



VALIDATION REPORT ENERGY SYSTEMS INTERNATIONAL B.V.

VALIDATION OF THE HEILONGJIANG WUERGULI WIND POWER PROJECT

REPORT No. **BVC/CHINA-VAL/0003/2008**
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VALIDATION REPORT

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Summary:

Bureau Veritas Certification has made the validation of the Heilongjiang Wuerguli Wind Power Project of Heilongjiang Fulong Wind Power Co., Ltd. The Project is a newly built wind farm located on the Wuerguli Mountain within Daliushu Town, Fujin City of Heilongjiang Province, P.R.China on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

The validation scope is defined as an independent and objective review of the project design document, the project's baseline study, monitoring plan and other relevant documents, and consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final validation report and opinion. The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the validation process is a list of Clarification and Corrective Actions Requests (CL and CAR), presented in Appendix A. Taking into account this output, the project proponent revised its project design document.

In summary, it is Bureau Veritas Certification's opinion that the project correctly applies the baseline and monitoring methodology ACM0002 version 07 and meets all the relevant UNFCCC requirements for the CDM and the relevant host country criteria.

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Project title: Heilongjiang Wuerguli wind power project		
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Work verified by: Robin Wang (Reviewer) H B Muralidhar (Reviewer)		
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Indexing terms

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Abbreviations change / add to the list as necessary

BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reductions
CH ₄	Methane
CL	Clarification Request
CO ₂	Carbon Dioxide
CPP	Captive Power Plant
DIS	Draft of International Standard
DNA	Designated National Authority
DOE	Designated Operational Entity
DR	Document Review
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
ERPA	Emission Reduction Purchase Agreement
ESI	Energy Systems International B.V.
FSR	Feasibility Study Report
GHG	Green House Gas(es)
GWP	Global Warming Potential
IETA	International Emissions Trading Association
IPCC	Intergovernmental Panel on Climate Change
IRR	Internal Rate of Return
ISO	International Organization for Standardization
LOA	Letter of Approval
MoV	Means of Verification
MP	Monitoring Plan
NDRC	(China) National Development & Reform Commission
NEPG	Northeast China Power Grid
NGO	Non Government Organization
ODA	Official Development Assistance
PCF	Prototype Carbon Fund
PR China	Public Republic China
PDD	Project Design Document
UNFCCC	United Nations Framework Convention for Climate Change
VVM	Validation & Verification Manual



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1 INTRODUCTION

The Energy Systems International B.V. has commissioned Bureau Veritas Certification to validate the CDM project Heilongjiang Wuerguli Wind Power Project (hereafter called “the Project”) of Heilongjiang Fulong Wind Power Co., Ltd. (hereafter called “the PP”) at Heilongjiang Province, P. R. China.

This report summarizes the findings of the validation of the project, performed on the basis of UNFCCC criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

1.1 Objective

The validation serves as project design verification and is a requirement of all projects. The validation is an independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design, as documented, is sound and reasonable, and meet the stated requirements and identified criteria. Validation is a requirement for all CDM projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reductions (CERs).

UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

1.2 Scope

The validation scope is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations.

The validation 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 Validation team

The validation team consists of the following personnel:

(Jasmine) Tang Bureau Veritas Certification, Team Leader, Climate Change Verifier

Ling Liao Bureau Veritas Certification, Team Member, Climate Change Verifier

2 METHODOLOGY

The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

In order to ensure transparency, a validation protocol was customized for the project, according to the version 01 of the Clean Development Mechanism



Validation and Verification Manual, issued by the Executive Board at its 44 meeting on 28/11/2008. The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from validating the identified criteria. The validation protocol serves the following purposes:

↳ It organizes, details and clarifies the requirements a CDM project is expected to meet;

↳ It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation.

The validation protocol consists of five tables. The different columns in these tables are described in **Figure 1**. The completed validation protocol is enclosed in **Appendix A** to this report.

Validation Protocol Table 1: Requirements checklist				
Checklist Question	Reference	Means of verification(MoV)	Comment	Draft and/or Final Conclusion
The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organized in several sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.	Gives reference to documents where the answer to the checklist question or item is found.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) due to non-compliance with the checklist question. (See below). Clarification Request (CL) is used when the validation team has identified a need for further clarification.

Validation Protocol Table 2: Resolution of Corrective Action and Clarification Requests			
Report clarifications and corrective action requests	Ref. to checklist question in table 1	Summary of project owner response	Validation conclusion
If the conclusions from the Validation are either a Corrective Action Request or a Clarification Request, these should be listed in this section.	Reference to the checklist question number in Table 1 where the Corrective Action Request or Clarification Request is explained.	The responses given by the Client or other project participants during the communications with the validation team should be summarized in this section.	This section should summarize the validation team's responses and final conclusions. The conclusions should also be included in Table 1, under "Final Conclusion".

Figure 1 Validation protocol tables

2.1 Review of Documents

The Project Design Document (PDD) submitted by Millennium Capital Services (the Consultant) and additional background documents related to the project



design and baseline, i.e. country Law, Guidelines for Completing the Project Design Document (CDM-PDD), Approved methodology, Kyoto Protocol, Clarifications on Validation Requirements to be Checked by a Designated Operational Entity were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests Millennium Capital Services revised the PDD and resubmitted it on 10/03/2009, and the validation findings presented in this report relate to the project as described in the PDD version 02 dated 10/03/2009.

2.2 Follow-up Interviews

On 18/08/2008 Bureau Veritas Certification performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of Heilongjiang Fulong Wind Power Co., Ltd. (The project participant), CDM consultant and local stakeholders were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
Heilongjiang Fulong Wind Power Co., Ltd. (Project owner)	<ul style="list-style-type: none"> ➤ Project background information. ➤ Project technology, operation, maintenance and monitoring capability. ➤ Project monitoring and management plan. ➤ Stakeholder consultation process. ➤ Project approval status (incl. EIA approval, CDM project approval status) ➤ Wind power development in the area ➤ Policies related to wind power projects
Local Stakeholder	<ul style="list-style-type: none"> ➤ Project background in details ➤ Stakeholder comments ➤ Social and environmental impact of the project
CDM Consultant (MCS)	<ul style="list-style-type: none"> ➤ Applicability of selected methodology. ➤ Baseline determination. ➤ Emission reductions calculation. ➤ Emission reduction monitoring plan.

2.3 RESOLUTION OF CLARIFICATION AND CORRECTIVE ACTION REQUESTS

The objective of this phase of the validation is to raise the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification positive conclusion on the project design.

Corrective Action Requests (CAR) is issued, where:

- (a) The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;



(b) The CDM requirements have not been met;

(c) There is a risk that emission reductions cannot be monitored or calculated.

The validation team may also use the term Clarification Request (CL), if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

To guarantee the transparency of the validation process, the concerns raised are documented in more detail in the validation protocol in **Appendix A**.

3 VALIDATION FINDINGS

In the following sections, the findings of the validation are stated. The validation findings for each validation subject are presented as follows:

The findings from the desk review of the original project design documents and the findings from interviews during the follow up visit are described in the Validation Protocol **Appendix A**.

The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Validation Protocol in **Appendix A**. The validation of the Project resulted in **6** Corrective Action Requests and **6** Clarification Requests.

Please find more information about findings in annex A of this validation report.

After closing all the open questions the revised PDD is in compliance with the CDM requirements.

The number between brackets at the end of each section corresponds to the VVM paragraph.

3.1 Approval

Letters of approval have been received and following support documentation:

- Letter of Approval issued by DNA of China in 11/2008 /3/ authorized Heilongjiang Fulong Wind Power Co., Ltd. as project participant and confirmed that Heilongjiang Wuerguli Wind Power Project contributes to China's Sustainable development. No additional specification of the Project was contained in the LoA.
- Letter of Approval issued by DNA of the Netherlands on 29/09/2008 /4/ authorized Energy Systems International B.V. as project participant for Heilongjiang Wuerguli Wind Power Project in China.

Bureau Veritas Certification received Letters of Approval from the project participants and does not doubt its authenticity. Both parties (China and the Netherlands) are Party to the Kyoto Protocol, and the validation team considers the letters are in accordance with **Para. 45 – 48/ VVM**.

✌ Complying with **Para. 49, 50 and 125/VVM**, Bureau Veritas Certification recognizes that Heilongjiang Wuerguli Wind Power Project of Heilongjiang Fulong Wind Power Co., Ltd. is helping country fulfill its goals of promoting sustainable



development. The project is expected to be in line with host-country specific CDM requirements because it –

- To reduce greenhouse gas emissions compared to business-as-usual scenario;
- To stimulate the growth of the wind power industry in China;
- To reduce pollutants resulting from the power generation in China, compared to a business-as-usual scenario;
- To create employment opportunities during the project construction and operation;

There is also evidence in various approvals granted by the local government offices of host country China. There are as below,

- Feasibility Study Report (FSR) approved by Heilongjiang Development and Reform Committee on 08/07/2008. /7/
- Environment Impact Assessment (EIA) approved by Environment Protect Bureau of Heilongjiang Province on 22/08/2007. /9/
- The project activity of Grid connected wind power and the development of such Grid connected wind power is listed in the Renewable Energy Law, in the 2005 Guiding Catalogue of Industrial Structure Regulation Issued by National Development and Reform Commission and the Development Plan in New Energy Sources and Renewable Energy Sources from Year 2000 to 2015 as development priority of China /27/.

In the absence of the Project, equivalent amount of annual power output of the Project will be generated and supplied by Northeast China Power Grid; this is same with the baseline scenario. The Project Scenario is considered additional in comparison to the baseline scenario, and therefore eligible to receive Certified Emissions Reductions (CERs) under the CDM, based on an analysis, presented by the PDD.

The expected operational lifetime of the Project of 20years is in line with the FSR. The project design is sound and the geographical (Heilongjiang Province, P. R. China) and temporal (7 years) boundaries of the project are clearly defined.

✎ The review of documents and interview did not reveal any information indicates that the project can be seen as a diversion of official development assistance (ODA) funding towards China.

3.2 Participation (54)

The participation for each project participant has been approved by a Party of the Kyoto Protocol.

✎ Complying with **Para. 54/VVM**, Bureau Veritas Certification concluded this by review the letters of approval provided by PP and the information on UNFCCC website i.e.

<http://maindb.unfccc.int/public/country.pl?country=CN> ; and



<http://maindb.unfccc.int/public/country.pl?country=NL>

3.3 Project Design Document

✌ Complying with **Para. 57/VVM**, Bureau Veritas Certification hereby confirms that the PDD complies with the latest forms Project Design Document Form (CDM-PDD) version 03.2 and guidance documents for completion of PDD version 07.

3.4 Project Description

The Project “Heilongjiang Wuerguli Wind Power Project” (hereafter referred to as “the Project”) is sited on the Middle Ridge of Wuerguli Mountain, which is 150km east to Jiamusi City and 20km southeast to Fujin City, Heilongjiang Province, P.R.China. The Project has geographical coordinates with east longitude of 132°15'41"~132°18'13" and north latitude of 47°13'55"~47°14'33".

The objective of the project is to utilize wind power for generating electricity that will be sold to the Northeast China Power Grid (NEPG). The total installed capacity of the project is 30MW with 20sets of turbines with a unit capacity of 1500kW.

The estimated electricity delivered to the NEPG by the Project is 71,945MWh per year, thus result in annual emission reductions of 82,456tCO₂e during the first crediting period.

The process undertaken to validate the accuracy and completeness of the project description was including the document review and cross-check with the relevant approvals issued by local governments by Bureau Veritas Certification.

✌ Complying with **Para. 64/VVM**, Bureau Veritas Certification hereby confirms that the project description in PDD is accurate and complete in all respects.

3.5 Baseline and monitoring methodology

3.5.1 Baseline and monitoring methodology

The Project uses the approved consolidated baseline and monitoring methodology ACM0002 (version 07) – “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” and monitoring methodology.

By on-site visit and interview with the PP, validation team confirmed that the information given in the PDD complied with the criteria of methodology ACM0002 (Version 7):

- The Project involves the electricity capacity additions from the wind power plant;
- The Project does not involve switching from fossil fuels to renewable energy at the site of the project activity;
- The geographic and system boundaries for the NEPG can be clearly identified and information on the characteristics of the NEPG is available, which is evidenced by the *China's Regional Grid Baseline Emission Factors published by DNA of China*. /25/



Bureau Veritas Certification hereby confirms that the selected baseline and monitoring methodology ACM0002 Ver. 07 is previously approved by the CDM Executive Board, and is applicable to the project activity, which, complies with all the applicability conditions therein.

Bureau Veritas Certification hereby confirms that, as a result of the implementation of the proposed CDM project activity, there are no greenhouse gas emissions occurring within the proposed CDM project activity boundary, which are expected to contribute more than 1% of the overall expected average annual emissions reductions, which are not addressed by the applied methodology ACM0002 (Version 07).

3.5.2 Project boundary

The validation team validated the project boundary by a site visit and hereby confirms that the identified boundary and the selected sources and gases are justified for the project activity. i.e.

The spatial extent of the project boundary is the physical, geographical site of project activity and all other power plants connected physically to NEPG.

✌ Complying with **Para. 57/VVM**, Bureau Veritas Certification hereby confirms that the identification of Project boundary is in line with the delineation of grid boundaries as provided by the DNA of China. (Refer to the *China's Regional Grid Baseline Emission Factors* updated by DNA of China and publicly available on the website of China's DNA.

3.5.3 Baseline identification

The Project is the installation of a new grid-connected renewable power plant that connects with and delivers electricity to the Northeast China Power Grid. According to methodology ACM0002, the baseline scenario is the following:

Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system" ver.1.1 dated 18/07/2008./2/

As methodology ACM0002 prescribes the baseline scenario and no further analysis required, therefore, there is no need to take steps to identify the baseline scenarios.

According to the "Tool to calculate the emission factor for an electricity system" (version 1.1), the delineation of grid boundaries of the Project is the Northeast China Power Grid. Therefore, the baseline scenario of the Project is "the provision of an equivalent amount of annual power output by the Northeast China Power Grid which the Project is connected to".

✌ Complying with **Para. 80 and 81/VVM**, Bureau Veritas Certification hereby confirms that:



- (a) All the assumptions and data used by the project participants are listed in the PDD, including their references and sources;
- (b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD;
- (c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;
- (d) Relevant national and/or sectoral policies and circumstances are considered and listed in the PDD;
- (e) The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM project activity.

3.6 Additionality of a project activity

“Tool for Demonstration and Assessment of Additionality” version 5.2. /3/ has been employed for demonstrating and assessing the additionality of the Project. The additionality of the project has been carefully checked, in doing so the validation team has put the main focus on the following issues:

3.6.1 Prior consideration of the clean development mechanism

It has been demonstrated by the timeline of events of the Project that the CDM revenues was seriously considered in the decision to proceed with the project activity prior to start of the Project and the continuing and real action were taken to secure CDM status for the project in parallel with its implementation:

Date	Events
05/2007	FSR finished, showing that the Project is financially unattractive. /6/
18/01/2008	A board meeting was held, and the PP decided to continue to implement the Project, based on successful CDM registration experience of the <i>Wuerguli 30MW Wind Power Project</i> and the potential CDM revenue of the Project. /14/
26/01/2008	ERPA signed between PP and buyer (ESI) /15/
28/02/2008	Wind turbine purchase contract /11/
15/03/2008	Contract for construction services /10/
25/03/2008	Start Construction
14/07/2008	First version of PDD submitted to DOE for validation/1/

From above table, validation team was able to verify that the start date of the project activity determined as 28/02/2008 is appropriate (the signed date of wind turbine purchase contract), which is the earliest of the dates at which the implementation or construction or real action of the project activity began. This is in accordance with the latest CDM glossary. The Project with a start date before 02/08/2008 and prior to the date of publication of the PDD for Global stakeholder consultation, and PP demonstrated that the CDM was seriously considered in the decision to implement the project activity.



The validation team has checked all physical documents mentioned above and is able to verify that all documents are substantial and reasonable at that situation in the host country. Validation team was therefore able to verify that the incentives of CDM were seriously considered prior to the start of the project activity and continuing and real action were taken to secure CDM status for the project in parallel with its implementation, which are evident accordance with the “*Guidance on the Demonstration and Assessment of Prior Consideration of the CDM*” (EB41, Annex 46).

✌ Complying with **Para. 102/VVM**, Bureau Veritas Certification verified this issue which was considered much related to the additionality of the Project and can conclude that the serious consideration under the context of the Project has been addressed appropriately in accordance with the above guidance, consequently, the chronological events described with the relevant documented evidences can form the objective basis of the validation opinions of Bureau Veritas Certification.

As stated in methodology ACM0002, the latest “Tool for Demonstration and Assessment of Additionality” version 5.2 is used to demonstrate the additionality of the Project in the PDD.

3.6.2 Identification of alternatives to the project activity consistent with current laws and regulations (Step 1)

Plausible and credible baseline scenarios available to the Project that provide outputs or services comparable to the proposed CDM project activity include:

Alternative I: Construction of a fossil fuel-fired power plant with equivalent amount of annual electricity generation;

Alternative II: The Project not undertaken as a CDM project activity;

Alternative III: Construction of a power plant using other sources of renewable energy with equivalent amount of annual electricity generation; and

Alternative IV: Provision of an equivalent amount of annual power output by the NEPG which the Project is connected to.

✌ Complying with **Para. 105/VVM**, Bureau Veritas Certification was able to verify that the Project scenario and the baseline scenario defined to the Project are credible.

Of these identified alternatives, alternative I was excluded based on the evidence that in China the thermal power plant with a capacity less than 135MW are prohibited to be built. /23/ the Alternative III was excluded because there is no similar scale exploitable water resources /8/, technical barriers and market risks of biomass power generation /28/ and the installed capacity of the largest solar PV farm in China is only 8MW /29/.

Validation team verified the all relevant evidence and found satisfactory to exclude Alternative (I) and (III).



3.6.3 Investment Analysis (Step 2)

Option III (benchmark analysis) is applied for conducting the investment analysis. Project IRR 8% was employed by the project, which is come from the “*Interim Rules on Economic Assessment of Electric Power Engineering Retrofit Projects*” /16/, this benchmark is widely applied in Chinese power generation industries; therefore, the validation team concludes that the benchmark is suitable for the project.

Based on the data from the Feasibility Study Report, the project IRR of the Project without CERs revenue is 7.09%, much lower than the benchmark, which shows that the project is not financially attractive compared to the benchmark in the absence of CDM benefits.

The validation team has verified that the IRR calculation is correct and the data input are relied on values from the approved FSR which was carried out by an authorized third party viz. *Heilongjiang Electric Power Science Research* institute granted as a top class design institute in the power industry by the government of the host country. Therefore, the validation team confirms that the input values from FSR were valid and applicable at the time of the investment decision.

According to the relevant evidence provided, the validation team has confirmed that: based on the financial analysis in the FSR /6/ finished in **05/2007**, PP final decided to invest the project on **18/01/2008/14/** with consideration of CDM revenues. The time interval is short thus the validation team is confident that: it is unlikely in the context of the underlying project activity that the input values would have materially changed, which is in line with the report of **par. 54th (a) EB38** meeting.

At the same time, the validation team has compared the key input values for the financial analysis in the PDD and FSR, and found that all input parameters used in the financial analysis are taken from the FSR; therefore, the validation team confirmed that the investment analysis is in accordance with **par. 54th (b) EB38** meeting.

Furthermore, the validation team has reviewed the IRR calculation sheet and confirmed that:

- The **operating period** of 20years were selected reasonably following the requirements of “*Interim Rules on Economic Assessment of Electric Power Engineering Retrofit Projects*” and Para. 3 of “Guidance on the Assessment of Investment Analysis” ver. 2, i.e.”a minimum period of 10 years and a maximum of 20 years will be appropriate”.
- The **Residual Value Rate** were selected reasonably following relevant regulation in China;

Besides, the input values from the FSR have been crosschecked with validation team as follows:

- The main part of **total static investment** in the FSR had been crosschecked with the already signed contracts /10/, /11/, /12/, /13/ of key equipments by the



validation team, and found that the total contract value is close to the one estimated in the FSR, therefore, the assumptions for the total investment is reasonable;

- The **tariff** used in the PDD has been crosschecked with the bus-bar tariff guided by NDRC for *Wuerguli 30MW Wind Power Project* /17/, which is also belonging to the same project owner and registered as a CDM project (registration reference number: 1209) and the PPA of *Wuerguli 30MW wind Power Project* was signed between PP and the grid company /38/, and found that the tariff of *Wuerguli 30MW Wind Power Project* is 0.61RMB/kWh (incl. VAT) for the former 30,000 operating hours, and then down to the local thermal power plant bus-bar tariff for the rest operating hours. In addition, *the Guided Letter of Grid-connected tariff for wind projects in China (No. Fa Gai Jia Ge [2008]1876)* issued by NDRC on **23/07/2008** /22/ after the start of project, which showed that the tariff of wind power projects located in Heilongjiang Province, in which the Project located, is still 0.61RMB/kWh (incl. VAT) .
- The **annual feed-in electricity** of the Project was crosschecked with the design parameters of wind turbine manufactured by Sinovel Wind Co., Ltd. and found that it was designed based on the wind resource data of the local are in the latest 30 years. The operational hours does typically depend on the wind speed. In addition, the practical operational hours of wind farm in China is in the range between 2000 and 2400 hours /36/ according to *The development of New Energy and Renewable Energy need Policy Support policy* which is prepared on March 22th, 2005 by Wen Kegang who is member of the National Committee of Chinese People's Political Consultative Conference (CPPCC), Vice Chairman of the Committee of Population, Resources and Environment of the CPPCC National Committee. And the operating hours of the Project, i.e. 2,398hours, fall in above range of 2000 to 2400 hours.
- The validation team has confirmed that the **annual O&M cost** is the sum of salary and welfare of employees, materials fee, maintenance fee and Miscellaneous account, which was studied based on the “Code on Compiling Feasibility Study Report of Wind Farms” issued by NDRC /19/. The original figure for calculating annual O&M expense has been crosschecked with relevant criteria for wind farm design and found reasonable.
- The validation team also verified values of **various taxes** through cross-check with the taxation rules conducted by local government and found to be fully consistent.

In summary, based on the above reliable data sources, the validation team was able to conclude that the input values from the approved FSR are valid and applicable at the time of making the investment decision. Therefore, validation team concludes that the investment analysis is in accordance with **par. 54th (c) EB38** meeting.



The validation team has reviewed the IRR calculation /20/ and confirmed that the IRR processing is consistent with the “*Guidance on the assessment of investment analysis*” (Annex of “*Tool for Demonstration and Assessment of Additionality version 5.2*”) and the data sources as well as the analysis approach are reliable and based on the FSR linking directive to the actual situation of the host country. As it shows, without CDM income, the project IRR of the Project is 7.09%, which is lower than the benchmark (8%).

Four financial parameters were taken as uncertain factors for sensitive analysis of financial attractiveness:

- Total investment
- Annual O&M cost
- Annual feed-in electricity
- Bus-bar tariff

According to “Code on compiling feasibility study report of wind power projects” /19/ published by NDRC, total investment, annual electricity output and bus-bar tariff should be taken as uncertainty factors to do sensitivity analysis, and $\pm 10\%$ variation of above factors shall be considered in the sensitivity analysis. Therefore validation team has ensured that the variables and variations $\pm 10\%$ performed for sensitivity analysis is deemed to be reasonable in the wind farm sector in China.

The sensitivity analysis showed that:

- With a decrease in **total investment** by 6.98%, the Project IRR may reach 8%. The validation team is confident that the total investment won't decrease by 6.98% because the already signed contract value is almost close to the one estimated in FSR and price of construction materials and turbines are keeping increasing in China*.
- The **annual O&M costs** comprise materials expense, maintenance cost, salary and employ welfare and other cost. All of these expenses are determined by qualified entity based on long term operation experience. Besides, there are a number of indicators suggesting that O&M costs are rising as time goes by. Considering those rising O&M costs appears to be not relevant in CDM context, as it can be considered as a conservative approach to apply a constant O&M cost. Therefore, the annual O&M is impossible to decrease beyond 10% and is adversely possible to increase.
- With an increase in **annual feed-in electricity** by 7.4%, the Project IRR will reach 8%. However, by checking the FSR and design parameters of wind turbine manufactured by Sinovel Wind Co., Ltd., the annual output of the Project is estimated based on wind resource data of the latest 30 years and attenuation coefficient as stated in the FSR. Furthermore, as regulated by Electric Dispatch Communication Centre of Northeast China Power Grid, the grid company should adjust wind power output even shut up to ensure the grid

* <http://www.shdrc.gov.cn/subdetail.jsp?id=7217&file=sub.jsp&hyhyhy=6-2&okokok>,
<http://www.crein.org.cn/2008news/2008010901.htm>



- can operate safely /37/. Therefore, validation team confirmed that it is unlikely that the annual electricity output increases beyond 7.4%.
- With an increase in **tariff** by 7.4%, the Project IRR will reach 8%. However, taking into account the latest 2 years tariff guided by NDRC and the signed PPA of *Wuerguli 30 MW Wind Power Project*, the validation team confirmed that the tariff for the Project will remain at 0.61RMB/kWh for a long time. Furthermore, as discussed above, the tariff of wind farms will be down to the local thermal power plant bus-bar tariff after 30,000hours, which is far less than 0.61RMB/kWh used in the PDD, therefore, the fixed tariff used in the PDD is conservative. And the validation team confirmed that the tariff is unlikely to increase beyond 7.4%.
 - Taking into account the same economy climate in which the **O&M cost** and the **bus-bar tariff** are changing simultaneously along with the economy fluctuation, the overall impact will still remain without significant fluctuation as a result of the mutual-offset of the two indicators.

Considering of the CERs sales revenues (calculated with EURO9 /tCO₂e), the project IRR of the Project can reach the benchmark by 10.35%.

According to the Investment Analysis above, it is convincingly proved that without CDM incentive the investment barrier the Project faced is insurmountable. Considering of the CERs sales revenues the IRR of total investment of the Project will be significantly improved.

3.6.4 Barrier Analysis (Step 3)

No barrier analysis had been applied.

3.6.5 Common Practice Analysis (Step 4)

Heilongjiang Province is selected as the geographical scope of the common practice analysis, and validation team confirms that the geographical scope is appropriate since the investment circumstance and regulations related to wind power of each province in China are significant different. In addition, during 2002, a reform for electric power system in China, Electric Power System Reform was issued by China State Council dated 10/02/2002 /30/, which breaks the State-monopoly of the electric supply system, separates electric power generation and electric grid operation into sectors, and promotes market competition and other benefits. The project is a newly built wind farm located in Heilongjiang Province, therefore wind farms located in Heilongjiang Province, with a starting date of operation later than 01/01/2002 are considered as similar activities to the Project, which deems reasonable.

Data of wind power plants in Heilongjiang are taken from the *Statistics of Installed capacity of wind farm in China in 2007* /24/ by Mr. Shi Pengfei, Vice Chairman of Chinese Wind Association. *Statistics of Installed capacity of wind farm* are employed by almost all CDM projects in China as data source of common practice; therefore, validation team confirms that the source is reasonable.



Among all the similar power projects located in Shandong, only three wind farms are not registered or validated as CDM projects. The essential distinction between the proposed CDM project activity and the two similar projects has been assessed as follow:

- The bus-bar tariff of *Mulan Menggushan* Wind Farm is about 0.85RMB/kWh, 39% higher than that of the Project; /31/
- *Fujin Bielayinshan* Wind Farm Project is funded by international low interest loan and national soft loan; /32/
- *Mudanjiang Daimagou* Wind Farm Project was invested by the enterprises with foreign capital, which enjoy the corporate income tax privilege. /33/ /34/

✎ Complying with **Para. 119/VVM**, based on above demonstration, it is the opinion of Bureau Veritas Certification that the proposed CDM project activity is not common practice.

3.7 Calculation of GHG Emissions

According to the baseline methodology ACM0002 Version 07, the emission reductions from the Project shall be calculated based on the *Tool to calculate the emission factor for an electricity system (version 1.1)*.

The Tool is applied in the context of the Project in the following six steps:

Step 1.-Identify the relevant electric power system.

The Northeast China Power Grid is selected as electric power system and no net electricity imports identified to the Northeast China Power Grid need to be considered in the Project.

China's Regional Grid Baseline Emission Factors published by DNA of China on 09/08/2007 /25/ has been verified, and the validation team confirms that the identified electric power system is correct.

Step 2.-Select an operating margin (OM) method.

For the calculation of the OM emission factor, the simple OM emission factor calculation method is selected because low cost/ must-run projects constitute less than 50% of the total grid generation.

The calculation for low cost/ must-run constitute of the total grid generation has been checked by validation team and confirmed the calculation is correct, therefore, simple OM emission factor calculation method is selected reasonable. Data from China Electric Power Yearbook 2002-2006 has been applied correctly.

Step 3.-Calculate the operating margin emission factor according to the selected method.

The data on electricity generation and auxiliary electricity consumption are obtained from the China Electric Power Yearbook from 2000 to 2006 (published annually). The data on different fuel consumptions for power generation and the net caloric values of the fuels are obtained from the China Energy Statistical Yearbook from 2004 to 2006. The emission factors of the fuels adopted are



obtained from Table 1-2 and Table 1-4 of the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Workbook.

The renewable crediting period is adopted for the Project and the OM will be fixed for the first crediting period.

The data source are deemed reasonable and validation team confirms that the calculation can be replicated using the data and parameter provided in the PDD.

Step 4.-Identify the cohort of power units to be included in the build margin (BM).

The set of power capacity additions in the electricity system that comprise 20% of the system generation (in MWh) and that have been built most recently (Option b) is adopted properly for the Project.

Considering data availability, deviation accepted by EB was used in the PDD. i.e.

- 1) Use of capacity additions during the last 1~3 years for estimating the build margin emission factor for grid electricity.
- 2) Use of weights estimated using installed capacity in place of annual electricity generation.

Step 5.-Calculate the build margin emission factor.

The BM emission factor of the power grid is calculated by multiplying the emission factor of the thermal power with the share of the thermal power in the most recently added 20% of total installed capacity. The emission factor for thermal power is determined based on the most advanced and commercially available technology endorsed by DNA of China.

Step 6.-Calculate the combined margin (CM) emissions factor.

According to the “*Tool to calculate the emission factor for an electricity system*” the default weights: $\omega_{OM} = 0.75$ for Operating Margin and $\omega_{BM} = 0.25$ for build Margin in the first crediting period of Wind Power Projects are adopted.

As per baseline methodology ACM0002 and “*Tool to calculate the emission factor for an electricity system*”, the baseline emission sources considered are the emission reduction ER_y during the crediting period is the difference between baseline emissions, project emissions and emissions due to leakage. These are:

- 1) Baseline emissions: baseline emissions (BE_y in tCO_2) are equal to baseline emissions factor ($EF_{grid,CM,y}$ in tCO_2/MWh) times the net electricity supplied to the grid (EG_y in MWh).
- 2) Project Emissions: the project emissions are regarded as zero for wind power projects as per the ACM0002 Version 07.
- 3) Leakage: no leakage has to be considered for the proposed project activity since no energy generating equipment is transferred from or to the project site.
- 4) Emission reduction: $ER_y = BE_y - PE_y - L_y = BE_y - EF_{grid,CM,y} * EG_y$



With reference to the *China's Regional Grid Baseline Emission Factors* published by DNA of China on 09/08/2007, the Simple OM emission factor ($EF_{grid,OM,y}$) of the Northeast China Power Grid is calculated as 1.2404tCO₂e/MWh. Similarly, the build margin emission factor ($EF_{grid,BM,y}$) of the Northeast China Power Grid is calculated ex-ante as 0.8631tCO₂e/MWh.

Therefore the combined baseline emission factor is determined ex-ante and will remain fixed during the first crediting period, viz.

$$EF_{grid,CM,y} = 0.75 \times 1.2404 + 0.25 \times 0.8631 = 1.1461 \text{ tCO}_2\text{e/MWh}$$

According to the estimated annual electricity delivered to the grid 71,945MWh as stated in the FSR, the estimated annual emission reductions of the Project is 82,456tCO₂e during the first crediting period represents a reasonable estimation using the assumptions given by the Project.

☝ Complying with **Para. 91 and 92/VVM**, Bureau Veritas Certification hereby confirms that:

- (a) All assumptions and data used by the project participants are listed in the PDD, including their references and sources;
- (b) All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD;
- (c) All values used in the PDD are considered reasonable in the context of the proposed CDM project activity;
- (d) The baseline methodology ACM0002 and the "*Tool to calculate the emission factor for an electricity system*" have been applied correctly to calculate project emissions, baseline emissions, leakages and emission reductions;
- (e) All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD.

3.8 Monitoring Plan

The Project uses the approved consolidated monitoring methodology ACM0002 version 07 for "Consolidated baseline methodology for grid-connected electricity generation from renewable sources".

Applicability of this methodology is justified in PDD as it involves grid connected renewable power generation using wind energy. Refer discussions on the validity of the methodology at section 3.5.1 above.

The combined margin emission factor is determined ex-ante based on the most recent information available. Accordingly the monitoring plan includes the electricity delivered by the Project to the grid and electricity imported by the project from the grid. Data may be verified against the receipt of sales.

According to ACM0002 version 07 no leakage has to be considered for the proposed project activity since no energy generating equipment is transferred from or to the site viz. LE_y=0.

Operational management for the project activity is comprehensively detailed in PDD and this includes description of the responsibility, training, procedure



reference, equipment details, calibration frequency and maintenance needs are clearly mentioned. Archiving of the records is indicated and DOE is of the opinion that the retrievability of relevant CDM project activity records is pro-actively considered satisfactorily.

By reviewing the provided training plan /26/ and on-site interview with the PP, validation team confirms that the monitoring arrangements described in the monitoring plan are feasible within the project design, and the means of implementation of the monitoring plan are sufficient to ensure the emission reductions achieved by the proposed CDM project activity can be reported ex post and verified.

✎ Complying with **Para. 122/VVM**, Bureau Veritas Certification hereby confirms that the project participants are able to implement the monitoring plan.

3.9 Environmental Impacts

Bureau Veritas Certification has ensured that Environment Impact Assessment (EIA) Report has been carried out by Jiamusi Academy of Environmental Science of Heilongjiang Province in June, 2007 and approved by Heilongjiang Environment Protection Bureau on 20/08/2007. (Document No. Hei Huanjianshen [2007]104) /8/

The environmental impact results from the Project have been identified and analyzed in the PDD. By checking the EIA report the validation team is able to ensure that the environment impacts occurs mainly in the construction period due to waste water, dust and exhaust gas, noise, solid waste, and ecological impact. All above impacts would be within an acceptable limit by carrying out corresponding mitigation measures as per the statement of the EIA.

Furthermore, Letter of Approval issued by DNA of China in 11/2008 /3/ confirmed that Heilongjiang Wuerguli Wind Power Project contributes to China's Sustainable development.

✎ Complying with **Para. 131/VVM**, Bureau Veritas Certification hereby confirms that the Project will not have any significant impacts on the environment by means of measures of pollution avoidance and control as well as ecological recovery.

3.10 Local Stakeholders Consultation

Prior to the publication of the PDD on the UNFCCC website, viz, in July 2007, the Project owner conducted surveys to local stakeholders nearby Dayushu Town via distributing and collection responses to a questionnaire.

The questionnaires were distributed to Dayushu Town, and the villages nearby. Total 30 questionnaires had been distributed and all of them had been returned with 100% return rate.

According to the 30 filled questionnaires, the outcome of this survey show that the interested stakeholder have a very good understanding of the Project, and they agreed that the project can increase the employment opportunities, reduce air pollution, improve living standards and increase income. 87% of the local



stakeholders supported the construction of the Project and the left keep a neutral attitude.

Respondents consider that negative impacts possibly caused by the Project include occupation of land and noise, the PP will employ the methods mentioned in the EIA to mitigate the impact.

The returned questionnaires with answers of interested stakeholders are maintained by the project owner and were presented to DOE for assessment during the site visit of the validation activity./21/

The stakeholders viewed the Project as contributing to local environmental benefits and socio-economy. These views were endorsed by the local stakeholders interviewed during the site visit of the validation activity.

During the on-site visit, DOE has conducted an interview with local stakeholders and confirms that the stakeholders impacted had been invited transparency, the interview with stakeholders and review of returned questionnaires shows that the summary of the comments received has been completely provided in the PDD and due account of the comments has been described in the PDD. The validation team hereby confirms that the process of local stakeholder consultation is observed to be adequate.

✌ Complying with **Para. 128/VVM**, Bureau Veritas Certification hereby confirms that the local stakeholder consultation was performed Project will benefit to the local sustainable development without positively affect to the local stakeholders.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

According to the modalities for the Validation of CDM projects, the DOE shall make publicly available the project design document and receive, within 30 days, comments from Parties, stakeholders and UNFCCC accredited non-governmental organizations and make them publicly available.

✌ Complying with **Para. 166/VVM**, Bureau Veritas Certification published the project documents on the UNFCCC CDM website (<http://cdm.unfccc.int>) on 18/07/2008 and invited comments within 16/08/2008 by Parties, stakeholders and non-governmental organizations.

No Comments were received from any persons.

5 VALIDATION OPINION

Bureau Veritas Certification has performed a validation of the Heilongjiang Wuerguli Wind Power Project in P.R.China. The validation was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

The validation consisted of the following three phases: i) a desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) the resolution of outstanding issues and the issuance of the final validation report and opinion.



Project participant/s used the latest *Tool for demonstration and assessment of additionality* (version 05.2), *Paragraph 54 of EB 38* and the *Guidance-Prior consideration* - *Guidance on the demonstration and assessment of prior consideration of the CDM (version 01)* to demonstrate the additionality of the Project. In line with this tool, the PDD provides analysis of investment barriers to determine that the project activity itself is not the baseline scenario. The latest *Tool to calculate the emission factor for an electricity system* (version 01.1) is also applied to determine the emission factor of Northeast China Power Grid.

By synthetic description of the project, the project is likely to result in reductions of GHG emissions partially. An analysis of the investment analysis demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented and maintained as designed, the project is likely to achieve the annual emission reductions of 82,456tCO₂e.

The review of the project design documentation (version 02) and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the project correctly applies and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria.

The validation is based on the information made available to us and the engagement conditions detailed in this report.

6 REFERENCES

Category 1 Documents:

Documents provided by Type the name of the company that relates directly to the GHG components of the project.

/1/	PDD Version 01 dated 14/07/2008
/2/	PDD Version 02 dated 10/03/2009
/3/	Letter of Approval from DNA of the host country dated 11/2008.
/4/	Letter of Approval from DNA of Netherlands dated 29/09/2008
/5/	Statement of Modalities of Communication signed between Energy Systems International B.V. and Heilongjiang Fulong Wind Power Co., Ltd. dated 26/01/2008
/6/	Feasibility Study Report finished by Heilongjiang Electric Power Science Research institute in 05/2007
/7/	FSR approval issued by Heilongjiang Development and Reform Committee on 08/07/2008 (Document no. Hei Fa Gai Neng Yuan [2008]620)
/8/	EIA report finalized by Jiamusi Academy of environmental science of Heilongjiang Province in 06/2007



/9/	EIA approval issued by Heilongjiang Environment Protection Bureau on 22/08/2007 (Document No. Hei Huan Jian Shen [2007]104).
/10/	Contract for construction services on 15/03/2008
/11/	Purchase contract of wind turbine signed between PP and manufacture which comes into force on 28/02/2008
/12/	Tower of wind power purchase contract
/13/	35kV cable line purchase contract signed between PP and manufacturer
/14/	Investment decision with CDM consideration on 18/01/2008
/15/	Emission Reduction Purchase Agreement signed between PP and ESI on 26/01/2008
/16/	Interim Rules on Economic Assessment of Electric Power Engineering Retrofit Projects
/17/	Guided Letter of Grid-connected tariff for wind projects in China issued by NDRC on 03/12/2007 (Document No. Fa Gai Jia Ge [2007]3303)
/18/	Registered PDD of Wuerguli 30 MW Wind Power Project http://cdm.unfccc.int/Projects/DB/BVQI1182384587.37/view
/19/	Code on compiling feasibility study report of wind power projects
/20/	IRR spreadsheets of the project
/21/	Evidence of Local stakeholders' comments viz. 30 pieces of filled questionnaires
/22/	Emission Factor calculation spreadsheet
/23/	Notice on Strictly Prohibiting the Violative Installation of Thermal Power Generation Units with the Capacity of 135 MW or Below issued by the General Office of the State Council, decree no. 2002-6.
/24/	Installed capacity of Wind Farms in China in 2007 issued by Mr. Shi Pengfei, Vice Chairman of Chinese Wind Association
/25/	China's Regional Grid Baseline Emission Factors published by DNA of China on 09/08/2007
/26/	Training Plan
/27/	National Renewable Energy Law issued by NDRC of China effective from 01/01/2006.
/28/	http://www.new-energy.cn/lw/news.asp?id=27
/29/	http://market.ccidnet.com/pub/article/c1798_a135747_p1.html
/30/	Electric Power System Reform was issued by China State Council dated 10/02/2002



/31/	http://www.newenergy.org.cn/html/00412/20041605.html
/32/	http://www.china5e.com/news/power/200208/200208220027.html
/33/	http://www.mdjprojects.gov.cn/ArticleContent.asp?ID=1143
/34/	http://www.hlj.gov.cn/tzpd/tzhz/yhzc/200707/t20070706_22263.htm
/35/	Income Tax Law of China effected on 01/01/2008
/36/	The development of New Energy and Renewable Energy need Policy Support policy prepared by Wen Kegang on March 22/03/2005 http://cppcc.people.com.cn/GB/34961/45560/45565/3262150.html
/37/	As regulated by Electric Dispatch Communication Centre of Northeast China Power Grid, the grid company should adjust wind power output even shut up to ensure the grid can operate safely
/38/	PPA of Wuerguli 30 MW Wind Power Project signed with grid company

Category 2 Documents:

Background documents related to the design and/or methodologies employed in the design or other reference documents.

/1/	ACM0002 Version 07 dated 14/12/2007
/2/	Tool to calculate the emission factor for an electricity system version 1.1 dated 29/07/2008
/3/	Tool for demonstration and assessment of additionality Version 5.2 dated 26/08/2008
/4/	Paragraph 54 of EB 38 th Report dated 14/03/2008.
/5/	Guidance on the Demonstration and Assessment of Prior Consideration of the CDM-dated 02/08/2008 (EB41 Annex 46)

Persons interviewed:

List persons interviewed during the validation or persons that contributed with other information that are not included in the documents listed above.

/1/	Mr. Fang Guoming, Engineer, Heilongjiang Fulong Wind Power Co., Ltd.
/2/	Mr. Wu Jiuhuan, Millennium Capital Services, PDD in details
/3/	Ms. Li Hongwei, Local resident
/4/	Mr. Zhang Minghui, Local resident

VALIDATION REPORT

APPENDIX A: CDM PROJECT VALIDATION PROTOCOL

Table 1 Validation requirements based on the Validation and Verification Manual (EB44 Annex 3)

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl.	Final Concl.
1. Approval			COUNTRY A <i>(China)</i>	COUNTRY B <i>(the Netherlands)</i>		
A. Have all Parties involved approved the project activity?	VVM	44	Not yet been presented CAR-1	Not yet been presented CAR-2	CAR-1 CAR-2	OK
B. Has the DNA of each Party indicated as being involved in the proposed CDM project activity in section A.3 of the PDD provided a written letter of approval? (If yes, provide the reference of the letter of approval, any supporting documentation, and specify if the letter was received from the project participatn or directly from the DNA)	VVM	45	CAR-1	CAR-2	-	OK
C. Does the letter of approval from DNA of each Party involved:	VVM	45				
i. confirm that the Party is a Party of the Kyoto Protocol?	VVM	45.a	P. R. China has ratified the Kyoto Protocol on 30/08/2002,	Netherland has ratified the Kyoto Protocol on 31/05/2002	OK	OK
ii. confirm that participation is voluntary?	VVM	45.b	Pending close CAR-1	Pending close CAR-2	-	OK
iii. confirm that, in the case of the host Party, the proposed CDM project activity contributes to the sustainable development of the country?	VVM	45.c	Pending close CAR-1	Pending close CAR-2	-	OK

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CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl.	Final Concl.
iv. Refers to the precise proposed CDM project activity title in the PDD being submitted for registration?	VVM	45.d	Pending close CAR-1	Pending close CAR-2	-	OK
D. Is(are) the letter(s) of approval unconditional with respect to (i) to (iv) above?	VVM	46	No. It is conditional in China	No. It is conditional in Netherlands.	OK	OK
E. Has(ve) the letter(s) of approval been issued by the respective Party's designated national authority (DNA)?	VVM	47	China's DNA is NDRC	Netherlands' DNA is Ministry of Housing, Spatial Planning and the Environment.	OK	OK
F. If there is doubt with respect to (e) above, was verified with the DNA that the letter of approval is valid for the proposed CDM project activity under validation?	VVM	47	Pending close CAR-1	Pending close CAR-2	-	OK
2. Participation			<i>PP1 (Heilongjiang Fulong Wind Power Co., Ltd.)</i>	<i>PP2 (Energy Systems International B.V.)</i>		
A. Have all project participants been listed in a consistent manner in the project documentation?	VVM	51	Pending close CAR-1	Pending close CAR-2	-	OK
B. Has the participation of the project participants in the project activity been approved by a Party to the Kyoto Protocol?	VVM	51	Yes. Refer to http://maindb.unfccc.int/public/country.pl?country=CN	Yes. Refer to http://maindb.unfccc.int/public/country.pl?country=NL	OK	OK
C. Are the project participants listed in tabular form in section A.3 of the PDD?	VVM	52	Yes	Yes	OK	OK

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CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl.	Final Concl.
D. Is the information in section A.3 consistent with the contact details provided in Annex 1 of the PDD?	VVM	52	Yes	Yes	OK	OK
E. Has the participation of each of the project participants been approved by at least one Party involved, either in a letter of approval or in a separate letter specifically to approve participation? (Provide reference of the approval document for each of the project participants)	VVM	52	Pending close CAR-1	Pending close CAR-2	-	OK
F. Are any entities other than those approved as project participants included in these sections of the PDD?	VVM	52	No.		OK	OK
G. Has the approval of participation issued from the relevant DNA?	VVM	53	Pending close CAR-1	Pending close CAR-2	-	OK
3. Project desing document						
A. Is the PDD used as a basis for validation prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website?	VVM	55	Yes. Latest Version 03.2. per the GUIDELINES FOR COMPLETING CDM-PDD, CDM-NMB and CDM-NMM – Version 07 – 2 Aug, 2008		OK	OK
B. Is the PDD in accordance with the applicable CDM requirements for completing the PDD?	VVM	56	Yes		OK	OK
C. In CDM-PDD section A.1 are the following provided?	EB 41	Ann 12	Yes			
i. Title of project	EB 41	Ann 12	Yes. Heilongjiang Wuerguli Wind Power Project		OK	OK
ii. Current version number and date of document	EB 41	Ann 12	Yes.		OK	OK

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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
			GSP Version number: 1, dated 14/07/2008 Current Version number: 2 dated 10/03/2009		
D. In CDM-PDD section A.2 are following provided (max. one page)?	EB 41	Ann 12			
i. A brief description of the project activity covering purpose which includes the scenario existing prior to the start of the project, present scenario and baseline scenario	EB 41 - VVM	Ann 12 - 58 59 60	Yes The proposed CDM project activity is a newly – built large scale wind farm project. The Project involves the installation of 20 wind turbines of 1.5MW, which amount to a total capacity of 30MW. However, PDD is silent about the scenario existing prior to the start of the Project, present scenario and baseline scenario.	CL-1	OK
ii. Does the proposed CDM project activity involve the alteration of an existing installation or process?	VVM	63	No. It is a newly –built project.	OK	OK
iii. Explanation on how the GHG emission reductions are effected	EB 41	Ann 12	Yes. To utilize the wind power for power generation which will be delivered to the Northeast China Power Grid (NEPG) and displace the power from thermal power plants.	OK	OK
iv. The PP's vies on the contribution of project activity to sustainable development	EB 41	Ann 12	Yes. The contribution to sustainable development is included in Section A.2 of the PDD has been	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
			checked against the approved FSR of the Project. Viz. ➤ To reduce greenhouse gas emissions compared to business-as-usual scenario; ➤ To stimulate the growth of the wind power industry in China; ➤ To reduce pollutants resulting from the power generation in China, compared to a business-as-usual scenario; ➤ To create employment opportunities during the project construction and operation.		
E. In CDM-PDD section A.3 are following provided in the tabular format?	EB 41	Ann 12			
i. List of project participants and parties	EB 41	Ann 12	Yes. The private entities involved in the project activity are listed at section A.3 of the PDD. Host Country-China - Heilongjiang Fulong Wind Power Co., Ltd. Annex I Country- Netherlands - Energy Systems International B.V.	OK	OK
ii. Identification of Host Party			Yes. P.R. China	OK	OK
iii. Indication whethre the Party wishes to be considered as project participant	EB 41	Ann 12	No.	OK	OK

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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
F. In CDM-PDD section A.4.1 are following provided?	EB 41	Ann 12			
i. Technical description, location, host party(ies) and address as required	EB 41	Ann 12	Yes. Fujin City, Heilongjiang Province, P. R. China. The turbines (model-FL1500/70) are manufactured by the largest domestic producer - Sinovel Wind Co., Ltd	OK	OK
ii. Detailed physical location with unique identification of the project activity (eg. Longitude/latitude) – not to exceed one page	EB 41	Ann 12	Yes. Its geographical coordinates with east longitude 132°15'41"~132°18'13" and north latitude of 47°13'55" ~47°14'33".	OK	OK
G. In CDM-PDD section A.4.2 is the list of categories of project activities provided?	EB 41	Ann 12	Scope 1: Energy Industries (renewable sources)	OK	OK
H. In CDM-PDD section A.4.3 are following provided?	EB 41	Ann 12			
i. A description of how environmentally safe and sound technology, and know-how, is transferred to the Host Party(ies)	EB 41	Ann 12	Yes. The technology reflects the current good practice in the host country. The WTG is manufactured by the largest domestic producer.	OK	OK
ii. Explanation of purpose of project activity with scenario existing prior to the start of project, scope or present activities and the baseline scenario	EB 41	Ann 12	The project is a newly built wind farm.	OK	OK
iii. List and arrangement of the main	EB	Ann	Yes.	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
manufacturing/production technologies, systems and equipments involved	41	12	Refer the specification listed in A.4.3.		
iv. The emissions sources and GHGs involved	EB 41	Ann 12	Yes. To reduce greenhouse gas emissions of CO ₂ produced in NEPG.	OK	OK
I. In CDM-PDD section A.4.4 is the estimation of emission reductions provided as requested in a tabular format?	EB 41	Ann 12	7×3 renewable crediting periods chosen; Annual emission reduction of 82,456tCO ₂ e is estimated for the first crediting period;	OK	OK
J. In CDM-PDD section A.4.5 is Information regarding Public funding provided?	EB 41	Ann 12	Yes. No public funding involved confirmed with the approved FSR	OK	OK
K. In CDM-PDD section B.1 are following provided?	EB 41	Ann 12			
i. The approved methodology and version number	EB 41	Ann 12	Yes. ACM0002 ver.07 <i>"Consolidated methodology for grid-connected electricity generation from renewable sources"</i>	OK	OK
ii. Any methodologies or tools which the above approved methodology draws upon and their version number	EB 41	Ann 12	Yes. <i>"Tool for the Demonstration and Assessment of Additionality ver. 05.2"</i> and <i>"Tool to calculate the emission factor for an electricity system ver. 01.1"</i>	OK	OK
L. In CDM-PDD section B.2 is justification of the choice of methodology that the project activity meets each	EB	Ann	Yes.		

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
of the applicability conditions provided?	41	12			
M. In CDM-PDD section B.3 are following provided?	EB 41	Ann 12			
i. Description of all sources and gases included in the project boundary in the table	EB 41	Ann 12	Yes. Only emission of CO ₂ is considered in baseline emission.	OK	OK
ii. A flow diagram of the project boundary physically delineating the project activity	EB 41	Ann 12	Not illuminated.	CL-2	OK
iii. The flow diagram with all equipments, systems and flows of mass and energy etc	EB 41	Ann 12	No. Refer to above.	-	OK
N. In CDM-PDD section B.4 are following provided?	EB 41	Ann 12			
i. Explanation how the most plausible baseline scenario is identified in accordance with the selected baseline methodology	EB 41	Ann 12	Not applicable, as methodology ACM0002 prescribes the baseline scenario and no further analysis required, therefore, there is no need to take steps to identify the baseline scenarios.	OK	OK
ii. Justification of key assumptions and rationales	EB 41	Ann 12	Not applicable.	OK	OK
O. In CDM-PDD section B.5 are following provided?	EB 41	Ann 12			
i. Explanation of how and why this project activity is additional and therefore not the baseline scenario in accordance with the selected baseline methodology	EB 41	Ann 12	Yes. Investment analysis used for demonstration of the additionality.	OK	OK

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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
ii. Justification of key assumptions and rationales	EB 41	Ann 12	Yes.	OK	OK
iii. Transparent illustration of all data used to determine the baseline scenario (variables, parameters, data sources etc)	EB 41	Ann 12	Yes. See PDD B.5, Step 2.	OK	OK
iv. Evidence that the incentive from the CDM was seriously considered in the decision to proceed with the project activity, if the starting date of the project activity is before the date of validation	EB 41	Ann 12	Yes, in PDD B.5. The start date of the Project is identified before the date of validation. The objective evidences including PP's decision made to show that the incentive from CDM was taken into consideration seriously prior to project implementation is required.	CL-3	OK
P. In CDM-PDD section B.6.1 are following provided?	EB 41	Ann 12			
i. Explanation as to how the procedures, in the approved methodology to calculate project emissions, baseline emissions, leakage emissions and emission reductions are applied to the proposed project activity	EB 41	Ann 12	Complying with ACM0002, the " <i>Tool to calculate the emission factor for an electricity system</i> " ver. 01.1 is used. (referred to as " Tool-Grid EF " in the report) CAR is raised for the unidentified power exchanges with connected grid e.g. <i>NEPG</i> and <i>CCPG</i> .	OK	OK
ii. Equations used in calculating emission reductions	EB 41	Ann 12	The equations of "Tool-Grid EF" are used.	OK	OK
iii. Explanation and justification for all relevant	EB	Ann	The official data of Chinese power grid issued by	OK	OK

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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
methodological choices, including different scenarios or cases, options and default values	41	12	NDRC annually are used. (referred to as “ Notification of China Grid EF ” in the report)		
Q. In CDM-PDD section B.6.2 are following provided?	EB 41	Ann 12			
i. A compilation of information on the data and parameters that are not monitored throughout the crediting period but that are determined only once and thus remains fixed throughout the crediting period AND that are available when validation is undertaken	EB 41	Ann 12	Yes. Complying with “Tool-Grid EF”, the necessary official data of power grid made publically by NDRC are available and determined during validation.	OK	OK
ii. Explanation and justification for the choice of the source of data	EB 41	Ann 12	The official data i.e. Notification of China Grid EF were based on the data of China Energy Statistical Yearbook and China Power Yearbook, and authorities’ expertise.	OK	OK
iii. Clear and transparent references or additional documentation in Annex 3	EB 41	Ann 12	Yes.	OK	OK
iv. Where values have been measured, a description of the measurement methods and procedures (e.g. which standards have been used), indicated the responsible person/entity having undertaken the measurement, the date of measurement(s) and the measurement results	EB 41	Ann 12	It is not applicable in this case as the emission factor is determined ex-ante as per the options in ACM0002	OK	OK
R. In CDM-PDD section B.6.3 are following provided?	EB 41	Ann 12			
i. A transparent <i>ex ante</i> calculation of project emissions, baseline emissions (or, where	EB 41	Ann 12	Yes.	OK	OK

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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
applicable, direct calculation of emission reductions) and leakage emissions expected during the crediting period, applying all relevant equations provided in the approved methodology			The calculation process is in line with the steps taken prescribed in "Tool-Grid EF" and addressed in PDD B.6.3 and Annex 3.		
ii. Documentation how each equation is applied, in a manner that enables the reader to reproduce the calculation	EB 41	Ann 12	Yes. The spreadsheets are used.	OK	OK
iii. Additional background information and or data in Annex 3, including relevant electronic files (i.e. spreadsheets)	EB 41	Ann 12	Yes. The calculation spreadsheet has been presented for re-produce.	OK	OK
S. In CDM-PDD section B.6.4 are the results of the <i>ex ante</i> estimation of emission reductions for all years of the crediting period, provided in a tabular format?	EB 41	Ann 12	Yes. From 2009 to 2016 with year-wise data of emission reductions.	OK	OK
T. In CDM-PDD section B.7.1 are following provided?	EB 41	Ann 12			
i. Specific information on how the data and parameters that need to be monitored would actually be collected during monitoring for the project activity	EB 41	Ann 12	Yes. <i>EG y</i> –net electricity supplied to NEPG In addition, <i>EGPJ to Grid, y</i> and <i>EGGrid to PJ</i> are listed in B.7.1.	OK	OK
ii. For each parameter the following below information, using the table provided:	EB 41	Ann 12			
a. The source(s) of data that will be actually used for the proposed project activity (e.g. which exact national statistics). Where	EB 41	Ann 12	N/A No other outside source(s) of data should be	OK	OK

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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
several sources may be used, explain and justify which data sources should be preferred.			used.		
b. Where data or parameters are supposed to be measured, specify the measurement methods and procedures, including a specification which accepted industry standards or national or international standards will be applied, which measurement equipment is used, how the measurement is undertaken, which calibration procedures are applied, what is the accuracy of the measurement method, who is the responsible person/entity that should undertake the measurements and what is the measurement interval; (i) A description of the QA/QC procedures (if any) that should be applied; (ii) Where relevant: any further comment. Provide any relevant further background documentation in Annex 4.	EB 41	Ann 12	<p>The accuracy class both of the above two meters is at least 0.5.</p> <p>The measurement interval is on hourly basis.</p> <p>More information on monitoring plan should be given.</p>	CAR-3	OK
U. In CDM-PDD section B.7.2 are following provided?	EB 41	Ann 12			
i. A detailed description of the monitoring plan	EB 41	Ann 12	Refer to 3.T.ii.b	-	OK
ii. The operational and management structure that the project operator will implement in order to monitor emission reductions and any leakage effects generated by the project activity	EB 41	Ann 12	<p>Yes.</p> <p>No project emission and leakage need to be considered as per ACM0002</p>	OK	OK

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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
iii. The responsibilities for and institutional arrangements for data collection and archiving	EB 41	Ann 12	Yes. The structure covered from general management to meters recorder.	OK	OK
iv. Indication that the monitoring plan reflect good monitoring practice appropriate to the type of project activity	EB 41	Ann 12	Yes Widely applied in power sector.	OK	OK
v. Relevant further background information in Annex 4	EB 41	Ann 12	Not addressed separately. Same to PDD Section B7.2	OK	OK
V. In CDM-PDD section B.8 are following provided?	EB 41	Ann 12	Yes	OK	OK
i. Date of completion of the application of the methodology to the project activity study in DD/MM/YYYY	EB 41	Ann 12	Yes On 10/03/2009	OK	OK
ii. Contact information of the person(s)/entity(ies) responsible for the application of the baseline and monitoring methodology to the project activity	EB 41	Ann 12	Yes. Millennium Capital Services registered in Beijing P.R.China.	OK	OK
iii. Indication if the person/entity is also a project participant listed in Annex 1	EB 41	Ann 12	Yes. The person/entity is not the project participant	OK	OK
W. In CDM-PDD section C.1.1 are following provided?	EB 41	Ann 12			
i. The starting date of a CDM project activity, which is the earliest of the date(s) on which the implementation or construction or real action of a	EB 41	Ann 12	The starting date of the project activity should be identified following the CDM Glossary and Paragraph 67 of EB41 with clearly evidence.	CAR-4	OK

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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
project activity begins/has begun (EB33, Para 76/CDM Glossary of terms/EB41, Para 67)					
ii. A description of how this start date has been determined, and a description of the evidence available to support this start date	EB 41	Ann 12	Refer to 3.VV.i	-	OK
iii. If this starting date is earlier than the date of publication of the CDM-PDD for global stakeholder consultation by a DOE, description in Section B.5 contain a of how the benefits of the CDM were seriously considered prior to the starting date (EB41, Para 67).	EB 41	Ann 12	Yes. Addressed with a timeline in PDD-B.5.	OK	OK
X. In CDM-PDD section C.1.2 is the expected operational lifetime of the project activity in years and months provided?	EB 41	Ann 12	Yes. 20 years.	OK	OK
Y. In CDM-PDD section C.2 is it stated whether the project activity will use a renewable or a fixed crediting period and is C.2.1 or C.2.2 completed accordingly?	EB 41	Ann 12			
Z. In CDM-PDD section C.2.1 is it indicated that each crediting period shall be at most 7 years and may be renewed at most two times, provided that, for each renewal, a designated operational entity determines and informs the Executive Board that the original project baseline is still valid or has been updated taking account of new data where applicable?	EB 41	Ann 12	Yes. 3x7 years This baseline determination is for the first 7 years.	OK	OK
AA. In CDM-PDD section C.2.1.1 are dates in the following format: (DD/MM/YYYY) provided?	EB 41	Ann 12	Yes. 01/04/2009 in the GSP PDD and revised as	OK	OK

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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
			01/07/2009 in current version.		
BB. In CDM-PDD section C.2.1.2 is the length of the first crediting period in years and months provided?	EB 41	Ann 12	Yes. 7 y and 0 m	OK	OK
CC. In CDM-PDD section C.2.2 is the fixed crediting period at most ten (10) years provided?	EB 41	Ann 12	N/A.	OK	OK
DD. In CDM-PDD section C.2.2.1 are the dates provided in the following format: (DD/MM/YYYY)?	EB 41	Ann 12	N/A.	OK	OK
EE. In CDM-PDD section C.2.2.2 is the length of the crediting period in years and months Provided?	EB 41	Ann 12	N/A.	OK	OK
FF. In CDM-PDD section D.2 are the conclusions and all references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the Host Party, if environmental impacts are considered significant by the project participants or the Host, provided?	EB 41	Ann 12	The conclusion stated.	OK	OK
GG. In CDM-PDD section E.1 are the following provided?	EB 41	Ann 12			
i. The process by which comments by local stakeholders have been invited and compiled. An invitation for comments by local stakeholders shall be made in an open and transparent manner, in a way that facilitates comments to be received from local stakeholders and allows for a reasonable time for comments to be submitted.	EB 41	Ann 12	Yes. The information given in the PDD is not fully consistent with the objective evidence of public survey.	CL-4	OK

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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
ii. The project activity is described in a manner, which allows the local stakeholders to understand the project activity, taking into account confidentiality provisions of the CDM modalities and procedures.	EB 41	Ann 12	Yes. By distributing questionnaires	OK	OK
iii. The local stakeholder process has been completed before submitting the proposed project activity to the DOE for validation.	EB 41	Ann 12	Yes Completed in July 2007.	OK	OK
HH. In CDM-PDD section E.2 are following provided?	EB 41	Ann 12			
i. Identification of local stakeholders that have made comments	EB 41	Ann 12	Yes. It covers local habitants nearby the Dayushu Town.	OK	OK
ii. A summary of this comments.	EB 41	Ann 12	Yes. See PDD-E.2	OK	OK
II. In CDM-PDD section E.3 is the explanation of how due account have been taken of comments received from local stakeholders provided?	EB 41	Ann 12	No measure need to be considered.	OK	OK
JJ. In CDM-PDD Annex 1 are the following provided?	EB 41	Ann 12			
i. Contact information of project participants	EB 41	Ann 12	Yes.	OK	OK
ii. For each organisation listed in section A.3 the following mandatory fields: Organization, Name of contact person, Street, City, Postfix/ZIP, Country,	EB 41	Ann 12	Yes.	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
Telephone and Fax or e-mail					
KK. In CDM-PDD Annex 2 is information from Parties included in Annex I on sources of public funding for the project activity which shall provide an affirmation that such funding does not result in a diversion of official development assistance and is separate from and is not counted towards the financial obligations of those Parties provided?	EB 41	Ann 12	Yes.	OK	OK
LL. In CDM-PDD Annex 3 is the background information used in the application of the baseline methodology provided?	EB 41	Ann 12	Yes.	OK	OK
MM. In CDM-PDD Annex 4 is the background information used in the application of the monitoring methodology provided?	EB 41	Ann 12	No. Refer to PDD-B.7.2.	OK	OK
4. Baseline and monitoring methodology					
A. General requirement					
a. Is the baseline and monitoring methodologies selected by the project participants previously approved by the CDM Executive Board?	VVM	65	Yes. The proposed project is falling into the category "grid-connected electricity generation from renewable sources" "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" ACM0002 version 07 validated from 14 /12/2007 was selected, which complies with the methodologies previously approved by the CDM EB.		OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
			As per methodology ACM0002, the latest version of the latest version of “tool to calculate the emission factor for an electricity system” version 1.1 and “tool for demonstration and assessment of additionality” version 5.2 should be used in the PDD.	CL-5	
b. Is the selected methodology applicable to the project activity?	VVM	66	<p>Yes, the methodology ACM0002 Ver. 07 applies to project activities that generate electricity from renewable energy sources. The applicability has been properly elaborated in Section B.2. of the PDD. Viz.</p> <ul style="list-style-type: none"> ➤ the project involves the electricity capacity additions from the wind power plant; ➤ the project does not involve switching from fossil fuels to renewable energy at project site; ➤ The geographic and system boundaries of Northeast China Power Grid (NEPG) can be clearly identified and the information of this grid is available. 	OK	OK
c. Had the selected methodology been correctly applied?	VVM	66	Yes. Refer to (4.B) below	OK	OK
d. Had the selected methodology been correctly applied with respect to project boundary?	VVM	67	Refer to (4.C) below	OK	OK
e. Had the selected methodology been correctly applied with respect to baseline identification?	VVM	67	Refer to (4.D) below	OK	OK
f. Had the selected methodology been correctly	VVM	67	Refer to (4.E) below	OK	OK

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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
applied with respect to Algorithms and/or formulae used to determine emission reductions?					
g. Had the selected methodology been correctly applied with respect to additionality?	VVM	67	Yes.	OK	OK
B. Applicability of the selected methodology to the project activity					
a. Is the selected baseline and monitoring methodology, previously approved by the CDM Executive Board, applicable to the project activity?	VVM	68	Yes. ACM0002 version 07 Valid from 14 Dec 07 to August 09	OK	OK
b. Is the methodology correctly quoted?	VVM	69	Yes.	OK	OK
c. Are the applicability conditions of the methodology met?	VVM	70	Yes, refer to 4.A.b above.	OK	OK
d. Is the project activity expected to result in emissions other than those allowed by the methodology?	VVM	70	No other emissions other than CO ₂ are identified.	OK	OK
e. Is the DOE, based on local and sectoral knowledge, aware that comparable information is available from sources other than that used in the PDD?	VVM	70	Yes.	OK	OK
f. If yes, was the PDD cross checked against the other sources to confirm that the project activity meets the applicability conditions of the methodology? (provide the reference to these choices)	VVM	70	Yes.	OK	OK
g. Can a determination regarding the applicability of the selected methodology to the proposed CDM project activity be made?	VVM	71	Yes.	OK	OK

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h. If no, clarification of the methodology was requested, in accordance with the guidance provided by the CDM Executive Board?	VVM	71	N/A	OK	OK
i. If answer to (4.B.c) above is “no”, revision or deviation from the methodology was requested, in accordance with the guidance provided by the CDM Executive Board?	VVM	72	N/A	OK	OK
C. Project boundary					
a. Does the PDD correctly describe the project boundary, including the physical delineation of the proposed CDM project activity included within the project boundary for the purpose of calculating project and baseline emissions for the proposed CDM project activity?	VVM	77	Yes. In Section B.3 of the PDD. The Project boundary is clearly identified that includes the physical, geographical site of the project activity and all power plants connected physically to the Northeast China Power Grid (NEPG) that the project is connected to. This is in line with the delineation of grid boundaries as provided by the DNA of China. The defined project boundary is in line with ACM0002 ver 07. And all emission sources and GHGs have been included in the project boundary.	OK	OK
b. Is the delineation in the PDD of the project boundary correct?	VVM	78	Yes.	OK	OK
c. Does the delineation in the PDD of the project boundary meet the requirements of the selected baseline?	VVM	78	Yes. Clearly identified.	OK	OK
d. Have all sources and GHGs required by the	VVM	78	Yes.	OK	OK

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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
methodology been included within the project boundary?			For wind power projects only CO ₂ emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity.		
e. Does the methodology allow project participant to choose whether a source or gas is to be included within the project boundary?	VVM	78	Not applicable	OK	OK
f. If yes, have the project participants justified that choice?	VVM	78	Not applicable	OK	OK
g. If yes, is the justification provided reasonable? (provide reference to the supporting documented evidence provided by the project participants)	VVM	78	Not applicable	OK	OK
<i>D. Baseline identification</i>					
a. Does the PDD identify the baseline for the proposed CDM project activity, defined as the scenario that reasonably represents the anthropogenic emissions by sources of GHGs that would occur in the absence of the proposed CDM project activity?	VVM	80	Yes. The baseline scenario is clearly identified in section B.4. in accordance with ACM0002 ver 07. And the baseline scenario is "The provision of an equivalent amount of annual power supply by the Northeast China Power Grid which the Project is connected to".	OK	OK
b. Has any procedure contained in the methodology to identify the most reasonable baseline scenario, been correctly applied?	VVM	81	Not applicable, as methodology ACM0002 prescribes the baseline scenario and no further analysis required, therefore, there is no need to take steps to identify the baseline scenarios.	OK	OK
c. Does the selected methodology require use of tools (such as the "Tool for the demonstration and	VVM	81	No.	OK	OK

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assessment of additionality” and the “Combined tool to identify the baseline scenario and demonstrate additionality”) to establish the baseline scenario?					
d. If yes, was the methodology consulted on the application of these tools? (In such cases, the guidance in the methodology shall supersede the tool.)	VVM	81	N/A	OK	OK
e. Does the methodology require several alternative scenarios to be considered in the identification of the most reasonable baseline scenario?	VVM	82	No. Refer to (4.D.b) above	OK	OK
f. If yes, are all scenarios that are considered by the project participants and are supplementary to those required by the methodology reasonable in the context of the proposed CDM project activity?	VVM	82	N/A.	OK	OK
g. Has any reasonable alternative scenario been excluded?	VVM	82	N/A . Refer to (4.D.b) above	OK	OK
h. Are the documents and sources referred to in the PDD correctly quoted and interpreted?	VVM	83	N/A. Refer to (4.D.b) above	OK	OK
i. Was the information provided in the PDD cross checked with other verifiable and credible sources, such as local expert opinion, if available? (identify the sources)	VVM	83	N/A.	OK	OK
j. Have all applicable CDM requirements been taken into account in the identification of the baseline scenario for the proposed CDM project activity?	VVM	84	N/A.	OK	OK
k. Have all relevant policies and circumstances been identified and correctly considered in the PDD, in	VVM	84	Refer to 4.D.g. above	OK	OK

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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
accordance with the guidance by the CDM Executive Board?					
I. Does the PDD provide a verifiable description of the identified baseline scenario, including a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed CDM project activity?	VVM	85	Yes. It is identified in the PDD B.4 that “ <i>Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the “Tool to calculate the emission factor for an electricity system”.</i> ”	OK	OK
E. Algorithms and/or formulae used to determine emission reductions					
a. Do the steps taken and equations applied to calculate project emissions, baseline emissions, leakage and emission reductions comply with the requirements of the selected baseline and monitoring?	VVM	88	Yes. Tool to calculate the emission factor for an electricity system are required to be used by ACM0002.	OK	OK
b. Have the equations and parameters in the PDD been correctly applied with respect those in the select approved methodology?	VVM	89	The steps and equations applied are consistent with the Tool and ACM0002.	OK	OK
c. Does the methodology provide for selection between different options for equations or parameters?	VVM	89	Yes. Options in Step 1,2 and 3. are used for OM factor determination	OK	OK
d. If yes, has adequate justification been provided	VVM	89	Yes.	OK	OK

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(based on the choice of the baseline scenario, context of the proposed CDM project activity and other evidence provided)?			The relevant justifications in Step 1,2 and 3.		
e. If yes, have correct equations and parameters been used, in accordance with the methodology selected?	VVM	89	Yes.	OK	OK
f. Will data and parameters be monitored throughout the crediting period of the proposed CDM project activity?	VVM	90	Not applicable as the emission factor is determined ex ante for the Project.	OK	OK
g. If no, and these data and parameters will remain fixed throughout the crediting period, are all data sources and assumptions:	VVM	90			
i. Appropriate and correct?	VVM	90	Yes, the data issued by China's DNA was used, which is appropriate and correct.	OK	OK
ii. Applicable to the proposed CDM project activity?	VVM	90	Yes.	OK	OK
iii. Resulting in a conservative estimate of the emission reductions?	VVM	90	Yes.	OK	OK
h. Will data and parameters be monitored on implementation and hence become available only after validation of the project activity?	VVM	90	Not applicable	OK	OK
i. If yes, are the estimates provided in the PDD for these data and parameters reasonable?	VVM	90	Not applicable	OK	OK
5. Additionality of a project activity					
a. Does the PDD describe how a proposed CDM project activity is additional?	VVM	93	Pending close out all Findings in this section.	-	OK
b. Does the CDM-PDD state the latest version of the	VVM	94	Yes.	OK	OK

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additionality tool being used?			The approved "Tool for the Demonstration and Assessment of Additionality" version 05.2 is used.		
c. Were the steps taken of the "Tool for the Demonstration and Assessment of Additionality" to assess additionality used:	EB 39	Ann 10	Step 1(identification of alternatives of the project activity), step 2(investment analysis) and step 4(common practice analysis) of "Tool for the Demonstration and Assessment of Additionality" were used. While step 3 (barrier analysis) was not used.	OK	OK
i. Identification of alternatives to the project activity? (Step 1)	EB 39	Ann 10	<p>Yes, all plausible and credible alternative scenarios have been identified in the PDD, including:</p> <p><u>Alternative I:</u> Construction of a fossil fuel power plant with equivalent amount of annual electricity output;</p> <p><u>Alternative II:</u> The proposed project not undertaken as CDM project;</p> <p><u>Alternative III:</u> Construction of a power plant using other sources of renewable energy with equivalent amount of annual electricity output;</p> <p><u>Alternative IV:</u> Supply of equivalent annual power output by the Grid to which the proposed project is connected.</p> <p>The alternative III was excluded since there are no exploitable water, biomass face technical and market risks and large solar PV are not comparable to the Project.</p>	OK	OK

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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
ii. Investment analysis to determine that the proposed project activity is either: (1) not the most economically or financially attractive, or (2) not economically or financially feasible? (Step 2)	EB 39	Ann 10	Yes, (2) is used. The appropriate analysis method is clearly discussed and determined in the PDD. Option III (benchmark analysis) is chosen for investment analysis.	OK	OK
iii. Barriers analysis?	EB 39	Ann 10	Not used.	OK	OK
iv. Common practice analysis?	EB 39	Ann 10	Yes. The Project is located in Heilongjiang. As projects of same type developed within the same region face a similar regulatory framework that makes them comparable. Therefore, activities similar to the Project should be wind farm located in Heilongjiang.	OK	OK
d. In step 1 (i) have all the sub-steps as below been followed?	EB 39	Ann 10	Yes.	OK	OK
i. Sub-step 1a: Define alternatives to the project activity	EB 39	Ann 10	Yes.	OK	OK
ii. Sub-step 1b: Consistency with mandatory laws and regulations	EB 39	Ann 10	Yes. the relative regulations and laws are clearly discussed for all other scenarios in the PDD. According to Chinese power regulations, construction of a fossil fuel-fired power plant of less than 135 MW are prohibited in the areas	OK	OK

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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
			covered by large grids according to current regulations in China. Hence the alternative I- <i>Construction of a fossil fuel-fired power plant with equivalent amount of annual electricity generation</i> is not a realistic and credible alternative. The left alternatives are alternative II and alternative IV.		
e. Have the following alternatives been included while defining alternatives as per sub-step 1a?	EB 39	Ann 10	Yes.	OK	OK
i. (a) The proposed project activity undertaken without being registered as a CDM project activity;	EB 39	Ann 10	Yes. Refer to 5.c.i. above.	OK	OK
ii. (b) Other realistic and credible alternative scenario(s) to the proposed CDM project activity scenario that deliver outputs services or services with comparable quality, properties and application areas, taking into account, where relevant, examples of scenarios identified in the underlying methodology;	EB 39	Ann 10	Yes. Refer to 5.c.i. above.	OK	OK
iii. (c) If applicable, continuation of the current situation (no project activity or other alternatives undertaken).	EB 39	Ann 10	Yes. Refer to 5.c.i. above.	OK	OK
f. Has the outcome of Step 1a : Identified realistic and credible alternative scenario(s) to the project activity done correctly? Please briefly mention the outcome.	EB 39	Ann 10	Alternative I and III are correctly excluded. Therefore Alternative II and Alternative IV are analyzed in Step 2 as potential baseline alternatives.	OK	OK

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g. Is the alternative(s) in compliance with all mandatory applicable legal and regulatory requirements, even if these laws and regulations have objectives other than GHG reductions, e.g. to mitigate local air pollution.?	EB 39	Ann 10	Yes. Alternative I) is strictly regulated for installation per the current regulations in China i.e.: <i>Notice on Strictly Controlling the Manufacturing and Construction of Small-scale Fuel-fired Generators</i> , Ref. No.[Jijiqing (1995) 2372]. Consequently, alternative I is excluded.	OK	OK
h. If an alternative does not comply with all mandatory applicable legislation and regulations, has it been shown that, based on an examination of current practice in the country or region in which the law or regulation applies, those applicable legal or regulatory requirements are systematically not enforced and that noncompliance with those requirements is widespread in the country?	EB 39	Ann 10	Yes. Alternative I Construction of a fossil fuel power plant with equivalent amount of annual electricity output; is enforced and generally that noncompliance with those requirements is not appeared in the country.	OK	OK
i. Has the outcome of Step 1b : Identified realistic and credible alternative scenario(s) to the project activity that are in compliance with mandatory legislation and regulations taking into account the enforcement in the region or country and EB decisions on national and/or sectoral policies and regulations done correctly? Please state the outcome.	EB 39	Ann 10	Yes. Alternative I is not consistent with mandatory laws and regulations	OK	OK
j. Has PP selected Step 2 (Investment analysis) or Step 3 (Barrier analysis) or both Steps 2 and 3?	EB 39	Ann 10	Yes.	OK	OK
k. In step 2, have all the sub-steps as below been followed?	EB	Ann	Yes.	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
	39	10			
i. Sub-step 2a: Determine appropriate analysis method;	EB 39	Ann 10	Yes. The appropriate analysis method is clearly discussed and determined in the PDD. Option III (benchmark analysis) is chosen for investment analysis.	OK	OK
ii. Sub-step 2b: Option I. Apply simple cost analysis;	EB 39	Ann 10	It is considered not applicable to the Project	OK	OK
iii. Sub-step 2b: Option II. Apply investment comparison analysis;	EB 39	Ann 10	It is considered not applicable to the Project	OK	OK
iv. Sub-step 2b: Option III. Apply benchmark analysis;	EB 39	Ann 10	The benchmark analysis method based on Project IRR is chosen.	OK	OK
v. Sub-step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III);	EB 39	Ann 10	Yes.	OK	OK
vi. Sub-step 2d: Sensitivity analysis (only applicable to Options II and III).	EB 39	Ann 10	Yes.	OK	OK
I. In sub-step 2a has the determination of appropriate method of analysis done as per the guidance as below?	EB 39	Ann 10	Yes.	OK	OK
i. Simple cost analysis if the CDM project activity and the alternatives identified in Step 1 generate no financial or economic benefits other than CDM related income (Option I).	EB 39	Ann 10	Yes. Excluded as the proposed project will earn revenues from not only the CDM but also the	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
			electricity output.		
ii. Otherwise, use the investment comparison analysis (Option II) or the benchmark analysis (Option III). Specify option used with justification.	EB 39	Ann 10	Yes. The baseline scenario of the Project is to supply equivalent annual power output from the Grid rather than a new investment project. Thus the Option III is chosen.	OK	OK
m. Has the below guideline followed for sub-step 2b Option I. Apply simple cost analysis? Document the costs associated with the CDM project activity and the alternatives identified in Step1 and demonstrate that there is at least one alternative which is less costly than the project activity.	EB 39	Ann 10	Not applicable.	OK	OK
n. Has the below guideline followed for sub-step 2b Option II. Apply investment comparison analysis? Identify the financial indicator, such as IRR, NPV, cost benefit ratio, or unit cost of service most suitable for the project type and decision-making context. Please specify	EB 39	Ann 10	Not applicable.	OK	OK
o. Has the below guideline followed for Sub-step 2b: Option III. Apply benchmark analysis?	EB 39	Ann 10		OK	OK
i. Identify the financial/economic indicator, such as IRR, most suitable for the project type and decision context.	EB 39	Ann 10	Yes. IRR was identified.	OK	OK
ii. When applying Option II or Option III, the financial/economic analysis shall be based on parameters that are standard in the market,	EB 39	Ann 10	Yes.	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
considering the specific characteristics of the project type, but not linked to the subjective profitability expectation or risk profile of a particular project developer. Only in the particular case where the project activity can be implemented by the project participant, the specific financial/economic situation of the company undertaking the project activity can be considered.					
iii. Discount rates and benchmarks shall be derived from: (a) Government bond rates, increased by a suitable risk premium to reflect private investment and/or the project type, as substantiated by an independent (financial) expert or documented by official publicly available financial data; (b) Estimates of the cost of financing and required return on capital (e.g. commercial lending rates and guarantees required for the country and the type of project activity concerned), based on bankers views and private equity investors/funds' required return on comparable projects; (c) A company internal benchmark (weighted average capital cost of the company), only in the particular case referred to above in 2. The project developers shall demonstrate that this benchmark has been consistently used in the past, i.e. that project activities under similar conditions developed by the same company used the same benchmark; (d) Government/official approved benchmark where such benchmarks are used for investment	EB 39	Ann 10	Yes. Derived from (d) With reference to <i>Interim Rules on Economic Assessment of Electric Engineering Retrofit Projects</i> , the financial benchmark IRR of Chinese electricity industry is 8% on Project, which has been used widely in feasibility studies of new power plants, including wind power projects in China.	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
decisions; (e) Any other indicators, if the project participants can demonstrate that the above Options are not applicable and their indicator is appropriately justified. Please specify benchmark and justify.					
p. Has the below guideline followed for Sub-step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III)?	EB 39	Ann 10	Yes.	OK	OK
i. Calculate the suitable financial indicator for the proposed CDM project activity and, in the case of Option II above, for the other alternatives. Include all relevant costs (including, for example, the investment cost, the operations and maintenance costs), and revenues (excluding CER revenues, but possibly including inter alia subsidies/fiscal incentives, ODA, etc, where applicable), and, as appropriate, non-market cost and benefits in the case of public investors if this is standard practice for the selection of public investments in the host country.	EB 39	Ann 10	Yes.	OK	OK
ii. Present the investment analysis in a transparent manner and provide all the relevant assumptions, preferably in the CDM-PDD, or in separate annexes to the CDM-PDD.	EB 39	Ann 10	Yes. IRR sheet has been provided and assessed.	OK	OK
iii. Justify and/or cite assumptions.	EB 39	Ann 10	All indicators are from the approved FSR. However, some data listed in table 2 of first version of PDD are different from the one in the	CL-6	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
			approved FSR and IRR calculation sheet, it should be clarified. Furthermore, the residue value should be taken into account in the IRR calculation sheet when calculating the IRR.		
iv. In calculating the financial/economic indicator, the project's risks can be included through the cash flow pattern, subject to project-specific expectations and assumptions.	EB 39	Ann 10	Yes. Relevant costs are included.	OK	OK
v. Assumptions and input data for the investment analysis shall not differ across the project activity and its alternatives, unless differences can be well substantiated.	EB 39	Ann 10	Not applicable as Option III is used.	OK	OK
vi. Present in the CDM-PDD a clear comparison of the financial indicator for the proposed CDM activity. Please specify details for above.	EB 39	Ann 10	Yes. 7.09% VS benchmark of 8%	OK	OK
q. Has the below guideline followed for Sub-step 2d: Sensitivity analysis (only applicable to Options II and III)? Include a sensitivity analysis that shows whether the conclusion regarding the financial/economic attractiveness is robust to reasonable variations in the critical assumptions.	EB 39	Ann 10	Yes. Four financial parameters, i.e. Total investment, Annual O&M cost, bus-bar Tariff and Annual feed-in electricity, are chosen for sensitive analysis with variation range of 10%.	OK	OK
r. Has the outcome of Step 2 clearly mentioned with justification?	EB 39	Ann 10	Yes. The Project remains financially unacceptable without CDM support	OK	OK
s. In step 4: Common practise analysis have all the sub-steps as below followed?	EB 39	Ann 10		OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
i. Sub-step 4a: Analyze other activities similar to the proposed project activity;	EB 39	Ann 10	The projects related to CDM should not be identified as similar projects.	CAR-5	OK
ii. Sub-step 4b: Discuss any similar Options that are occurring.	EB 39	Ann 10	Pending on close CAR-5	-	OK
t. Has the below guideline followed for Sub-step 4a: Analyze other activities similar to the proposed project activity? Provide an analysis of any other activities that are operational and that are similar to the proposed project activity. Other CDM project activities are not to be included in this analysis. Provide documented evidence and, where relevant, quantitative information. On the basis of that analysis, describe whether and to which extent similar activities have already diffused in the relevant region.	EB 39	Ann 10	Yes. The Criteria used is that: Technology or industry type: wind farms; Geographical scope: Heilongjiang Province ; Period: of time: has been put into operation since 2002 without CDM support is applied in the PDD.	OK	OK
u. Has the below guideline followed for Sub-step 4b: Discuss any similar Options that are occurring? If similar activities are identified, then it is necessary to demonstrate why the existence of these activities does not contradict the claim that the proposed project activity is financially/economically unattractive or subject to barriers. This can be done by comparing the proposed project activity to the other similar activities, and pointing out and explaining essential distinctions between them that explain why the similar activities enjoyed certain benefits that	EB 39	Ann 10	Yes. Mulan Menggushan Wind Farm Project is the first wind farm project in Heilongjiang province, and the project owner has a deep background of Heilongjiang electric power company. The bus-bar tariff of this project is approved as 0.85 RMB/kWh in 2004, about 39% higher than that of the Project. Fujin Bielayinshan Wind Farm Project is funded by international low interest loan and national soft	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
rendered it financially/economically attractive (e.g., subsidies or other financial flows) and which the proposed project activity cannot use or did not face the barriers to which the proposed project activity is subject. In case similar projects are not accessible, the PDD should include justification about non-accessibility of data/information.			loan. ·Mudanjiang Daimagou Wind Farm Project was invested by the enterprises with foreign capital, which enjoy the corporate income tax privilege.		
v. Has the outcome from Step 4 clearly mentioned in PDD?	EB 39	Ann 10	Yes. The Project is not common practice within the region	OK	OK
w. Has it been proved that the project is additional?	EB 39	Ann 10	Yes.	OK	OK
A. Prior consideration of the clean development mechanism					
a. Is the project activity start date prior to the date of publication of the PDD for stakeholder comments?	VVM	96	Yes. As stated in section C of revised PDD, the starting date of the project is defined as 28/02/2008, which is prior to 18/07/2008 the validation commissioned.	OK	OK
b. If yes, were the CDM benefits considered necessary in the decision to undertake the project as a proposed CDM project activity?	VVM	96	Yes, as interviewed with PP, CDM benefits were considered necessary in the decision to undertake the project as a proposed CDM project activity. Pending on close CL-3 in above 3.O.iv	-	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
c. Is the start date of the project activity, reported in the PDD, in accordance with the "Glossary of CDM terms", which states that "The starting date of a CDM project activity is the earliest date at which either the implementation or construction or real action of a project activity begins."?	VVM	97	No, pending on close CAR-4	-	OK
d. Does the project activity require construction, retrofit or other modifications?	VVM	97	Not required.	OK	OK
e. If yes, is it ensured that the date of commissioning cannot be considered as the project activity start date?	VVM	97	N/A.	OK	OK
f. Is it a new project activity (project activities with starting date on or after 02 August 2008) or an existing project activity (project activities with a start date before 02 August 2008)?	VVM	98	It is an existing project activity	OK	OK
g. For a new project, for which PDD has not been published for global stakeholder consultation or a new methodology proposed to the Executive Board before the project activity start date, had the PP informed the Host Party DNA and/or the UNFCCC secretariat in writing of the commencement of the project activity and of their intention to seek CDM status? (Provide reference to such confirmation from Host Party DNA and/or UNFCCC secretariat).	VVM	99	Not applicable	OK	OK
h. For an existing project activity, for which the start date is prior to the date of publication of the PDD for global stakeholder consultation, are the following	VVM	100			

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
evidences provided:					
i. evidence that must indicate that awareness of the CDM prior to the project activity start date, and that the benefits of the CDM were a decisive factor in the decision to proceed with the project, including, inter alia:	VVM	100	Pending close CL-3 in above 3.O,iv.	-	OK
a. minutes and/or notes related to the consideration of the decision by the Board of Directors, or equivalent, of the project participant, to undertake the project as a proposed CDM project activity?			See above	-	OK
ii. reliable evidence from project participants that must indicate that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation, including, inter alia:	VVM	100	PDD is silent about the continuing and real actions were taken to secure CDM status for the project in parallel with its implementation.	CAR-6	OK
a. contract with consultants for CDM/PDD/methodology services?	VVM	100	No.	OK	OK
b. Emission Reduction Purchase Agreements or other documentation related to the sale of the potential CERs (including correspondence with multilateral financial institutions or carbon funds)?	VVM	100	Yes. ERPA signed with ESI 26/01/2008	OK	OK
c. evidence of agreements or negotiations with a DOE for validation services?	VVM	100	Yes. Kept by BV Certification.	OK	OK
d. submission of a new methodology to the	VVM	100	Not applicable		

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
CDM Executive Board?					
e. publication in newspaper?	VVM	100	Not applicable		
f. interviews with DNA?	VVM	100	Yes, the information of the project can be found from DNA website: http://cdm.ccchina.gov.cn/website/CDM/pdf/Item_new/Item_new3453.pdf	OK	OK
g. earlier correspondence on the project with the DNA or the UNFCCC secretariat?	VVM	100	Not applicable		
B. Identification of alternatives					
a. Does the approved methodology that is selected by the proposed CDM project activity prescribe the baseline scenario and hence no further analysis is required?	VVM	103	Yes. It has prescribed the baseline scenario i.e. Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system".	OK	OK
b. If no, does the PDD identify credible alternatives to the project activity in order to determine the most realistic baseline scenario?	VVM	103	Not applicable	OK	OK
c. Does the list of alternatives given in the PDD ensure that:	VVM	104	N.A. As the approved methodology ACM 0002 selected by the proposed CDM project activity prescribes the baseline scenario and no further	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
			analysis is required.		
i. the list of alternatives includes as one of the options that the project activity is undertaken without being registered as a proposed CDM project activity?	VVM	104	N.A.	OK	OK
ii. the list contains all plausible alternatives that the DOE, on the basis of its local and sectoral knowledge, considers to be viable means of supplying the outputs or services that are to be supplied by the proposed CDM project activity?	VVM	104	N.A.	OK	OK
iii. the alternatives comply with all applicable and enforced legislation?	VVM	104	N.A.	OK	OK
C. Investment analysis					
a. Has investment analysis been used to demonstrate the additionality of the proposed CDM project activity?	VVM	106	Yes.	OK	OK
b. If yes, does the PDD provide evidence that the proposed CDM project activity would not be:	VVM	106			
i. the most economically or financially attractive alternative?	VVM	106	Not applied.	-	OK
ii. economically or financially feasible, without the revenue from the sale of certified emission reductions (CERs)?	VVM	106	Concluded based on the IRR calculation of 7.09%, which is less than the benchmark of 8%.	OK	OK
c. Was this shown by one of the following approaches?	VVM	107	Yes.	OK	OK
i. Demonstrate that the proposed CDM project	VVM	107	Not applicable.	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
activity would produce no financial or economic benefits other than CDM-related income. Document the costs associated with the proposed CDM project activity and the alternatives identified and demonstrate that there is at least one alternative which is less costly than the proposed CDM project activity.					
ii. The proposed CDM project activity is less economically or financially attractive than at least one other credible and realistic alternative.	VVM	107	Not applicable.	OK	OK
iii. The financial returns of the proposed CDM project activity would be insufficient to justify the required investment.	VVM	107	Yes.	OK	OK
d. Is the period of assessment limited to the proposed crediting period of the CDM project activity?	EB 41	Ann 45	No. The period of assessment covers the 3x7 crediting period of the Project.	OK	OK
e. Does the project IRR and equity IRR calculations reflect the period of expected operation of the underlying project activity (technical lifetime), or - if a shorter period is chosen - include the fair value of the project activity assets at the end of the assessment period?	EB 41	Ann 45	Yes. 20 years for operation period per the approved FSR. The operation period of 20 years is widely applied in Chinese wind Power Sector.	OK	OK
f. Does the IRR calculation include the cost of major maintenance and/or rehabilitation if these are expected to be incurred during the period of assessment?	EB 41	Ann 45	Yes.	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
g. Do the project participants justify the appropriateness of the period of assessment in the context of the underlying project activity, without reference to the proposed CDM crediting period?	EB 41	Ann 45	Yes.	OK	OK
h. Does the cash flow in the final year include a fair value of the project activity assets at the end of the assessment period?	EB 41	Ann 45	5% same as in the approved FSR. However, the IRR calculation sheet does not include it. Pending on close CL-6.	-	OK
i. Has the fair value been calculated in accordance with local accounting regulations where available, or international best practice?	EB 41	Ann 45	According to the relevant national tax regulation i.e. Guo Shui Han [2005] 883 # http://www.chinesetax.net/hainan/admin/LAWS/Laws_TextDetail.aspx?LawsId=20284 5% of fair value should be calculated. Pending on close CL-6.	-	OK
j. Was a thorough assessment of all parameters and assumptions used in calculating the relevant financial indicator, and determine the accuracy and suitability of these parameters using the available evidence and expertise in relevant accounting practices conducted?	VVM	109	Yes. All parameters and assumption used in calculating the relevant financial indicator are accurate and suitable.	OK	OK
k. Were the parameters cross-checked against third-party or publicly available sources, such as invoices or price indices?	VVM	109	Yes.	OK	OK
l. Were feasibility reports, public announcements and annual financial reports related to the proposed CDM project activity and the project participants reviewed?	VVM	109	The FSR provided has been reviewed	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
m. Was the correctness of computations carried out and documented by the project participants assessed?	VVM	109	Yes	OK	OK
n. Was the sensitivity analysis by the project participants to determine under what conditions variations in the result would occur, and the likelihood of these conditions assessed?	VVM	109	Yes	OK	OK
o. To determine this, was it assessed whether it is reasonable to assume that no investment would be made at a rate of return lower than the benchmark by:	VVM	110			
i. assessing previous investment decisions by the project participants involved?	VVM	110	Yes.	OK	OK
ii. determining whether the same benchmark has been applied?	VVM	110	The benchmark of 8% is widely used for wind power projects similar to the Project in China.	OK	OK
iii. determining if there are verifiable circumstances that have led to a change in the benchmark?	VVM	110	No other benchmark rate can be applied in China power sector.	OK	OK
p. Did the project participants rely on values from Feasibility Study Reports (FSR) that are approved by national authorities for proposed project activities?	VVM	111	Yes.	OK	OK
q. If yes: (EB38 para.54)	VVM	111			
(a). has the FSR been the basis of the decision to proceed with the investment in the project, i.e. that the period of time between the finalization of the FSR and the investment decision is sufficiently short for the DOE to confirm that it is	VVM	111	Yes, as interviewed, the PP's final decision to proceed with the investment in the Project has been made based on the FSR finished in May 2007 and decided to invest the project soon on 18/01/2008 with consideration of CDM	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
unlikely in the context of the underlying project activity that the input values would have materially changed?			revenues. Validation team was therefore confident that it is unlikely in the context of the underlying project activity that the input values would have materially changed.		
(b). Are the values used in the PDD and associated annexes fully consistent with the FSR? If not, was the appropriateness of the values validated?	VVM	111	All parameters used in the PDD are fully consistent with the FSR.	OK	OK
(c). On the basis of its specific local and sectoral expertise, is confirmation provided, by cross-checking or other appropriate manner, that the input values from the FSR are valid and applicable at the time of the investment decision?	VVM	111	Yes, all already signed contracts were used to crosscheck the total investment, wind turbines specification supplied by the manufacturer was used to crosscheck the annual electricity output and guided letter of bus-bar tariff issued by NDRC for Wuerguli 30 MW Wind Power Project was used to crosscheck the tariff.	OK	OK
D. Barrier analysis					
a. Has barrier analysis been used to demonstrated the additionality of the proposed CDM project activity?	VVM	113	Not applied in the PDD.	OK	OK
E. Common practice analysis					
a. Is this a large-scale, or first-of-its kind small-scale project activity?	VVM	117	a large-scale	OK	OK
b. If yes, was common practice analysis carried out as a credibility check of the other available evidence used by the project participants to demonstrate additionality?	VVM	117	Yes.	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
c. Was it assessed whether the geographical scope (e.g. defined region) of the common practice analysis is appropriate for the assessment of common practice related to the project activity's technology or industry type? (For certain technologies the relevant region for assessment will be local and for others it may be transnational/global).	VVM	118	Yes. The Project is located in Heilongjiang. As projects of same type developed within the same region face a similar regulatory framework that makes them comparable. Therefore, activities similar to the Project should be wind farm located in Heilongjiang Province.	OK	OK
d. Was a region other than the entire host country chosen?	VVM	118	Yes. Heilongjiang Province	OK	OK
e. If yes, was the explanation why this region is more appropriate assessed?	VVM	118	Heilongjiang is large enough for analysis.	OK	OK
f. Using official sources and local and industry expertise, was it determined to what extent similar and operational projects (e.g., using similar technology or practice), other than CDM project activities, have been undertaken in the defined region?	VVM	118	Pending on close CAR-5 in above 5.s.i.	-	OK
g. Are similar and operational projects, other than CDM project activities, already "widely observed and commonly carried out" in the defined region?	VVM	118	Not found through this analysis.	OK	OK
h. If yes, was it assessed whether there are essential distinctions between the proposed CDM project activity and the other similar activities?	VVM	118	Not applicable.	OK	OK
6. Monitoring plan					

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
a. Does the PDD include a monitoring plan?	VVM	120	Yes.	OK	OK
b. Is this monitoring plan based on the approved monitoring methodology applied to the proposed CDM project activity?	VVM	120	Yes.	OK	OK
c. Were the list of parameters required by the the selected methodology identified?	VVM	121	Yes, net electricity generated should be monitored.	OK	OK
d. Does the monitoring plan contains all necessary parameters?	VVM	121	Yes. Electricity supplied by the Project to the grid and Electricity imported by the Project from the grid will be monitored to get the net electricity generated.	OK	OK
e. Are the parameters clearly described?	VVM	121	Yes	OK	OK
f. Does the means of monitoring described in the plan comply with the requirements of the methodology?	VVM	121	Yes.	OK	OK
g. Are the monitoring arrangements described in the monitoring plan feasible within the project design?	VVM	121	Yes. In line with local practices in power sector	OK	OK
h. Are the following means of implementation of the monitoring plan sufficient to ensure that the emission reductions achieved by/resulting from the proposed CDM project activity can be reported ex post and verified:	VVM	121	Pending on close CAR-3 of above 3.T.ii.b.	-	OK
i. data management procedures?	VVM	121	Yes. The procedures are appropriate and practicable.	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
ii. quality assurance procedures?	VVM	121	Yes. The procedures are appropriate and practicable.	OK	OK
iii. quality control procedures?	VVM	121	Yes. The procedures are appropriate and practicable.	OK	OK
7. Sustainable development					
a. Does the CDM project activity assists Parties not included in Annex I to the Convention in achieving sustainable development?	VVM	123	Pending close out above CAR-1,CAR-2	-	OK
b. Does the letter of approval by the DNA of the host Party confirm the contribution of the proposed CDM project activity to the sustainable development of the host Party?	VVM	124	Pending close out above CAR-1,CAR-2	-	OK
8. Local stakeholder consultation					
a. Were local stakeholders (public, including individuals, groups or communities affected, of likely to be affected, by the proposed CDM project activity or actions leading to the implementation of such an activity) invited by the PPs to comment on the proposed CDM project activity prior to the publication of the PDD on the UNFCCC website?	VVM	126	Yes. The local stakeholders including local villagers, officers of EPA were invited by the PP in July, 2007; 30 pieces of questionnaires were distributed and 30 returned with a response rate of 100%. However, the information given in the PDD is not fully consistent with the objective evidence of public survey. Pending on close CL-4.	-	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
b. Have comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity been invited?	VVM	127	Yes.	OK	OK
c. Is the summary of the comments received as provided in the PDD complete?	VVM	127	Yes.	OK	OK
d. Have the project participants taken due account of any comments received and described this process in the PDD?	VVM	127	No. As Section E.3.of PDD addressed, there is no need to be modified the project due to the comments received.	OK	OK
9. Environmental impacts					
a. Have the project participants submitted documentation on the analysis of the environmental impacts of the project activity?	VVM	129	Yes. EIA and its approval made by local EPA are presented.	OK	OK
b. Have the project participants undertaken an analysis of environmental impacts?	VVM	130	Yes. EIA work out by Inner Jiamusi Academy of environmental science of Heilongjiang Province in June 2007.	OK	OK
c. Does the host Party require an environmental impact assessment?	VVM	130	Yes.	OK	OK
d. If yes, have the environmental impact assessment approved by local government?	VVM	130	Yes. Approved on 22/08/2007 by local EPA	OK	OK

VALIDATION REPORT

Table 2 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project owner response	Validation team conclusion
CAR-1: Please provide LoA from China's DNA	1.A	LOA from China DNA provided.	The LoA issued in 11/2008 by DNA of China. CAR-1 is hence closed.
CAR-2: Please provide the LoA from DNA of Netherlands.	1.A	LOA from Netherlands' DNA provided.	The LoA issued on 29/09/2008 by DNA of Netherlands.. CAR-2 is hence closed.
CAR-3: Please give more information on monitoring plan.	3.T.ii.b	The information on monitoring has been completed in section 7.2 of PDD.	The information revised monitoring plan is sufficient. CAR-3 is hence closed.
CAR-4: The starting date of the project activity should be re-identified following the CDM Glossary and Paragraph 67 of EB41 with clear evidence.	3.VV.i	The starting date of the project was re-identified as 28/02/2008.	The identified starting date complies with the CDM glossary. CAR-4 is hence closed.
CAR-5: The projects related to CDM should not be identified in sub-step 4a of common practice analysis.	5.s.i	The projects related to CDM have been excluded from common practice analysis.	The revised PDD has been checked and found satisfactory. CAR-5 is hence closed.

VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project owner response	Validation team conclusion
CAR-6: Please indicate that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation with reliable evidence.	5.A.i.a	The table 3 in section B.5 clearly indicates that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation with reliable evidence.	The revised PDD has been checked and found satisfactory. CAR-6 is hence closed.
CL-1: PDD is silent about the scenario existing prior to the start of the Project, present scenario and baseline scenario.	3.D.i	The scenario existing prior to the start of the Project, present scenario and baseline scenario has been added in the PDD.	The revised PDD has been checked and found satisfactory. CL-1 is hence closed.
CL-2: As per latest CDM PDD guideline, a flow diagram of the project boundary is required to be included in section B.3 of PDD.	3.M.ii	A flow diagram was included in the revised PDD.	The revised PDD has been checked and found satisfactory. CL-2 is hence closed.
CL-3: The objective evidences including PP's decision made to show that the incentive from CDM was taken into consideration seriously prior to project implementation is required.	3.O.iv	The board decision and other relevant evidence has been provided to DOE.	The provided found satisfactory. CL-3 is hence closed.
CL-4: The information given in the PDD of stakeholders' consultation is not fully consistent with the objective evidence of public survey.	3.GG.i	The stakeholders' consultation has been revised as provided evidence.	The revised PDD has been checked and found satisfactory. CL-4 is hence closed.

VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project owner response	Validation team conclusion
CL-5: As per methodology ACM0002, the latest version of "Tool to calculate the emission factor for an electricity system" (version 1.1) and "Tool for the demonstration and assessment of additionality" (Version 5.2) shall be applied.	4.A.a	"Tool to calculate the emission factor for an electricity system" (version 1.1) and "Tool for the demonstration and assessment of additionality" (Version 5.2) has been applied in the revised PDD.	The revised PDD has been checked and found satisfactory. CL-5 is hence closed.
CL-6: Some data listed in table 2 of first version of PDD are different from the one in the approved FSR and IRR calculation sheet, please clarify. Furthermore, please include the residue value in the IRR calculation sheet when calculating the IRR.	5.p.iii	The data employed in the IRR calculation sheet are consistent with the approved FSR, and some inconsistent data in the first version of PDD were typo error and have been corrected to be consistent with the FSR and IRR calculation sheet. And the residue value has also been included in the revised IRR calculation sheet. The revised PDD and IRR calculation sheet have been provided to DOE for validation.	The revised PDD, IRR calculation sheet and approved FSR have been checked and fully consistent with each other. And the residue value of 5% has been included in the IRR calculation sheet which was found correctly and satisfactory. CL-6 is hence closed.

VVM-CLEAN DEVELOPMENT MECHANISM VALIDATION AND VERIFICATION MANUAL-Version 01-EB 44, Annex 03- dated 28/11/2008
 EB 39 Annex 10- TOOL FOR THE DEMONSTRATION AND ASSESSMENT OF ADDITIONALITY-Version 5-dated 26/08/2008
 EB 41 Annex 45- GUIDANCE ON THE ASSESSMENT OF INVESTMENT ANALYSIS-Version 02-dated 26/08/2008

VALIDATION REPORT

APPENDIX B: VERIFIERS CV'S –

Ms. Jasmine Tang	Bureau Veritas Certification, China	<p>Team leader</p> <p>Climate Change Verifier, She holds a Master Degree in Environment Engineering. She has 2 years of CDM consulting experience in energy sector in P.R China and involved in approximate 20 CDM projects in P.R China. She obtained the certificate of CDM Lead Verifier and Lead Auditor for ISO 14001.</p>
Mr. Liao Ling	Bureau Veritas Certification, China	<p>Team member</p> <p>Team Member, CDM Verifier. He holds a Bachelor Degree in Atmosphere Science. He has total experience of 2 years of CDM consulting experience in P.R China and involved in several CDM projects in P.R China. He obtained the certificate of CDM Lead Verifier.</p>
Mr. Robin Wang	Bureau Veritas Certification, China	<p>Technical Reviewer, CDM Lead Verifier</p> <p>He holds a Bachelor Degree in Gas & Heating Engineering and a certificate of investment analysis issued by Word Business Strategist Association (WBSA). He obtained the certificate of CDM Lead Verifier and Lead Auditor for ISO 14000.</p>
Mr. H B Muralidhar	Bureau Veritas Certification India Private Limited	<p>Internal Reviewer, CDM Lead Verifier</p> <p>BE (Electrical) graduate. Total of 25 years of experience power generation and distribution related fields as well as in management system auditing. He has been involved in validation of more than 80 CDM projects.</p>