persons Interviewed
1. Assessment of the implementation and operation of the CDM project activity as per the registered PDD and revised PDD;	Mr. Yang Junwei, Jilin Taihe Windpower Development Co., Ltd;
2. Review of information flows for generating, aggregating and reporting the monitoring parameters;	Mr. Du Shuyao, Jilin Taihe Windpower Development Co., Ltd.
3. Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the monitoring plan in the revised PDD;	
4. Cross-check between information provided in the Monitoring Report and data from other sources such as MRRs, DRRs and sales receipts;	
5. Check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the PDD and the selected methodology;	
6. Review of calculations and assumptions made in determining the GHG data and emission reductions;	
7. Identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.	

2.4 Reporting of Findings

As an outcome of the verification process, the team can raise different types of findings.

In general, where insufficient or inaccurate information is available and clarification or new information is required the team shall raise a Clarification Request (CL) specifying what additional information is required.

Where a non-conformance arises the team shall raise a Corrective Action Request (CAR). A CAR is issued, where:

- I. 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;
- II. Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants;
- III. Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;

- IV. Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project participants

The verification process may be halted until this information has been made available to comply with the requirements of the CDM Executive Board. Failure to address a CL may result in a CAR. Information or clarifications provided as a result of a CL may also lead to a CAR.

A clarification request (CL) will be raised if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met. All CARs and CLs raised during verification shall be resolved prior to submitting a request for issuance.

Corrective Action Requests and Clarification Requests are raised in the Periodic Verification Checklist. The Project Developer is given the opportunity to “close” outstanding CARs and respond to CLs.

Forward Action Requests (FARs) may be raised during verification for actions where the monitoring and reporting require attention and/or adjustment for the next verification period, which are for the benefit of future projects and future verification activities. These have no impact upon the completion of the verification activity.

All CARs, CLs and FARs for this verification period are included in this report.

2.5 Internal Quality Control

Following the completion of the assessment process and a recommendation by the Assessment Team, all documentation will be forwarded to a Technical Review Team. The task of the Technical Review Team is to check that all procedures have been followed and all conclusions are justified. The Technical Reviewer will either accept or reject the recommendation made by the assessment team.

Technical Review Team

Name	Role
Michael Wu	Technical Reviewer/ Technical Area Expert (TA1.2)

3. Verification Findings

3.1 Project Implementation

Based on the project information available on the UNFCCC website, <http://cdm.unfccc.int/Projects/DB/TUEV-RHEIN1257130074.71/view> (/1/), the project was registered on 30/05/2010 and the first crediting period for the project is from 30/05/2010 to 29/05/2017(renewable). This is the 2nd periodic verification conducted for the project. The start date of this monitoring period is 25/03/2011, which is the day after the end day of the last (the 1st) monitoring period. The end date of the monitoring period is 24/06/2012, which is within the first crediting period.

The project was registered against the methodology ACM0002 version 9 (/2/). This methodology is applicable to grid-connected renewable power generation project under the following condition: Firstly, applies to the project activity that is the installation or modification/ retrofit of a power plant/unit of the hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit; And the geographic and system boundaries for the relevant electricity grid can be clearly identified and information on the characteristics of the grid is available; Secondly, this methodology is not applicable to a project activity that involve switching from fossil fuels to renewable energy sources at the site of the project activity, or biomass fired power plants, or hydro power plants that result in the new reservoirs or in the increase in an existing reservoir where the power density of the power plant is less than 4 W/m²; In addition, the applicability conditions include in the tools apply.

The project is a new-built renewable power generation project utilizing wind resources and does not involve switching from fossil fuels to renewable energy at the site of the project activity. The spatial extent of the project boundary includes the project site and Northeast China Power Grid (NEPG), to which the project is connected. In China, the geographic and system boundaries for NEPG can be clearly identified and information on the characteristics of the grid is available. Two tools, *Tools for the demonstration and assessment of additionality* version 05.2 and *Tool to calculate the emission factor for an electricity system* version 01.1 (/3/) are applied for this project activity. As per the registered PDD (/4/), the emission factor is fixed during the first crediting period. This is the 2nd monitoring period within the first crediting period. No update is needed for the baseline emission factor. No further applicability criteria for the use of the tools. Therefore, applicability of the criteria of the methodology is still met by the project.

The project consists of only one site and is not implemented in phases. By means of checking the report of commencing construction (/10/) and operational logbook for commissioning of the wind turbines (/11/), the construction of the project started in 10/10/2008 and the project commenced full operation on 25/09/2009 when all 33 sets of wind turbines were put into operation. By means of the site visit, checking the contract of wind turbines (/12/) and Power Purchase Agreement (PPA, /13/), it is confirmed by the assessment team that the project has a total installed capacity of 49.5MW, consisting of 33 sets of wind turbines with a unit capacity of 1,500kW (Model SL1500/82) as described in the registered PDD (/4/). The electricity generated by the wind turbines, which are divided into three groups, is supplied to the on-site substation through three 35kV transmission lines. Then the electricity is boosted from 35kV to 220kV at the on-site substation and then is supplied to Zhenlai substation of NEPG through one 220kV transmission line. The power line also allows the project to import electricity from the grid as well. It is confirmed by reviewing the grid connection diagram of the project (/14/). As per EB 66 Annex 20 (*Guidelines for completing the monitoring report form*, version 02.0, /24/), the PP shall provide in section B.1 of Monitoring Report the description of the installed technology, including technical process, equipment. Since such information has not been reported in section B.1 of the MR version 1.0, **CAR#2 was raised** requesting clarification, and **then successfully closed out** after the PP revising the description of the installed technology in the Monitoring Report version 2.0.

The project achieved GHG emission reductions through substituting electricity that would have been generated by fossil fuel fired power plant connected to NEPG in the absence of the project, with amount equal to the net electricity supplied to NEPG by the project. As indicated by the validation report (/6/), there is no additional source of GHG emissions attributable to the project. By means of the site visit and interviews, it is found by the assessment team that no fossil fuels were used for power generation by the project. By

means of interviews and checking the operation logbooks (/11/), it is confirmed by the assessment team that the project was under normal and continuous operation during this monitoring period. No other special event occurred during this monitoring period. Hence, no events or situations that may affect the applicability of the methodology occurred during this monitoring period.

As per the information on the UNFCCC website, <http://cdm.unfccc.int/Projects/DB/TUEV-RHEIN1257130074.71/view> (/1/), "Carbon Asset Management Sweden AB" has been withdrawn as the PP of the project, and the status of the MP1 was indicated as withdraw in the MR version 2.0 while a new submission has been uploaded. **CAR#3 was raised** requesting the PP to clarify how the following two issues were kept consistent with the information in the UNFCCC website: firstly, the PP's information in section A.3 of the revised PDD version 06; secondly, the status of the MP1 which was reported in section A.1 of MR version 2.0 and the cover page of ERs spreadsheet version 02. The PP clarified that the project owner had terminated the Emission Reductions Purchase Agreement with Carbon Asset Management Sweden AB, which has been withdrawn on the UNFCCC website. It was confirmed by the assessment that the PP's information in section A.3 of the PDD version 06.1, the status of the MP1 which was reported in section A.1 of the MR version 3.0 and the cover page of the ERs spreadsheet version 03, have been revised to be consistent with that on the UNFCCC website. Following the Para 1 in Appendix 1 of *Standard: Clean Development Mechanism Project Standard* version 02.1 (/26/), the correction to project information, such as the PP's name which do not affect the design of the project activity, do not require prior approval by the Board. The correction information has been reported in section B.2.2 of the MR version 3.0. Thus, **CAR#3 was closed**.

In accordance with *Guidelines for completing the monitoring report form* version 02.0 (EB66, Annex 20, /24/), the Monitoring Report (/8/) contains a comparison of the actual emission reductions claimed in the monitoring period with the estimate in the registered PDD. The emission reductions achieved during this monitoring period (from 25/03/2011 to 24/06/2012, covering 458 days) are verified to be 107,424 tCO₂e (details of verified emission reductions is discussed in section 4 below of this report). The estimated emission reductions for the same period (458 days) as per the registered PDD would be 143,692 tCO₂e, calculated as 114,515 tCO₂e / 365 days × 458 days. The verified ERs are 25% lower than the estimation in the registered PDD. No increase in emission reductions as compared to the estimation in the registered PDD was identified in this monitoring period.

3.2 Post registration changes

3.2.1 Temporary deviations from registered monitoring plan or applied methodology

There is no temporary deviation from the registered monitoring plan or applied methodology during this verification.

3.2.2 Corrections

There is a correction of the PP's information, which does not affect the design of the project activity, from the registered PDD submitted with this request for issuance of CERs. Carbon Asset Management Sweden AB has been withdrawn on the UNFCCC website and its information has been deleted in the PDD version 06.1 dated 19/12/2012 and updated in the MR version 3.0. According to the Para 1 in Appendix 1 of *Standard: Clean Development Mechanism Project Standard* version 02.1 (/26/), this correction do not require prior approval by the Board. For details please refer to the description of CAR#3 in section 3.1 above. Following para 249(a) of VVS version 03.0 (/25/), the post registration change is submitted as part of the request for issuance in accordance with the Project Cycle Procedure.

3.2.3 Permanent changes from registered monitoring plan or applied methodology

There is a permanent change from the registered monitoring plan submitted with this request for issuance of CERs.

In the 1st periodic verification FAR#6 was raised requesting the PP to include the detailed information in the registered monitoring plan to improved the completeness of the monitoring plan before the request for issuance of the 2nd monitoring period, as another wind farm, Jilin Zhenlai Heiyupao Phase II wind farm (hereafter refer as "Heiyupao Phase II"), shares the same main meter and backup meter with the project. In section B.7.2 of the registered PDD version 05 dated 28/10/2009, it is stated that "*Electricity supplied to the*

gird will be measured by the main meter located at the substation". Through checking the PPA signed between the grid company and wind farm company covering this monitoring period (/13/), it was found that the reported monitoring system in the MR version 1.0 was not consistent with the verified situation. CAR#1 was raised requesting the PP to clarify how the monitoring system was implemented to comply with the registered monitoring plan. The PP clarified that "Heiyupao Phase II" connected to the grid at 14:00 on 24/11/2010 and was sharing the main meter and backup meter installed at the substation with the project activity. "Heiyupao Phase II" belongs to a different project owner, which has been confirmed by the assessment team through interviewing with the PP and verifying information listed in the official CDM website of NDRC in China (/28/). A new Power Purchase Agreement (PPA, /13/) covering this monitoring period was signed between the grid company and the wind farm company. Following the new PPA, the location of measurement meters has been changed from main meter installed at the substation to the meters (meters 1#, 2# and 3#) installed at the 35 kV connection lines of the wind farm since 24:00 of 24/03/2011, which was the starting time of this (the 2nd) monitoring period. These three meters on the 35kV connection lines of the project are used for monitoring the parameter EG_y (the net electricity delivered to Northeast China Power Grid by the project). The parameter EG_y is calculated from exported electricity minus imported electricity, which is the same requirement in the registered PDD but is changed to be monitored by the bidirectional meters 1#, 2# and 3#. The net electricity is still supplied to Zhenlai substation of NEPG and the project boundary has not been changed compared to the registered PDD.

The PP has updated the monitoring plan in the revised PDD version 06.1 dated 19/12/2012 (/5/) to reflect the above permanent change. The accuracy of monitoring meters in the revised PDD has not been changed against the registered PDD. It is confirmed by the assessment team that the Revised Monitoring Plan (RMP) was applied for the period starting from the beginning date of this (the 2nd) monitoring period and has no effect on the ERs calculation of MP1. The RMP is in accordance with the applied methodology ACM0002 version 9 and the implementation of the project has followed the monitoring plan in the revised PDD. **CAR#1 was closed.** Please find the details of the Findings Overview in section 9. As the PP has revised the monitoring plan, which did not require prior approved by the EB and submitted it as part of the request for issuance. Thus, FAR#6 raised in the previous periodic verification was also closed.

According to the "Appendix 1: Changes that do not require prior approval by the Board" in the "Clean Development Mechanism Project Standard" version 02.1 (EB70 Annex 2, /26/), the change of location of meters as per PPA do not require prior approval by the EB.

The monitoring plan of this project was revised due to the change of location of meters as per the PPA, therefore, a prior approval by the Board is not required for this correction. Following para 249(a) of VVS version 03.0 (/25/), the post registration change is submitted as part of the request for issuance in accordance with the Project Cycle Procedure.

3.2.4 Changes to project design of registered project activity

There is no change to project design of registered project activity during this verification.

3.2.5 Changes to start date of crediting period

According to the information listed in the UNFCCC website, <http://cdm.unfccc.int/Projects/DB/TUEV-RHEIN1257130074.71/view> (/1/), the start day of the crediting period is 30/05/2010, which has not been changed since the registration.

3.3 Remaining Issues, CAR's, FAR's from Previous Validation or Verification

This is the 2nd periodic verification. By means of reviewing the validation report (/6/), and previous verification report (/7/), the assessment team found that FAR#6 was remaining from the 1st periodic verification. Considering another wind farm, Jilin Zhenlai Heiyupao Phase II wind farm, shares the same main meter and backup meter with the project, FAR#6 in the 1st periodic verification was raised requesting the PP to include the detailed information in the monitoring plan to improve the completeness of the monitoring plan before the request for issuance of the 2nd monitoring period. As the statement in section 3.2.3 above, the PP has revised the monitoring plan, which does not require prior approved by the EB, and submitted it as part of the request for issuance. Thus, FAR#6 was closed.

3.4 Completeness and accuracy of Monitoring

3.4.1 Verification of monitoring of parameters

Monitoring of reductions in GHG emissions to result from the registered project have been implemented in accordance with the revised monitoring plan (/5/). The monitoring mechanism, including the data collection system, is effective and reliable.

3.4.1.1 Project emissions parameters

Following the revised monitoring plan, the validation report and the ACM0002 version 9 (/2//5//6/), no project emission parameter needs to be included in the monitoring of GHG emission reductions resulted from the project.

3.4.1.2 Baselines emission parameters

Following the revised monitoring plan (/5/), one baseline emission parameter, EG_y (Electricity delivered to Northeast China Power Grid by the project in year y), needs to be monitored by the project for the calculation of emission reductions. The analysis for comparison among the applied methodology, the revised monitoring plan and actual implementation is listed as follows:

Monitoring Report, onsite checks Revised Monitoring Plan & applied methodology	Requirement in the applicable methodology and relevant EB Documents	Requirement in the revised monitoring plan	Implementation of the project	Conclusion on the compliance of the implementation with the monitoring plan & applicable methodology.
Data/Parameter	EG_y	EG_y	EG_y	Compliance
Description	Electricity supplied by the project to the grid	Electricity delivered to Northeast China Power Grid by the project in year y	Electricity delivered to Northeast China Power Grid by the project in year y	Compliance
Measured/Calculated/Default	Measured	Calculated	Calculated	Compliance: EG_y is calculated by measured values.
Source of data	Project activity site	Monitored by the electricity meters, monitoring electricity supply to the grid and imports from the grid	Monitored by the three meters 1#, 2# and 3# monitoring electricity exported to the grid and imported from the grid.	Compliance: The electricity was monitored by meters installed in the 35kV lines of the wind farm. Thus, the source of measurement data is at the project site.
Monitoring equipment	Not mentioned	Electricity meters	Electricity meters 1#, 2# and 3#	Compliance
Measuring/Reading/Recording frequency	Hourly measurement and monthly recording	Continuously measured and monthly recorded	Measuring continuously/ Reading daily/ Recording monthly	Compliance
Calculation method (if applicable)	N/A	EG_y is calculated as export minus import	Electricity delivered to Northeast China Power Grid by the project (EG_y) is calculated from the measured electricity exported to the grid by the project minus the measured electricity imported from the grid	Compliance: According to the ACM0002 version 9, EG_y is calculated by export minus import which are directly measured. Thus, it is acceptable to use a calculation method in the revised monitoring plan.

			by the project.	
QA/QC procedures	Electricity supplied by the project activity to the grid. Double check by receipt of sales	Monthly net generation data will be approved by CDM manager. The data will be double checked by receipt of sales or commercial data. The accuracy of the electricity is 0.5 or above. The meters will be calibrated annually or according to the industry standard by a qualified organization to ensure accuracy.	Monthly net generation data are approved by CDM manager. The data are double checked by receipt of sales or commercial data. The accuracy of the electricity is 0.5. The meters are calibrated according to the industry standard by a qualified organization to ensure accuracy.	Compliance

In summary, the actual of monitoring is in compliance with the monitoring plan and applied methodology.

Following the PPA, electricity delivered to Northeast China Power Grid by the project in year y (EG_y) is continuously measured by three bi-directional electricity meters, i.e. Meters 1#, 2# and 3# installed on three 35kV transmission lines at project site and managed by project owner. Both the electricity exported to and imported from the grid were measured by these three meters. The readings at 24:00 of the three meters were read and recorded in the Daily Reading Records (DRRs, /15/) by the project owner every day. Monthly accumulated data at 24:00 on 24th each month were summarized into Monthly Reading Records (MRRs, /16/).

A revenue meter is shared by the project activity and “Heiyupao Phase II”, which was operated by the other project company, during this monitoring period. The transaction of the electricity between the wind farm company of the project activity and the grid is based on the apportioning approach required in the PPA and the measurement result from both the revenue meter of the grid company and the meters of “Heiyupao Phase II”¹. Once the grid company confirmed the reported data with obtained data through telecommunication system, they issued the monthly electricity transaction notes (ETNs), serving as sales receipts (/17/) and indicating the exported electricity of this project activity and the total imported electricity recorded by the revenue meter by the two projects, to the wind farm company. The ETNs were confirmed again by the wind farm company through checking the measurement results of 35kV lines. As per the PPA, the exported electricity on the ETNs were rounded to an integer (unit: 10^4 KWh). Being taking the transmission and line loss into account, the values of exported electricity to grid in ETNs were less than meter readings of the sum of meter 1#, 2# and 3#. This is verified to be reasonable considering the transmission loss based on the local and sectoral expertise of the assessment team. To be more conservative, the value of imported electricity from the grid in ETNs, which indicated the total electricity imported from the grid to the project activity and the “Heiyupao Phase II”, were used to cross check with the imported electricity of this project. After being cross-checking, both the lower values of exported electricity and the higher values of imported electricity from ETNs were used by project owner for the ERs calculation. This is confirmed to be conservative by the assessment team.

The MRRs and ETNs (/16//17/) covering this monitoring period are archived by the project company as supportive evidences. Data in the DRRs (/15/) were randomly checked for cross reference. These documents have been provided to and verified by the assessment team during on-site visit. A complete set of data is available for this monitoring period. The data of EG_y reported in the final version of the Monitoring Report complies with the evidences checked, and the calculation of emission reductions in the final version of ERs calculation spreadsheet (/9/) is walked through and found to be correct.

¹ The revenue meter of the grid company and the monitoring meters of “Heiyupao Phase II” were reported as the monitoring meters of the project activity in the MR version 1.0, which was inconsistent with the verified situation. CAR#1 was raised on this regard. In response to this finding overview, the PP updated the MR to include the monitoring meters as those installed in 35kV connection lines of the project, which was compliance with the actual monitoring system and the requirement in the PPA. The information for the revenue meter of the grid company and the monitoring meters of “Heiyupao Phase II” have been removed in the MR version 3.0, as these meters were not managed and out of control by the project owner of the project activity.

3.4.1.3 Leakage parameters

Following the revised monitoring plan, the validation report and ACM0002 version 9 (/2//5//6/), no leakage parameter needs to be included in the monitoring of reductions in GHG emissions resulted from the project.

3.4.2 Verification of implementation of sampling plan

According to ACM0002 version 9 and the monitoring plan (/2//5/), there is no sampling plan that needs to be implemented for this project.

3.5 Accuracy of Equipment

Through onsite visit and document review, it is confirmed that the accuracy, calibration and management of the monitoring meters (Meters 1#, 2# and 3#)² are in compliance with the requirement of the monitoring plan contained in the revised PDD. All the monitoring equipments used in this project activity have been calibrated as per the National Standard JJG596-1999 (*Verification Regulation of Electrical Energy Meters with Electronics*, /27/). The calibration certificates (/18/) and accreditation certificate (/19/) of the calibration entity have been checked by the assessment team. Detailed monitoring information of the calibration has been verified and reported as follow:

Monitoring equipment	Meter 1#	Meter 2#	Meter 3#
Monitoring parameter	EG _y	EG _y	EG _y
S/N	20080929010375	20080929010378	20080929010374
Type	DTSD341	DTSD341	DTSD341
Level	0.5	0.5	0.5
Calibration frequency requirement	annually	annually	annually
Calibration date	08/03/2011; 03/03/2012	08/03/2011; 03/03/2012	08/03/2011; 03/03/2012
Validity	08/03/2011 to 07/03/2012; 03/03/2012 to 02/03/2013	08/03/2011 to 07/03/2012; 03/03/2012 to 02/03/2013	08/03/2011 to 07/03/2012; 03/03/2012 to 02/03/2013
Are there delays in calibration?	No.	No.	No.
Calibration Entity	Jilin Electric Power Research Institute Co., Ltd		
Accreditation Certificate for the calibration entity	Accreditation certificate No.: Ji (2009) 0112) issued by Quality and Technical Supervision Bureau of Jilin Province, valid from 31/12/2009 to 30/12/2013.		

3.6 Summary of compliance with the calibration frequency requirements for measuring instruments

As per the monitoring plan contained in the revised PDD, the monitoring meters are subject to annual calibration by accredited calibration agency in accordance with sectoral requirement. It is verified that the calibration of monitoring meters were performed as per the regulation JJG596-1999 (*Verification Regulation of Electrical Energy Meters with Electronics*, /27/). The calibration entity was Jilin Electric Power Research Institute Co., Ltd. The calibration certificates (/18/) and accreditation certificate (/19/) of the calibration entity have been checked by the assessment team. It is confirmed that the actual calibrations can meet the calibration frequency requirements for measuring instruments set out in the monitoring plan and no delayed calibration is identified during this monitoring period.

² The PP changed the symbols of “Meter 4#, 5# and 6#” in MR version 2.0 to “Meter 1#, 2# and 3#” in MR version 3.0, so as to keep the information of monitoring meters in MP1 and MP2 consistent and reasonable. During the 2nd verification, the information of the “Meter 1#, 2# and 3#” in MR version 3.0, such as location, type, accuracy class, serial number and calibration has been checked through. The assessment team verified that, except the change of symbols, the information of “Meter 1#, 2# and 3#” in MR version 3.0 was the same as the monitoring equipments reported in the MR version 2.0.

3.7 Accuracy of Emission Reduction Calculations

The assessment team found that only the baseline emission was calculated in the ERs spreadsheet version 02, and the project emission, leakage and ERs was not calculated. **CAR#1** was opened for the PP to clarify how the calculation of the ERs following the formula in the PDD and methodology. The PP added the project emission, leakage and the ERs calculation in the ERs spreadsheet version 03, which is compliance with the requirement in the revised PDD and the applied methodology. This revision has not changed the final calculation result of emission reductions, as the project emission and leakage is considered to be 0tCO₂e. Finally, CAR#1 about the implementation of monitoring system, the calculation of ERs following the formula in the PDD and the impact with the calculation result of the ERs was successfully closed out after the PP revising the MR and the PDD to compliance with the actual monitoring situation and PPA. The conservative method has been used for calculating the ERs spreadsheet version 03. The details of the reported and the verified values for all parameters are listed in section 4, 'Calculation of Emission Reductions'.

According to the assessment in section 3.4 and 3.10, it has been confirmed by the assessment team that in the MR version 3.0 and ERs calculation spreadsheet version 03:

- (a) All the data requested for ERs calculation of this monitoring period were monitored and recorded in a complete manner.
- (b) All the reported data have been checked against the original data source where they were quoted from.
- (c) The methods and formulae for calculation of baseline emissions, project emissions and leakage specified in revised PDD have been followed.
- (d) The emission factor has been applied correctly in accordance with the registered PDD and revised PDD.

3.8 Quality of Evidence to Determine Emission Reductions

Critical parameters used for the determination of the Emission Reductions are discussed in section 3.5 above. All the data recorded is in compliance with the Monitoring Report.

3.9 Management and operational System and Quality Assurance

It was found by the assessment team that the emergency procedure in section B.7.2 of the PDD version 06 was not clear enough. **CL#4 was raised** requesting the PP to clarify how the emergency procedure would be implemented. The PP clarified that in case of emergency, the project owner and the grid company will negotiate to determine a reasonable and conservative estimate of the correct reading and the memorandum will be signed between the project owner and the grid company as evidence to clarify the whole process. It is confirmed by the assessment team that the emergency procedure, which is reasonable and acceptable, has been revised in the PDD version 06.1 and the MR version 3.0. Thus, **CL#4 was closed**.

Through the interview of the staffs on site and the review of the monitoring and management manual of the project (/20/), the emergency plan (/21/), training records (/22/) and the qualification certificates of staffs (/23/), the assessment team verified that: the responsibilities and authorities for monitoring and reporting has been clearly defined in the monitoring and management manual in accordance with the provision in the revised monitoring plan; the management and operational system including QA/QC procedure has been properly implemented by the project entity following the monitoring and management manual; the staffs involved in monitoring are well trained and qualified.

3.10 Data from External Sources

Based on the information in the registered PDD (/4/), the baseline emission factor (EF_y) was ex-ante determined to be 1.1438tCO₂e/MWh and is fixed for the first crediting period. No monitoring and recalculation of the emissions factor is required until the renewal of crediting period. This data is still applicable and accessible, and has been used in the calculation of emission reductions achieved during this (the 2nd) monitoring period.

4. Calculation of Emission Reductions

The following are the reported and verified value of the parameters required during this (the 2nd) periodic verification:

Parameter	Reported Value in the MR version 1.0	Verified Value in the final version of MR version 3.0
EG _y (MWh)	93,902.6680	93,919.2480
EF _y (tCO ₂ e/MWh)	1.1438	1.1438

The total Emission Reductions (ER_y) is calculated as follows:

$$ER_y = BE_y - PE_y - L_y,$$

Where

BE_y is the baseline emissions;

PE_y is the project emissions, PE_y equals zero as per the revised PDD;

L_y is the leakage, L_y equals zero as per the revised PDD;

The Baseline Emissions (BE_y) is calculated as follows:

$$BE_y = EG_y \times EF_y = 93,919.2480 \text{ MWh} \times 1.1438 \text{ tCO}_2\text{e/MWh} = 107,424 \text{ tCO}_2\text{e}.$$

Therefore,

$$ER_y = BE_y - PE_y - L_y = 107,424 \text{ tCO}_2\text{e} - 0 \text{ tCO}_2\text{e} - 0 \text{ tCO}_2\text{e} = \mathbf{107,424 \text{ tCO}_2\text{e}}$$

Emission Reduction:

Period	Reported Value (as per the web hosted MR, version 1.0) tCO ₂ e	Verified Value in the MR version 3.0 tCO ₂ e	If Different, Summary of Issues That Caused the Difference
25/03/2011 to 24/06/2012	107,405	107,424	<p>CAR#1 was raised as the reported monitoring system in MR version 1.0 was not consistent with the verified situation. Also, the assessment team found that only the baseline emission was calculated, and the project emission, leakage and ERs was not calculated in the ERs spreadsheet version 02.</p> <p>The PP clarified that, as per the PPA, the measurement meters have been changed from the substation to the 35 kV lines of the wind farm since the starting time of this monitoring period. The method to calculate the ERs in the MR version 1.0 did not comply with the actual monitoring system, which causes the difference of the calculation result against the revised MR. The PP updated the PDD to version 06.1, the MR to version 3.0 and the ERs spreadsheet to version 03.</p> <p>In the third version of MR and ERs spreadsheet, the conservative values have been used in the calculation of</p>

Period	Reported Value (as per the web hosted MR, version 1.0) tCO ₂ e	Verified Value in the MR version 3.0 tCO ₂ e	If Different, Summary of Issues That Caused the Difference
			ERs and the calculation is compliance with the requirement in the revised PDD and the applied methodology. CAR#1 was closed.



5. Recommendations for Changes in the Monitoring Plan

No recommendation for future changes in the monitoring plan was made during this (the 2nd) verification.

6. Overview of Results

Assessment Against the Provisions of Decision 17/CP.7:

Is the project documentation in accordance with the requirements of the registered PDD and relevant provision of decision 17/CP.7, EB decisions and guidance and the COP/MOP?

Yes. The results of the compliance assessment are recorded in the verification checklist which is used as an internal report only.

Have on-site inspections been performed that may comprise, inter alia, a review of performance records, interviews with project participants and local stakeholders, collection of measurements, observations of established practices and testing of the accuracy of monitoring equipment?

Yes. All members of the assessment team visited the site and undertook interviews, collected data, audited the implementation of procedures, checked calibration certificates and checked data, inter alia.

The results of the site visit are recorded in the verification checklist which is used as an internal report only.

The evidences have been checked and collected. The final Monitoring Report is attached with this verification report.

Has data from additional sources been used? If yes, please detail the source and significance.

The value of baseline emission factor (EF_y) used in the Monitoring Report is 1.1438 tCO₂e/MWh, which is the same as the one in the registered PDD. The baseline emission factor was ex-ante determined and it is fixed for the first crediting period. Therefore, it has a high significance and low risk.

Please review the monitoring results and verify that the monitoring methodologies for the estimation of reductions in anthropogenic emissions by sources have been applied correctly and their documentation is complete and transparent.

Yes. The monitoring methodology has been correctly applied and the Monitoring Report and supporting references are complete and transparent.

Have any recommendations for changes to the monitoring methodology for any future crediting period been issued to the project participant?

No.

Determine the reductions in anthropogenic emissions by sources of greenhouse gases that would not have occurred in the absence of the CDM project activity, based on the data and information using calculation procedures consistent with those contained in the registered project design document and the monitoring plan.

The data used in anthropogenic emission reduction calculation is consistent with those contained in the registered PDD and monitoring plan. The emission reduction was 143,692 tCO₂e for the period 25/03/2011 to 24/06/2012 as per the estimation made in the registered PDD. The actual emission reduction has been verified as 107,424 tCO₂e for the same period.

Identify and inform the project participants of any concerns related to the conformity of the actual project activity and its operation with the registered project design document. Project participants shall address the concerns and supply relevant additional information.

Yes. Permanent change of monitoring plan was identified as the location of the monitoring meters was changed from substation to 35kV lines. The permanent change do not require prior approve as verified in section 3.2.3. The registered PDD version 05 dated 28/10/2009 was updated to the revised PDD version 06.1 dated 19/12/2012 to reflect above changes.



Post monitoring report on UNFCCC website

Yes, the Monitoring Report is available at ref. 3111 on the UNFCCC website:

<http://cdm.unfccc.int/Projects/DB/TUEV-RHEIN1257130074.71/view>

7. Verification and Certification Statement

SGS United Kingdom Ltd has been contracted by Jilin Taihe Windpower Development Co., Ltd to perform the verification of the emission reductions reported for the CDM project Jilin province Zhenlai Heiyupao 49.5MW the first phase wind farm project in the period from 25/03/2011 to 24/06/2012.

The verification is based on the validated and registered project design document and the Monitoring Report for this project. Verification is performed in accordance with section I of Decision 3/CMP.1, and relevant decisions of the CDM EB and CoP/MoP. The scope of this engagement covers the verification and certification of greenhouse gas emission reductions generated by the above project during the above mentioned period, as reported in the Monitoring Report Version 3.0 dated 19/12/2012.

The management of Jilin Taihe Windpower Development Co., Ltd is responsible for the preparation, calculation and determination of GHG emission reductions from the project. The development and maintenance of records and reporting procedures are in accordance with the Monitoring Report.

It is our responsibility to express an independent GHG verification opinion on the GHG emissions and on the calculation of GHG emission reductions from the project for the period from 25/03/2011 to 24/06/2012 based on the reported emission reductions in the Monitoring Report Version 3.0 dated 19/12/2012 for the same period.

Based on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these, SGS planned and performed our work to obtain the information and explanations that we considered necessary to provide sufficient evidence for us to give reasonable assurance that this reported amount of GHG emission reductions for the period is fairly stated.

SGS confirms that the project is implemented as described in the validated and registered project design documents. Based on the information we have seen and evaluated, we confirm the following:

Project Title:	Jilin province Zhenlai Heiyupao 49.5MW the first phase wind farm project
UNFCCC Reference Number:	3111
Registered PDD and revised PDD used for Verification:	Registered PDD version 05 dated 28/10/2009; Revised PDD version 06.1 dated 19/12/2012
Methodology Used for Verification:	ACM0002 version 9
Applicable Period:	25/03/2011 to 24/06/2012
Total GHG Emission Reductions Verified:	107,424 tCO₂e

Signed on behalf of the Verification Body by Authorized Signatory

Signature:



Name: Siddharth Yadav

Date: 26/02/2013

8. Document References

- /1/. project information available on the UNFCCC website
<http://cdm.unfccc.int/Projects/DB/TUEV-RHEIN1257130074.71/view>
- /2/. Applied methodology ACM0002 version 9 dated 13/02/2009.
- /3/. Applied tools in the registered PDD:
Tool for the demonstration and assessment of additionality version 05.2
Tool to calculate the emission factor for an electricity system version 01.1
- /4/. Registered PDD version 05 dated 28/10/2009
- /5/. Revised PDD in this (the 2nd) verification:

PDD Version	Date of Revision	Nature of Revision
06	09/11/2012	1. Revision of the monitoring plan in the section B.7.1 and B.7.2 as per CAR#1
06.1	19/12/2012	1. Revision of the PP's information in section A.3 and annex 1 as per CAR#3; 2. Revision of the emergency procedure in section B.7.2 as per CL#4; 3. PP voluntarily revised the figure of monitoring system in section B.7.2.

- /6/. Validation report issued by TÜV Rheinland Japan Ltd. version 04 dated 30/10/2009
- /7/. Monitoring report and verification report for previous monitoring period:

No.	Period	Monitoring Report		Verification Report	
		version	dated	version	dated
MP1	30/05/2010 to 24/03/2011	04	04/12/2012	3	05/12/2012

- /8/. Monitoring report of this (the 2nd) monitoring period:

MR Version	Date of Revision	Nature of Revision
Version 1.0	07/09/2012	Version 1.0 for GSP on UNFCCC website.
Version 2.0	09/11/2012	1. Revision in section B.2.3, section C, section D.2 and section E.1 of MR for the description of monitoring system and section E.4 and E.5 for the calculation result as per CAR#1. 2. Revision in section B.1 for the description of as per installed technology as per CAR#2; 3. Some typo, such as symbol of EF_y in section E.1 and tense of sentence in section E.6 etc, revised in the text.
Version 3.0	19/12/2012	1. Revision of the status of the MP1 which was reported in section A.1 and section B.2.2 of MR as per CAR#3; 2. Revision of the emergency procedure in section C as per CL#4; 3. PP voluntarily revised the figure of monitoring system in section C and the symbol of the monitoring meters.

- /9/. Emission reductions spreadsheet for this (the 2nd) monitoring period version 01 dated 07/09/2012, version 02 dated 09/11/2012 and version 03 dated 19/12/2012
- /10/. Report of commencing construction dated 10/10/2008
- /11/. Operational logbook for commissioning of the wind turbines dated 25/09/2009;
Operational logbooks during this (the 2nd) monitoring period
- /12/. Contract of wind turbines signed on September 2008

- /13/. Power Purchase Agreement (PPA) signed the grid company and the project owner covering this (the 2nd) monitoring period
- /14/. Grid connection diagram of the project
- /15/. Daily Reading Records (DRRs) for meter 1#, 2# and 3# during this (the 2nd) monitoring period
- /16/. Monthly Reading Records (MRRs) for meter 1#, 2# and 3# during this (the 2nd) monitoring period
- /17/. Electricity Transaction Notes (ETNs) serving as sales receipts and issued by grid company for this (the 2nd) monitoring period
- /18/. Calibration certificates for meter 1#, 2# and 3# dated 08/03/2011 and 03/03/2012
- /19/. Accreditation certificate for Jilin Electric Power Research Institute Co., Ltd (No.: Ji (2009) 0112, valid from 31/12/2009 to 30/12/2013)
- /20/. Monitoring and management manual version 02
- /21/. Emergency plan
- /22/. Training records of staffs
- /23/. Staff qualifications
- /24/. EB 66 Annex 20 (Guidelines for completing the monitoring report form) version 02.0
- /25/. Clean Development Mechanism Validation and Verification Standard (VVS) version 03.0 dated 23/11/2012
- /26/. EB70 Annex 2 (Clean Development Mechanism Project Standard) version 02.1
- /27/. JJG596-1999 Verification Regulation of Electrical Energy Meters with Electronics
- /28/. Project information of Heiyupao Phase II in the website of Clean Development Mechanism managed by NDRC of China:
http://cdm-en.ccchina.gov.cn/website/cdm/pdf/Item_new/Item_new5950.pdf

9. Findings Overview

Findings Overview Summary

	CARs	CLs	FARs
Total Number raised	3	1	0

Date:	12/10/2012		Raised by:	Sarah Chan and Yolanda Zheng	
Type:	CAR	Number:	#1	Reference:	Item 3.6 of section 2 in checklist

Lead Assessor Comment: **Date:** 12/10/2012

Through document review and on-site visit, it was found that the reported monitoring system was not consistent with the verified situation.

According to paragraph 220b of VVS version 02.0, CAR#1 was raised firstly requesting PP to clarify how the monitoring system was implemented to comply with the registered monitoring plan and then make correction with related documents.

Project Participant Response: **Date:** 09/11/2012

33 sets of 1500kW wind turbines for the project has been divided into three groups and use 35 kV overhead lines connect to the 220 kV booster substation. The three meters 4#, 5# and 6# have been installed in the 35 kV lines and continuously measure the electricity exported to the grid and imported from the grid by Jilin province Zhenlai Heiyupao 49.5MW the first phase wind farm project. The readings at 24:00 of the three meters are read and recorded by the project owner every day. All the data recorded based on the three meters 4#, 5# and 6# has been provided to DOE for verification.

Jilin Zhenlai Heiyupao Phase II wind farm connected to the grid at 14:00, 24/11/2010 and was sharing main meter and backup meter installed at the substation at project site with this project.

As per the new power purchase agreement (PPA) signed between the Grid Company and wind farm company, the location of measurement meters were changed from the substation of wind farm to the 35 kV lines of the wind farm on 24:00 of 24/03/2011. Electricity delivered to Northeast China Power Grid by the project (EG_y) is calculated from the measured electricity exported to the grid by the project monitored by the three meters installed in the 35 kV lines of the wind farm minus the measured electricity imported from the grid by the project monitored by the three main meters installed in the 35 kV lines of the wind farm.

Electricity exported to the grid by the project and electricity imported from the grid by the project were cross-checked by sales receipts.

According to the Clean Development Mechanism Project Standard (version 01.0), the PDD has been revised to version 06 dated 09/11/2012 and is to be submitted together with this Monitoring Report as this permanent change does not require prior approval.

The information of the three meters 4#, 5#, 6# installed in the 35 kV lines of the wind farm as follow tables:

Meter	Serial No.	Type	Accuracy	Calibration frequency	Calibration on	Validity
Meter 4#	20080929 010375	DTSD341	0.5	annually	08/03/2011	08/03/2011 to 07/03/2012
					03/03/2012	03/03/2012 to 02/03/2013
Meter 5#	20080929 010378	DTSD341	0.5	annually	08/03/2011	08/03/2011 to 07/03/2012
					03/03/2012	03/03/2012 to 02/03/2013

Meter 6#	20080929 010374	DTSD341	0.5	annually	08/03/2011	08/03/2011 to 07/03/2012
					03/03/2012	03/03/2012 to 02/03/2013
Calibration was carried by Jilin Electric Power Research Institute Co., Ltd. and the calibration records were supplied to the developer by the power grid. The accreditation certificate for the calibration entity (No. of accreditation certificate: Ji (2009) 0112) was issued by Quality and Technical Supervision Bureau of Jilin province and valid for this monitoring period.						
Documentation Provided as Evidence by Project Participant:						
Revised PDD version 06 dated 09/11/2012						
A new PPA signed between the Grid Company and wind farm company						
MR version 2.0						
ER sheet version 2.0						
Information Verified by Lead Assessor:						
1. A new Power Purchase Agreement (PPA) signed between the Grid Company and wind farm company covering this monitoring period;						
2. Registered PDD version 05 dated 28/10/2009 and revised PDD version 06 dated 09/11/2012;						
3. MR version 2.0 dated 09/11/2012;						
4. ER spreadsheet version 02 dated 09/11/2012;						
5. Daily Reading Records (DRRs) and Monthly Reading Records (MRRs) for meter #4, #5, and #6 during this monitoring period;						
6. Sale receipts issued by the Grid Company for this monitoring period;						
7. Calibration reports for meters 4#, 5# and 6# dated 08/03/2011 and 03/03/2012;						
8. Accreditation certificate for Jilin Electric Power Research Institute Co., Ltd.						
Reasoning for not Acceptance or Acceptance and Close Out:						
Through on-site visit it was found that Jilin Zhenlai Heiyupao Phase II wind farm connected to the grid at 14:00 of 24/11/2010 and was sharing main meter and backup meter installed at the substation at project site with this project.						
Following the new PPA covering this monitoring period, it was verified that the location of measurement meters were changed from the substation of wind farm to the 35 kV lines of the wind farm since 24:00 of 24/03/2011, which was the starting day of this monitoring period. The net electricity delivered to Northeast China Power Grid by the project (EG _y) was calculated from export electricity minus import electricity which were monitored by the bidirectional meters 4#, 5# and 6# installed in the 35 kV lines of the wind farm. To be conservative, sale receipts issued by the grid company were used to cross check the ERs calculation.						
According to the Clean Development Mechanism Project Standard (version 01.0), the change of location of meters as per PPA do not require prior approval. The PDD has been revised to version 06 dated 09/11/2012 and is to be submitted together with this Monitoring Report as the permanent change.						
The MR and ERs spreadsheet have been revised to following the PDD version 06 and the actual monitoring system. Daily Reading Records (DRRs) and Monthly Reading Records (MRRs) for meter 4#, 5#, and 6# during this monitoring period have been provided for verification. Data in MRRs were used to calculate the ERs and sales receipts of this project issued by the grid company were used to cross check. Sales receipts about the exported electricity were issued according to the apportioning approach required in the PPA, in which the transmission loss has been deducted. The sales receipts, which indicated the total electricity imported from the grid to the project activity and the Jilin Zhenlai Heiyupao Phase II wind farm, were used to cross check with the imported electricity for this project.						
The calibration certificates of meters 4#, 5# and 6# and accreditation certificates of the calibration party have						

been verified. It is confirmed by the assessment team that the calibration was timely and effective.
The reported monitoring system in the second version of Monitoring Report is consistent with the verified situation. Thus, CAR#1 was closed.

Acceptance and Close out by Lead Assessor: Sarah Chan	Date: 12/11/2012
Lead Assessor Comment:	Date: 22/11/2012

It was found that only the baseline emission was calculated in the ERs spreadsheet version 02, and the project emission, leakage and ERs was not calculated.

As per EB66 Annex 20, electronic spreadsheet should present full calculations in the monitoring report.

CAR#1 was re-open for PP to clarify how the calculation of ERs following the formula in the PDD and methodology.

Project Participant Response:	Date: 05/01/2013
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The project emission, leakage and ERs have been calculated in the ER spreadsheet version 03. To consistent with the reporting information with MP1, the Meter 1#, Meter 2# and Meter 3# in version 3.0 is the same as the Meter 4#, Meter 5# and Meter 6# in MR version 2.0.

Documentation Provided as Evidence by Project Participant:

ER spreadsheet version 03;

Revised PDD version 06.1;

MR version 3.0.

Information Verified by Lead Assessor:

1. The ERs spreadsheet version 03 dated 19/12/2012;
2. The revised PDD version 06.1 dated 19/12/2012;
3. The applied methodology ACM0002 version 09;
4. MR version 2.0 dated 09/11/2012 and version 3.0 dated 19/12/2012.

Reasoning for not Acceptance or Acceptance and Close Out:

It is verified that the project emission, leakage and ERs have been calculated in the ERs spreadsheet version 03, which is compliance with the requirement in the revised PDD and the applied methodology.

Also, the information of the "Meter 1#, 2# and 3#" in MR version 3.0, such as location, type, accuracy class, serial number and calibration has been checked through. The assessment team verified that, except the change of symbols for monitoring equipments, the information of "Meter 1#, 2# and 3#" in MR version 3.0 was the same as the monitoring equipments reported in MR version 2.0. So, it was acceptable that the symbols of the "Meter 4#, 5# and 6#" in MR version 2.0 were changed to "Meter 1#, 2# and 3#" in MR version 3.0.

Thus, CAR#1 was closed.

Acceptance and Close out by Lead Assessor: Sarah Chan	Date: 08/01/2013
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Date:	12/10/2012		Raised by:	Sarah Chan and Yolanda Zheng		
Type:	CAR	Number:	#2		Reference:	Item 2.2 of section 2 in checklist
Lead Assessor Comment:				Date: 12/10/2012		
As per EB66 Annex 20 (Guidelines for completing the monitoring report form, version 02.0), PP shall provide in section B.1 of Monitoring Report the description of the installed technology, including technical process, equipment.						
Since such information has not been reported in Section B.1 of MR version 1.0, CAR#2 was raised requesting PP to make correction with the issue addressed.						
Project Participant Response:				Date: 09/11/2012		

This project activity has installed 33 sets of 1500kW wind turbines (Model SL-1500/82). The primary boost of the wind farm use generator - box transformer connection mode. The entire 33 generator - box transformers are divided into three groups and use 35 kV overhead lines connect to the 35kV generatrix of the 220 kV booster substation. The 220kV booster substation is connected to Zhenlai substation, which is the substation of Northeast China Power Grid via 220 kV transmission line. All the electricity generated by the wind farm is transferred to Northeast China Power Grid via the Zhenlai substation.

The description of the installed technology, technical process and equipments has been described in the section B.1 of MR version 2.0.

Documentation Provided as Evidence by Project Participant:

MR version 2.0

Information Verified by Lead Assessor:

1. Contract of wind turbines signed on September 2008;
2. Grid connection diagram of the project;
3. A new Power Purchase Agreement (PPA) signed between the Grid Company and wind farm company covering this monitoring period;
4. MR version 2.0 dated 09/11/2012.

Reasoning for not Acceptance or Acceptance and Close Out:

Through on-site visit it was confirmed that 33 sets of wind turbines have been installed in the project site. The description of the installed technology, including technical process and equipment, in section B.1 of MR version 2.0 are consistent with the information verified through contract of wind turbines, grid connection diagram and PPA.

Thus, CAR#2 was closed.

Acceptance and Close out by Lead Assessor:
Sarah Chan

Date: 12/11/2012

Date:	22/11/2012		Raised by:	Assessment team	
Type:	CAR	Number:	#3	Reference:	Item 11.1 of section 2 in checklist

Lead Assessor Comment:

Date: 22/11/2012

As per the information on the UNFCCC website, <http://cdm.unfccc.int/Projects/DB/TUEV-RHEIN1257130074.71/view>, "Carbon Asset Management Sweden AB" has been withdrawn as the PP of the project, and the status of the MP1 was indicated as withdraw while a new submission has been uploaded.

CAR#3 was raised for PP to clarify how the following two issues was kept to consistent with the information in the UNFCCC website:

1. The PP's information in section A.3 of the revised PDD version 06;
2. The status of the MP1 which was reported in section A.1 of MR version 2.0 and the cover page of ERs spreadsheet version 02.

Project Participant Response:

Date: 05/01/2013

1. As the project owner has terminated the Emission Reductions Purchase Agreement with Carbon Asset Management Sweden AB, Carbon Asset Management Sweden AB as a buyer has been withdrawn on the UNFCCC website. According to Clean Development Mechanism Project Standard version 02.1, the correction of project information, such as name, which do not affect the design of the project activity, do not required by the Board. "Carbon Asset Management Sweden AB" has been cancelled in section A.3 of the revised PDD version 06.1, and the correction information has been updated in the MR version 3.0.

2. The status of the MP1 has been cancelled in MR version 3.0 and the cover page of ER spreadsheet version 03 since the status of the MP1 has no effect on the status of the MP2.

Documentation Provided as Evidence by Project Participant:

MR version 3.0 dated 19/12/2012; ER spreadsheet version 03 dated 19/12/2012; Revised PDD version 06.1 dated 19/12/2012.					
Information Verified by Lead Assessor:					
1. Information in UNFCCC website http://cdm.unfccc.int/Projects/DB/TUEV-RHEIN1257130074.71/view ;					
2. MR version 3.0 dated 19/12/2012;					
3. ER spreadsheet version 03 dated 19/12/2012;					
4. Revised PDD version 06.1 dated 19/12/2012.					
Reasoning for not Acceptance or Acceptance and Close Out:					
It is confirmed by the assessment team that the PP's information in the PDD version 06.1, the status of the MP1 which is reported in section A.1 of MR version 3.0 and the cover page of ERs spreadsheet version 03, have been revised to consistent with that in the UNFCCC website.					
Following the Para 1 in Appendix 1 of Standard: <i>Clean Development Mechanism Project Standard</i> version 02.1, the correction to project information, such as PP's name which do not affect the design of the project activity, do not require prior approval by the Board. The correction information has been reported in section B.2.2 of MR version 3.0.					
Thus, CAR#3 is closed.					
Acceptance and Close out by Lead Assessor: Sarah Chan				Date: 08/01/2013	

Date:	22/11/2012		Raised by:	Assessment team	
Type:	CL	Number:	#4	Reference:	Item 10.1 of section 2 in checklist
Lead Assessor Comment:				Date: 22/11/2012	
It was stated in section B.7.2 of the PDD version 06 that if any abnormal meter readings were found, "the net generation output shall be determined by (a) Firstly, a test by either party reveals it is inaccurate; ..."					
As the emergency procedure was not clear enough, CL#4 was raised for PP to clarify how the emergency procedure would be implemented.					
Project Participant Response:				Date: 19/12/2012	
In case of emergency, the project owner and the grid company will negotiate to determine a reasonable and conservative estimate of the correct reading and the memorandum will be signed between the project owner and the grid company as evidence to clarify the whole process. And the emergency procedure has been clarified in the revised PDD version 06.1 and MR version 3.0.					
Documentation Provided as Evidence by Project Participant:					
revised PDD version 06.1					
MR version 3.0					
Information Verified by Lead Assessor:					
1. Revised PDD version 06.1 dated 19/12/2012;					
2. MR version 3.0 dated 19/12/2012.					
Reasoning for not Acceptance or Acceptance and Close Out:					
It is confirmed by the assessment team that the emergency procedure in PDD version 06.1 and MR version 3.0 is reasonable and acceptable.					
Thus, CL#4 was closed.					
Acceptance and Close out by Lead Assessor: Sarah Chan				Date: 08/01/2013	

10. Statement of Competence

Statement of Competence

Name: Sarah
Chan

Status

- Lead Assessor	x	- Expert	x
- Assessor	x	- Financial Expert	
- Local Assessor	China	- Technical Reviewer	

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)	x
Technical Area(s): TA1.2 Energy generation from renewable energy sources	
2. Energy Distribution	
Technical Area(s):	
3. Energy Demand	
Technical Area(s):	
4. Manufacturing	
Technical Area(s):	
5. Chemical Industry	
Technical Area(s):	
6. Construction	
Technical Area(s):	
7. Transport	
Technical Area(s):	
8. Mining/Mineral Production	
Technical Area(s):	
9. Metal Production	
Technical Area(s):	
10. Fugitive Emissions from Fuels (solid, oil and gas)	
Technical Area(s):	
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	x
Technical Area(s): TA11: 11.2 GHG capture and destruction	
12. Solvent Use	
Technical Area(s):	
13. Waste Handling and Disposal	
Technical Area(s):	
14. Afforestation and Reforestation	
Technical Area(s):	
15. Agriculture	
Technical Area(s):	

Approved Member of Staff by:

Siddharth
Yadav

Date:

30/11/2012

Statement of Competence

Name: Yolanda Zheng

Status

- Lead Assessor	x	- Expert	x
- Assessor	x	- Financial Expert	
- Local Assessor	China	- Technical Reviewer	

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)	x
Technical Area(s): TA 1.2 Energy generation from renewable energy sources	
2. Energy Distribution	
Technical Area(s):	
3. Energy Demand	
Technical Area(s):	
4. Manufacturing	
Technical Area(s):	
5. Chemical Industry	
Technical Area(s):	
6. Construction	
Technical Area(s):	
7. Transport	
Technical Area(s):	
8. Mining/Mineral Production	
Technical Area(s):	
9. Metal Production	
Technical Area(s):	
10. Fugitive Emissions from Fuels (solid, oil and gas)	
Technical Area(s):	
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	x
Technical Area(s): TA 11.2 GHG capture and destruction	
12. Solvent Use	
Technical Area(s):	
13. Waste Handling and Disposal	
Technical Area(s):	
14. Afforestation and Reforestation	
Technical Area(s):	
15. Agriculture	
Technical Area(s):	

Approved Member of Staff by: Siddharth Yadav Date: 01/02/2013

Statement of Competence

Name: Michael Wu

Status

- Lead Assessor	x	- Expert	x
- Assessor	x	- Financial Expert	
- Local Assessor	China	- Technical Reviewer	x

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)	x
Technical Area(s): TA 1.2 Energy generation from renewable energy sources	
2. Energy Distribution	
Technical Area(s):	
3. Energy Demand	
Technical Area(s):	
4. Manufacturing	
Technical Area(s):	
5. Chemical Industry	
Technical Area(s):	
6. Construction	
Technical Area(s):	
7. Transport	
Technical Area(s):	
8. Mining/Mineral Production	
Technical Area(s):	
9. Metal Production	
Technical Area(s):	
10. Fugitive Emissions from Fuels (solid, oil and gas)	
Technical Area(s):	
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	
Technical Area(s):	
12. Solvent Use	
Technical Area(s):	
13. Waste Handling and Disposal	
Technical Area(s):	
14. Afforestation and Reforestation	
Technical Area(s):	
15. Agriculture	
Technical Area(s):	

Approved Member of Staff by: Siddharth Yadav Date: 19/10/2012

11. Photographic Evidence

Unique reference number: 20080929010375

Parameter: EG_y

Name of equipment: Meter 1#

Date: 28/09/2012



Unique reference number: 20080929010378

Parameter: EG_y

Name of equipment: Meter 2#

Date: 28/09/2012

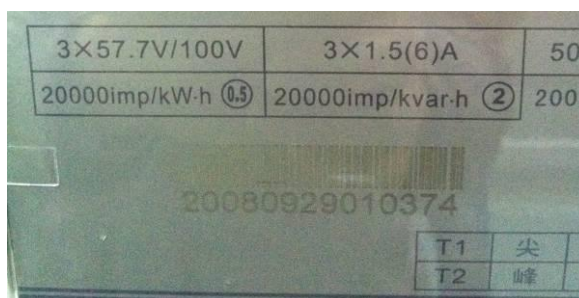


Unique reference number: 20080929010374

Parameter: EG_y

Name of equipment: Meter 3#

Date: 28/09/2012



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History

Version	EB Requirement	Nature of revision	Validity
Issue 7	VVS version 03.0	Update to checklist to include VVS procedures	23 rd November 2012
Issue 6	VVS Version 02.0	Update to checklist to include VVS procedures	25 th May 2012
Issue 5.4	VVM Version 01.2	Update to checklist	24 th February 2011