



VALIDATION REPORT

HEILONGJIANG DONGNING HUAFU WIND POWER CO., LTD.

VALIDATION OF THE HEILONGJIANG DONGNING DAJIAZISHAN AND XIDAGANG WIND FARM PROJECT

BUREAU VERITAS CERTIFICATION

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VALIDATION REPORT

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Client: Heilongjiang Dongning Huafu Wind Power Co., Ltd.	Client ref.: Mr. Wang Zhongwei

Summary:

Bureau Veritas Certification has made the validation of the Heilongjiang Dongning Dajiazishan and Xidagang Wind Farm Project of Heilongjiang Dongning Huafu Wind Power Co., Ltd. located in Dongning County, 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 the relevant UNFCCC requirements for the CDM and the relevant host country criteria.

Report No.: BVC/China-val/ 0026/2008	Subject Group: CDM
Project title: Heilongjiang Dongning Dajiazishan and Xidagang Wind Farm Project	
Work carried out by: Jasmine Tang Xuemei–Team Leader Liao Ling – Team Member Zeng Ziyuan – Team Member	
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Indexing terms

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Abbreviations

BM	Build Margin
BMS	Bureau Veritas Certification Holding S.A. Management System
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reductions
CH ₄	Methane
CL	Clarification Request
CO ₂	Carbon Dioxide
DIS	Draft of International Standard
DNA	Designated National Authority
DOE	Designated Operational Entity
DR	Document Review
DRC	Development & Reform Commission
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
ERPA	Emission Reduction Purchase Agreement
FSR	Feasibility Study Report
GHG	Green House Gas(es)
GSP	Global Stakeholders Process
GWP	Global Warming Potential
I	Interview
IETA	International Emissions Trading Association
IPCC	Intergovernmental Panel on Climate Change
IRR	Internal Rate of Return
ISCH	International Stakeholder Consultation
ISO	International Organization for Standardization
LOA	Letter of Approval
MoV	Means of Verification
MP	Monitoring Plan
NEPG	Northeast China Power Grid
NDRC	(China) National Development Reform Commission
NGO	Non Government Organization
ODA	Official Development Assistance
PCF	Prototype Carbon Fund
P.R. China	Public Republic of China
PDD	Project Design Document
PP	Project Proponent (project owner)
PPA	Power Purchase Agreement
SWPC	Statistics of wind power installed capacity in China (book name)
UNFCCC	United Nations Framework Convention for Climate Change
VVM	Validation & Verification Manual
WTG	Wind Power Generator

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1 INTRODUCTION

Heilongjiang Dongning Huafu Wind Power Co., Ltd. has commissioned Bureau Veritas Certification to validate its CDM project Heilongjiang Dongning Dajiazishan and Xidagang Wind Farm Project (hereafter called “**the Project**”) of Heilongjiang Dongning Huafu Wind Power Co., Ltd. (the project owner, hereafter called “**the PP**”) at Dongning County, 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 meets 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 Xuemei Bureau Veritas Certification	Team Leader, Climate Change Verifier
Liao Ling Bureau Veritas Certification	Team Member, Climate Change Verifier
Zeng Ziyuan 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 Validation and Verification Manual. 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 enclosed in **Appendix A** to this report consists of five tables. The different columns in these tables are described in below **Figure 1**.

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 tables 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 Tables 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 Tables 1 under "Final Conclusion".

Figure 1. Validation Protocol Tables

2.1 Review of Documents

The Project Design Document (PDD) submitted by Beijing Changjia Investment Co., Ltd. (the CDM consultant) and additional background documents related to the project design and baseline, i.e. country Law, Approved methodology, 1/ Kyoto Protocol, Clarifications on

Validation Requirements to be Checked by a Designated Operational Entity were reviewed. The validation team confirms that the PDD complies with Project Design Document Form (CDM-PDD) Version 03.2 and Guidelines for Completing the Project Design Document (CDM-PDD) and the Baseline and Monitoring Methodologies (CDM-NM) Version 07 /2/ and Validation and Verification Manual (VVM) Version 01 (EB 44 Annex 3)./8/

To address Bureau Veritas Certification corrective action and clarification requests the consultant (Beijing Changjia Investment Co., Ltd.) revised the PDD and resubmitted it with required documented evidences. The validation findings presented in this report relate to the Project as described in the PDD Version 2.4 dated 11/02/2009.^[2]

2.2 Follow-up Interviews

On 15/07/2008 Bureau Veritas Certification performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of the PP, the consultant and local stakeholders were interviewed (see Section 6-References). The main topics of the interviews are summarized in **Table 1**.

Table 1 Interview Topics

Interviewed organization	Interview topics
Heilongjiang Dongning Huafu Wind Power Co., Ltd. (The PP)	<ul style="list-style-type: none"> ↪ CDM consideration. ↪ 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 ↪ Government 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
Beijing Changjia Investment Co., Ltd. (The Consultant)	<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.

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

- 1) The findings from the desk review of the original project design documents and the findings from interviews during the follow up visit are summarized. A more detailed record of these findings can be found in the Validation Protocol in the Appendix A.
- 2) Where Bureau Veritas Certification had identified issues that needed clarification or that represented a risk to the fulfillment of the project objectives, a Clarification or Corrective Action Request, respectively, have been issued. 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 05 Corrective Action Requests and 17 Clarification Requests.
- 3) The conclusions for validation subject are presented.

3.1 Approval

The letter of approval has been received and the following support documentation:

The China's DNA has issued a Letter of Approval on 14/08/2008, authorizing Heilongjiang Dongning Huafu Wind Power Co., Ltd. as the Project Participant and confirmed its Project contributes to China's Sustainable development.^[03]

The UK's DNA has issued a Letter of Approval dated 25/03/2009, authorizing Goldman Sachs International (GSI) as the Project Participants for the Project.^[04]

Bureau Veritas Certification received the above letters from the PP and does not doubt its authenticity by checking the relevant official information.

The letters of approval do not contain a specific version of both the PDD and the validation report.

✌️ Complying with para.49, 50 and 125/VVM, Bureau Veritas Certification recognizes that Heilongjiang Dongning Dajiazishan and Xidagang Wind Farm Project of Heilongjiang Dongning Huafu 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 as it-

- ✌️ reducing GHG emissions in China compared to the business-as-usual scenario;
- ✌️ helping to stimulate the growth of wind power industry in China;
- ✌️ creating local employment opportunities during the construction and operation of the Project;
- ✌️ increasing the revenue for local government.

There is also evident in various approvals issued by the local government of host country China. There are as below,

✍️ 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. [05]

✍ Feasibility Study Report (FSR) of the Project approved by Development and Reform Commission of Heilongjiang Province on 01/03/2007 (Doc. No. Hei Fa Gai Neng Yuan [2007]109). [07]

✍ Environment Impact Assessment (EIA) approved by Environmental Protection Bureau of Heilongjiang Province on 08/02/2006 (Doc. No. Hei Huan Jian Shen [2006]11). [08]

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 the investment analysis and prevailing practice, addressed in the PDD.

The overall layout of the Project is sound and the geographical (Dajiazishan and Xidagang Mountain, Dongning County, Heilongjiang Province, P.R.China) and temporal (7 years) boundaries of the Project are clearly defined.

The validation did not reveal any information that indicates that the Project can be seen as a diversion of official development assistance (ODA) funding towards the host country.

By on-site visit and documents review, the validation team confirms that the project description in the PDD is accurate and complete.

3.2 Participation

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

✍ Complying with para.54/VVM, Bureau Veritas Certification hereby confirms that by referring to 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=GB>

3.3 Project design document (57)

✍ Complying with para.57/VVM, Bureau Veritas Certification hereby confirms that the PDD complies with the latest Project Design Document Form (CDM-PDD) version 03.2 and guidance documents for completion of PDD version 07./2/

3.4 Project description

The Project is sited in Dajiazishan Mountain and Xidagang Mountain, 19km to the southeast of Maqiaohe Township and about 22km to the northwest of Suiyang Township, Dongning County, Mudanjiang City, Heilongjiang Province, P.R.China. The wind turbines are to be installed at the top of Dajiazishan Mountain (with north latitude of 44°34'57" and east longitude of 130°44'55") and Xidagang Mountain (north latitude of 44°34'41" and east longitude of 130°48'38").

The total installed capacity of the Project is 49.5MW with 33 wind turbines of unit capacity 1,500kW, model SL1500/70, supplied by Sinovel Wind Turbine Co.,Ltd. (one of the largest domestic WGT manufacturer). Based on the long term historical data of local wind



resources, the estimated annual electricity generated is 119,921MWh (the load factor 0.277 or annual equivalent generation hours of 2423,) and the electricity sold to the Northeast China Power Grid (NEPG) is about 113,925MWh. As the NEPG is dominated by thermal power generation, the establishment of the Project is expected an annual emission reduction of 130,569 tCO₂e during the first seven years of its renewable crediting period.

The process undertaken by the validation team is 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 government.

✌ Complying with para.64/VVM, Bureau Veritas Certification hereby confirms that the project description in PDD 02 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*” dated 14/12/2007.¹¹

The assessment of the relevant information contained in the PDD against each applicability condition is described below:

- ✌ The Project involves the electricity capacity additions from wind power plant.
- ✌ The Project does not involve switching from fossil fuels to renewable energy at the site of the Project.
- ✌ The geographic and system boundaries for the Northeast China Power Grid (NEPG) can be clearly identified and information on the characteristics of the NEPG is available.

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

Based on the on-site assessment, 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 project 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.

3.5.2 Project boundary

The spatial extent of the Project boundary is clearly defined in line with ACM0002 version 07 as the physical, geographical site of Project and all other power plants connected physically to the NEPG that the Project is connected to.

✌ 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 in the latest version of “*Notification on Determining Baseline Emission Factor of China’s Grid*” published by China’s DNA on 09/08/2007 (hereafter called “*Notification of China-Grid EF*”). 09

3.5.3 Baseline identification

As the Project is the installation of a newly built and grid-connected renewable power plant that delivers the generated electricity to the grid (NEPG), hence, according to methodology ACM0002, the baseline scenario is determined properly as:

The electricity delivered to the grid by the Project 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*” version 01.1 dated 29/07/2008 (hereafter called “*Tool-Grid EF*”).^{13/}

According to the “*Notification of China-Grid EF*”,⁰⁹ the delineation of grid boundaries of the Project is the NEPG. Furthermore, the baseline of the Project determined in the PDD i.e. “the provision of an equivalent amount of power output by NEPG which the Project is connected to” is transparent and deemed to be reasonable.



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

3.6.1 Prior consideration of the CDM

The additionality of the Project has been assessed in accordance with the “*Tool for Demonstration and Assessment of Additionality-Ver.05.2*” dated 26/08/2008, (hereafter called “*Tool-Additionality*”).^{14/}

The start date defined in the PDD is 22/05/2007, which is the date on which the PP signed the WTG contracts with the supplier,¹³ before the PDD submitted to Bureau Veritas Certification for validation.¹⁹ The PDD addressed the serious consideration on the incentives from CDM prior to the project implementation as per the “*Guidance on the demonstration and assessment of prior consideration of the CDM*” version 01 (Annex 46, EB 41st). (hereafter called “*Guidance-Prior Consideration*”) ^{15/}



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. Accordingly Bureau Veritas Certification

summarized a timeline as Table 2 below and raised Clarification Requests for submission of the corresponding documented evidences.

Table 2 Timeline of the Project

Date	Actions	Reasons or Impacts	Evidences verified
29/11/2005	FSR completed. Based on the real tariff to the local newly built wind power projects issued by the local government in 2005, ^[34] the same tariff of 0.664RMB/kWh (excl.VAT) or 0.72 RMB/kWh (incl.VAT) was applied in the FSR. If this tariff can be also accepted by the grid company through the negotiation in the future (about two years later), the project IRR will reach the benchmark 8%. ^[06]		- ^[06] -✓ - ^[35] -✓
08/02/2006	EIA approved ^[08]		- ^[08] -✓
14/03/2006	Approval of Water Conservancy Bureau of Heilongjiang Province. ^[36]	Necessary approval before FSR assessed by Heilongjiang DRC	- ^[36] -✓
20/03/2006	Acceptance of Loan accounts for 80% of total investment of the Project.) ^[24]	Necessary condition before FSR assessed by Provincial DRC	- ^[24] -✓
Mar. 2007	FSR approved by the provincial DRC. ^[07] While until end of 2006, the highest power tariff of all concession tendering wind power projects in China was no more than 0.60RMB/kWh (Incl.VAT), ^[10] which was impossible to make the Project to be financially feasible.	Permit implementation of the Project The PP created the needs for CDM and initialed ^[12]	- ^[07] -✓ - ^[10] -✓ - ^[12] -✓
Apr. 2007	PP's final resolution on CDM development to secure the feasibility of the Project implementation ^[11]	The CDM income can significantly improve the IRR at the market price at that time	- ^[11] -✓
22/05/2007	Signed WTG purchasing contracts ^[13]	Take real actions	- ^[13] -✓
Aug.2007	ERPA formally signed with Goldman Sachs (buyer) ^[16]	Secure the progress of the CDM development in parallel with the construction.	- ^[16] -✓

Oct.2007	Signed construction contract with the contractor		-14-✓
Dec.2007	Due Diligence by Goldman Sachs completed and consultant services launched	The consultant of the Project should be assigned by the buyer as the signed ERPA	-16-✓
Apr.2008	The draft PDD of the Project submitted to China's DNA for approval (Ver.1)		-01-✓ -17-✓
May.2008	Negotiation on validation contract with BV Certification		-19-✓

Considering the extra operation cost of accessing the intermittent wind power to the power grid in comparison with the thermal power generated stably all the year, the regional power grids including the NEPG are reluctantly to purchase the power exported from the wind farms. As a consequence, prior to 2007, the wind power projects were developed relying on the favorable tariff or financing.^[29] ^[30] Since 2007, the government set a guiding tariff with the power grid of each province to coordinate the development of wind power. The tariff notifications form only the basis for the negotiation between the grid and the wind farms, while the actual tariff of the specific project is subject to the negotiation between the two parties near the completion of the construction and unlikely more than the value in the tariff notifications.

According the tariff notifications issued by national government NDRC since December 2007,^[23] the tariff to the wind farms in the province is fixed at 0.61RMB/kWh (incl.VAT) for the first 30,000 hours of equivalent full power generation, after that, the tariff will be declined as the average tariff for thermal power plants (at least 40% lower than 0.61).^[15]

Based on the assessment of facticity on above events, inter alia, the government regulations, tariffs and practices in the wind power sector at that time, the validation team was able to verify the context of the underlying Project that the tariff of 0.664RMB/kWh (excl. VAT) proposed in the FSR is not attainable for the Project through the negotiation with the grid company in the future (commonly, after completion of the construction).

✌ By assessing the material actions taken by the PP, the validation team confirmed that the PP considered seriously the incentives from CDM in the context of the Project before taking its real actions, which is in accordance with the requirements of "Guidance –Prior consideration".^{/15/}

✌ According to the latest Glossary of CDM terms Ver.04 and the Paragraph 67 of EB 41st report,^{/7/} the validation team was able to verify the start date of the Project and concluded that the date of 22/05/2007 defined in the PDD is appropriate and reasonable.

3.6.2 Identification of alternatives

Subsequently, the validation team validated the additionality as addressed in the PDD of the Project.

✍ Step 1

The plausible and credible alternatives to the Project were identified as per the ACM0002 Ver.07:

Alternative (1): The proposed project not undertaken as CDM project;

Alternative (2): Construction of a fossil fuel power plant with equivalent amount of

annual electricity output;

Alternative (3): Construction of a power plant using other source of renewable energy with equivalent amount of annual electricity output;

Alternative (4): Supply of equivalent annual power output supplied by NEPG

Alternative (2) was eliminated through examination of current practice in China in which the laws or regulations applies. [33]

Alternative (3) was eliminated by analyzing the availability of local renewable energy resources including Solar PV, geothermal, biomass and hydropower as addressed in the PDD. [22]

✌ 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 and hence found **Step 1** of “*Tool-Additionality*” was applied appropriately./4/

3.6.3 Investment analysis

Considering the baseline scenario as above identified and the tariff issue which was the decisive factor to the investment decision of the PP, the Benchmark Analysis was applied in the Investment analysis as per the *Sub-step 2b* of “*Tool-Additionality*”.

✌ The validation team verified the applicability of the benchmark that project IRR of 8% used in the Project and can confirm that the data sources mentioned in the PDD, viz. “*Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects*” issued by State Power Corporation of China in 2002, [21] is a national standard and project IRR of 8% has been a current practice in the power generation sector in China.

Before replicating the IRR calculation, the validation team firstly validated the basic parameters listed in the PDD in accordance with the Guidance of EB 38th paragraph 54./6/

a) The input values used in the Project were taken from the FSR completed by the Electrical Exploration and Engineering Institute of Heilongjiang Province in November 2005, and approved by the local Development & Reform Commission (DRC) in March 2007.[06] The on-grid tariff of 0.61RMB/kWh used in the Project was taken from the official notification of tariff to the local power plants in Heilongjiang Province issued by the national government (NDRC) on 28/06/2006.[15]

✌ Therefore, the validation team can confirm that the input values used in the financial analysis are credible and reliable.

b) The FSR was approved on 01/03/2007, and investment decision was soon made on 05/04/2007,[11] the period of time between the finalization of the FSR and the PP’s final decision can thus be considered very short.

✌ Consequently, the validation team can confirm that it is unlikely in the context of the Project that the input values would have materially changed.

c) The validation team has reviewed the input values used in the PDD and IRR calculation against the data of the approved FSR, and found that they are fully consistent with each other except the tariff.

In China, the tariff of wind farms in the FSR is not subject to approval by the local government as the actual tariff will be available near the completion of the construction of the Project through negotiation between the local grid company and project owners, commonly, at least

two years after the completion of the FSR. Unlike other key indicators like installed capacity, investments and costs etc may follow the relevant codes or guidance for compiling the FSR enforced by the local government, the tariff defined in the FSR is an assumption value based on the available price information during the feasibility study. As a consequence, there is no confirmation on the tariff but the key indicators including the installed capacity, power output and investments costs to be stated in the approval of the FSR made by the government. After the FSR get approved, the project owners have to re-evaluate the tariff based on the indicators in the approved FSR and the latest pricing situation of tariff.

In the context of the Project, the tariff used in the FSR was a critical point making the IRR of the Project to reach the benchmark of 8%. At the same time, it was found also consistent with the real tariff for the local newly built wind power projects approved by the Heilongjiang Provincial Bureau of Price Administration in 2005.^[34] If the tariff actually confirmed by the grid company is lower than 0.72RMB/kWh (Incl.VAT), the PP has to seek the support to make the Project to be financially feasible.

However, afterwards, according to the pricing notification issued by the national government for renewable energy in January 2006 ^[20], the tariff for wind power should be determined through the concession tendering, which will lead to a much lower tariff under price competition of the bidders. The validation team had checked the official data of all projects subject to the concession tendering in China (from 2003 to 2005) and found that the highest tariff is 0.60 RMB/kWh (incl.VAT) (incl.VAT) ^[10]. This low tariff was made the project owner frustrated for the Project implementation. While as the pricing notification stated, the tariff for biomass power has a fixed subsidy to be 0.25RMB/kWh above the average tariff of thermal power of each province, for Heilongjiang Province, it is 0.3567RMB/kWh, then the tariff of 0.6067RMB/kWh (incl.VAT) might be available for biomass power. Finally, a higher value of 0.61RMB/kWh (incl.VAT) or 0.562RMB/kWh (excl.VAT) had been used in the PDD for analysis because during the period of the Project implementation, the tariff of 0.61RMB/kWh was found to be fixed and widely adopted to the wind power projects by the provincial grid company^{[23],[30]} Therefore, the validation team can ensure that the input value of the tariff is credible and appropriate at the time of PP's decision of implementing the Project.

The On-grid tariff used in the PDD has been cross-checked with the tariff notification for the wind farms in the province issued by government in December 2007 and July 2008 ^[23] and found consistent and properly reflecting the actual pricing circumstance in local power sector.

The Annual power output of the Project was cross-checked with the design parameters in the FSR that integrating the optimum generation efficiency of the WTGs and local wind resources as well as the attenuation coefficients defined in the FSR. Finally, the annual electricity supplied to the grid is estimated as 1138,925MWh based on the above attenuation coefficients, therein, the load factor is calculated accordingly as 0.277 or equivalent full annual generation hours of 2423.

The Total investment (or investment per unit capacity) in the FSR was cross-checked with the signed loan contract. As the contract stated the released loan accounts for 70% of the value of the total investment are based on evaluation of the bank.^[24] In addition, the purchasing contracts signed with suppliers of those key equipment of the Project including wind turbine, barrel tower, transformers and construction contracts etc were cross-checked with the relevant values in the FSR, and found that the contract

values are slightly higher than those estimated in the FSR. Therefore, the validation team can confirm the value of total investment is valid.

The basic parameters used to calculate Annual O&M cost was based on the “*Codes on Compiling Feasibility Study Report of Wind Power Plants*” published by NDRC on 25/05/2005.^[18] The validation team has cross-checked with the public data of those nearby wind farms in Heilongjiang and found the appropriateness.

The validation team also verified values of various taxes through cross-check with the taxation rules conducted by local government and found 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, the validation team confirmed that the input values used in the PDD meet the guidance of EB 38 paragraph 54./6/

Based on the above conclusion, the validation team reviewed the IRR calculation and found that the calculation is correct and in accordance with “*Guidance on the assessment of investment analysis*” Version 02 (as the annex of Tool- Additionality Ver.05.2). /4/ As it shows, without CDM income, the project IRR of the Project is 6.70%, which is lower than the benchmark (8%).^[26]

In the step of Sensitivity analysis, four financial indicators were identified with a variation range over $\pm 10\%$ and further the critical points for evaluation:

- ❄ a. Total static investment
- ❄ b. Annual O&M cost
- ⚙ c. Annual Power generation
- ⚙ d. On-grid tariff

As it shows, the IRR will remain below the benchmark from -10% to +10%.

The validation team reviewed the same in the FSR and confirmed that the indicators identified and the variation range employed in the PDD are consistent with the approved FSR and also in accordance with the prescription of the “*Codes on Compiling Feasibility Study Report of Wind Power Plants*” published by NDRC on 25/05/2005.^[18] Then, the validation team reproduced the calculation based on the IRR spreadsheet and worked out the same outcomes as it shows.

Furthermore, the validation team verified the reliability and robusticity of the above outcomes.

[a], [b],

Given the increasing pricing level of construction materials, and employee wages in line with the GDP growth recently in China, the validation team can confirm that whether the total static investment or Annual O&M cost would not be decreased over 10%. Even if taking into account the current financial crisis which is spreading globally, the Chinese economy is deemed to be stable and its GDP growth is still close to +10% in 2008 and will keep around 7% from 2009 to 2010 as statistics of world bank.^[35] Therefore, the total investment of the Project is unlikely to be declined by 11% to make the project IRR reach the benchmark.

Actually, the contract value of the key equipment has been verified slightly more than the value estimated in the FSR. Therefore, it is unlikely that the total investment to be reduced over 11% that might make the IRR reach 8%.

According to the IRR calculation, the indicator of Annual operation cost can be considered not sensitive to the project IRR.

[c]. As the FSR, the annual electricity output is estimated by a professional third party with the qualification in power sector i.e. Electrical Exploration and Engineering Institute of Heilongjiang. The turbine selection was based on the local wind resources data of latest 30 years long to optimize the power generation. Therefore, the validation team can ensure that the load factor is the optimum value and the variation range of 10% for the analysis is reasonable, and it is unlikely that the electricity output to be increased over 10% and further up to 12% that makes IRR reach 8%

[d] Taking into account the aforementioned tariff rules, the validation team confirmed that the tariff for the Project will not be changed during its first 30,000 hours of equivalent full power generation. After that, according to the tariff rules, the tariff will be down to the average tariff of dominant thermal power plants in Heilongjiang region, currently it is at least 40% lower than the tariff to the Project.^[15] Even if regardless the impact of current financial crisis, the validation team can confirm that after 30,000 hours of full generation of the Project, the tariff to the Project is unlikely increased over 10%.

[b] vs [d] Taking into account the same economy climate in which the O&M cost and the on-grid tariff are changing synchronously 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.

✌ Complying with para.112/VVM, Bureau Veritas Certification can conclude that both of the variation range and relevant assumptions stated in the PDD are robust and the investment of the Project is deemed to be financially unattractive, thus the Project is additional.

Considering of the CERs sales revenues (calculated with 9.9EURO/tCO₂e), the project IRR of the Project can be improved to 9.97% exceeding the benchmark 8%.

3.6.4 Barrier analysis

The **Step 3** Barrier analysis was not applied for the Project.

3.6.5 Common practice analysis

The Common practice analysis was addressed as per the Tool-Additionality and latest rules issued by EB.

The Project is a newly built 49.5 MW wind farm in the area of rich wind resource in Heilongjiang Province, therefore, the activities similar to the Project should be the wind farms located in Heilongjiang Province, with similar scale and take place in a comparable investment climate and constructed after power sector reform in China viz. operating power plants and grid system separately from 2002. There are two similar activities without CDM support were identified with such criteria.

According to the available official information the two wind farms enjoyed higher on-grid tariff (i.e. 0.78RMB/kWh for Mulan Menggushan Wind Farm Project ^[28]) or low interest loan (i.e. Fujin Bielayinshan Wind Farm Project ^[29]). However the above favorable investment circumstances are no longer obtainable after 2006 in Heilongjiang Province, which is the essential distinctions between the Project and those two wind farms.

The public data sources have been verified to be substantial Therefore, it is concluded that the Project is not common practice in the area.

☝ Complying with para.119/VVM, Based on above demonstration that in accordance with “Tool-Additionality” and supported by reliable data sources, it is the opinion of Bureau Veritas Certification that the Project is thus additional.

3.7 Calculation of GHG Emissions

According to the baseline methodology ACM0002 Version 07 and “Tool-Grid EF” Version 1.1./3/ the emission reductions from the Project were calculated as following six steps:

Step 1.-Identify the relevant electric power system.

The NEPG is selected as the project boundary and no net electricity imports identified to the NEPG need to be considered in the Project. The NEPG also exports electricity to North China Power Grid (NCPG).

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.

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.

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.

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 leakage. These are:

1) Baseline emissions: baseline emissions (BE_y in tCO_2) are equal to baseline emission 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 reductions: $ER_y = BE_y - PE_y - LE_y = BE_y - EF_{grid,CM,y} \times EG_y$

With reference to the “Tool-Grid EF”, the Simple OM emission factor ($EF_{grid,OM,y}$) of the NEPG is calculated as 1.2404tCO₂e/MWh. Similarly, the build margin emission factor ($EF_{grid,BM,y}$) of the NEPG is calculated ex-ante as 0.8631 tCO₂e/MWh.

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

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

According to the estimated annual electricity delivered to the grid 108,940MWh, the estimated annual emission reductions of the Project is 124,854tCO₂e 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; [09]
- (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 “Tool-Grid EF” has been applied correctly to calculate project emissions, baseline emissions, leakages and emission reductions; /1/,/3/
- (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 zero emissions 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 3.2** above.

The combined margin emission factor is determined ex-ante based on the most recent information available. Accordingly the monitoring plan includes electricity generated and sold to grid. Data may be verified against the Sales invoice.

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 the validation team is of the opinion that the retrievability of relevant CDM project activity records is pro-actively considered satisfactorily.

Monitoring of sustainable development indicators is not required for such projects in China in the light of minor environmental impacts.



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

3.9 Sustainable Development Impacts

The validation team has ensured that the Environmental Impact Assessment was carried out by Heilongjiang Institute of Technology in November 2005, and approved by the Heilongjiang Provincial Environmental Protection Bureau on 08/02/2006.^[08]

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 pollution, 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.

✌ Complying with para.131/VVM, Bureau Veritas Certification hereby confirms that concluded 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 Comments by Local Stakeholders

From January to February 2008, the Project owner introduced the Project to local stakeholders by taking form of posting bulletins^[31] and invite stakeholders to the comment meeting for public comments. The survey was conducted through distributing 25 copies of questionnaires and collecting responses from all interviewee in the downtown of Dongning County, and all 25 questionnaires were recovered with 100% recovery rate.^[32]

This survey shows that the interviewees well know about the Project and support the construction of the Project. All interviews agree the Project will promote the local economy. The majority believed that the Project will positively affect their lives, has good impact on the environment. No negative comments received. The validation team interviewed the local stakeholders during the on-site visit of the validation process and thus can confirm these views. The lists of those participants and the records of the meeting have been presented to the validation team and found to be substantial.

✌ 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 24/05/2008 and invited comments within 22/06/2008 by Parties, stakeholders and non-governmental organizations.

No comments were received during this period.



5 VALIDATION OPINION

Bureau Veritas Certification has performed a validation of the Heilongjiang Dongning Dajiazishan and Xidagang Wind Farm 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 (version01)* 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 barriers 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 estimated amount of emission reductions.

The review of the project design documentation (version 2.4) 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.

- [01] PDD Version 1.0 dated 27/03/2008
- [02] PDD Version 2.4 dated 11/02/2009
- [03] Letter of Approval from DNA of Host country dated 14/08/2008
- [04] Letter of Approval from DNA of United Kingdom dated 25/03/2009
- [05] National Renewable Energy Law issued by NDRC of China effective from 01/01/2006.
http://www.windpower.org.cn/news/links/fl_2005_0510_02.htm
- [06] Feasible Study Report (FSR) completed by Electrical Exploration and Engineering Institute of Heilongjiang Province on 29/11/2005.
- [07] The FSR approved by Development & Reform Commission (DRC) of Dongning County,

Heilongjiang Province on 01/03/2007 (Doc. No. (Hei Fa Gai Neng Yuan[2007]109))

- [08] EIA report completed by Heilongjiang Institute of Water and Electricity Designing in January 2006 and approved by Heilongjiang Environmental Protection Bureau on 08/02/2006 (Doc. No. Hei Huan Jian Shen [2006]11#)
- [09] Notification on Determining Baseline Emission Factor of China's Grid dated 09/08/2007.
<http://cdm.ccchina.gov.cn/web/NewsInfo.asp?NewsId=2193>
- [10] The official data of concession tendering wind power projects in China (from 2003 to 2005)
<http://www.windpower.org.cn/rule/fd4.jsp>
- [11] PP's Board Resolution formally made on 05/04/2007
- [12] CDM development proposal issued by IT Power on 06/10/2005
- [13] Equipment purchasing agreement signed with Sinovel Wind Co., Ltd. dated 22/05/2007
- [14] Signed Construction contracts with Contractor of ground work on 16/10/2007
- [15] The notification of adjusting on-grid tariff of NEPG issued by NDRC on 28/06/2006 (Doc.No (2006)1231). http://www.ndrc.gov.cn/zcfb/zcfbtz/tz2006/t20060630_75078.htm
- [16] ERPA signed between the PP and Goldman Sachs International in August 2007
- [17] Notification on 47th Meeting of National CDM Project Board issued by China's DNA on 13/05/2008
<http://cdm.ccchina.gov.cn/WebSite/CDM/UpFile/File1777.pdf>
- [18] The Codes on Compiling Feasibility Study Report of Wind Farms issued by NDRC on 25/05/2005.
http://www.windpower.org.cn/news/links/js_2005_0508.htm
- [19] Signed validation contracts with BV Certification dated 04/05/2008
- [20] Pricing Regulation on Tariff issued by NDRC
Interim Regulation for Tariff of Renewable Energy Power Generation and Appointment of Expenses, Fagai Jiage(2006) No.7
http://www.gov.cn/ztl/2006-01/20/content_165910.htm
The pricing policies for renewable energy generation viz.
Price thermal +0.25 RMB/kWh=Price renewable
http://www.gov.cn/ztl/2006-01/20/content_165910.htm
- [21] Data source of Benchmark (Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects version 2)
- [22] Official statistics on investment cost of wind power plants in China.
<http://www.newenergy.org.cn/html/0085/5100817371.html>
- [23] Notification of electricity tariff for wind power projects issued by NDRC (No.Fa Gai Jia Ge [2007]3303) dated 03/12/2007.
http://www.jzwj.gov.cn/the_policy/policy/2008-2-19/20082191106306080.htm
Notification of electricity tariff for wind power projects issued by NDRC (No.Fa Gai Jia Ge[2008]1876) dated 23/07/2008.
- [24] Loan contract of the project signed by China Bank of Construction dated 20/03/2006
- [25] Provisional Administrative Measure on Pricing and Cost Sharing for Renewable Energy Power Generation issued by NDRC date 04/01/ 2006
- [26] IRR calculation spreadsheet of the Project
- [27] Statistics of wind power installed capacity in China" written by Mr. Shi Pengfei Version

- 2006 dated 18/03/2007
<http://www.nwtc.cn/Article/UploadSoft/200605/20060508061645569.doc>
 and Version 2007 dated 28/02/2008”
<http://www.gsec.gov.cn/ClassNews.asp?newsID=664>
- [28] Mulan Menggushan Wind farm commenced in 2004 with tariff of 0.78RMB/kWh (Incl.VAT).
<http://www.newenergy.org.cn/html/2004-12/20041605.html>
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- [30] Heilongjiang Mudanjiang Daimagou Wind Farm Project commenced in 2007 with bus-bar tariff CNY0.61RMB/kWh (Incl.VAT).
<http://221.208.49.20:8080/was40/detail?record=119&channelid=7663&searchword=%C8%D5%C6%DA%3E%3D2007.05.262008/5/26>
- [31] Bulletin for invitation of local stakeholders consultation dated 18/01/2008
- [32] Evidence of Stakeholders' comments: 25 pieces of survey questionnaires dated 24 January to-01 February 2008.
- [33] Notice on Strictly Prohibiting the Installation of Fuel fired Generators with the Capacity of 135MW or below issued by the General Office of the State Council, Decree No. 2002-6.
http://www.gov.cn/gongbao/content/2002/content_61480.htm
http://www.gov.cn/xxgk/pub/govpublic/mrlm/200803/t20080328_32761.html
- [34] Tariff endorsed to wind power projects in 2005 issued by Heilongjiang Provincial Bureau of Price Administration (Hei Jia Ge Zi [2005]267#) dated 14/12/2005
- [35] World bank's statistics on China's GDP in 2008(9%), and forecast in 2009(6.5%) and 2010(7.5%) dated 30/03/2009.
http://siteresources.worldbank.org/EXTEAPCHINAINCHINESE/Resources/GEP_Update_march_09_cn.pdf
- [36] Approval of Water Conservancy Bureau of Heilongjiang Province. (Hei Shui Fa [2006] 74)

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/ Project Design Document Form (CDM-PDD) Version 03.2 and Guidelines for Completing the Project Design Document (CDM-PDD) and the Baseline and Monitoring Methodologies (CDM-NM) Version 07
- /3/ "Tool-Grid EF"-Tool to calculate the emission factor for an electricity system" Version 01.1 dated 29/07/2008
- /4/ "Tool-Additionality"-Tool for demonstration and assessment of additionality" Version 05.2 dated 26/08/2008
- /5/ "Guidance-Prior consideration"-Guidance on the demonstration and assessment of prior consideration of the CDM Version01 (Annex 46, EB 41st)
- /6/ Paragraph 54 of EB 38th Report dated 14/03/2008.
- /7/ Glossary of CDM terms Version.04.and paragraph.67 of EB 41st meeting report



/8/ Validation and Verification Manual Ver.01(EB 45 Annex 3)

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. Zhang Peng, Project Manager of Goldman Sachs International
- /2/ Ms. Zhang Xiaoyu, Project Manager of Heilongjiang Dongning Huafu Wind Power Co., Ltd.
- /3/ Mr. Yu Yang, representative of villagers of Dongning County
- /4/ Mr. Do Desi, representative of villagers of Dongning County
- /5/ Mr. Zhang Jun, Project Manager of Heilongjiang Dongning Huafu Wind Power Co., Ltd.
- /6/ Mr. Cui Hongwei, Consultant of Beijing Changjia Investment Co., Ltd.

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7 CURRICULA VITAE OF THE DOE'S VALIDATION TEAM MEMBERS

Ms. (Jasmine) Tang Xuemei	Bureau Veritas Certification, China	Team Leader, CDM Lead Verifier She has 2 years experiences in the field of CDM and mainly focusing on energy and agriculture sector. She was involved in approximate 25 CDM projects in P.R China. She has undergone intensive trainings on the Clean Development Mechanism and EMS ISO14000 in Bureau Veritas.
Mr. Liao Ling	Bureau Veritas Certification, China	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.
Mr. Zeng Ziyuan	Bureau Veritas Certification, China	Team member, CDM Verifier He holds a bachelor degree in Building Environment and Facility Engineering. He has 2 years of environmental Software and Building Automation engineering experience. He has received the training and obtained the certificates of EMS ISO14000 lead auditor and CDM lead verifier.
Mr. (Robin) Wang Jing	Bureau Veritas Certification, China	Technical Reviewer, CDM Lead Verifier He holds a Bachelor Degree in Gas & Heating Engineering and a certificate of investment analysis issued by Word Business Strategist Association (WBSA). He was a Gas Engineer with 10 years' experiences in petrochemical sector. He obtained the certificate of CDM Lead Verifier and Lead Auditor for ISO 14000.
Mr. H B Muralidhar	Bureau Veritas Certification India Private Limited	Internal Reviewer, CDM Lead Verifier 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.

APPENDIX A: CDM PROJECT VALIDATION PROTOCOL

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			<i>COUNTRY A (China)</i>	<i>COUNTRY B (UK)</i>		
1.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
1.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	Pending	OK
1.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,	United Kingdom of Great Britain and Northern Ireland has ratified the Kyoto Protocol on 31/05/2002	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl.	Final Concl.
ii. confirm that participation is voluntary?	VVM	45.b	Pending close CAR-1	Pending close CAR-2	Pending	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	Pending	OK
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	Pending	OK
1.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 United Kingdom	OK	OK
1.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	UK's DNA is State of Environmental, Food and Rural Affaires.	OK	OK
1.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	Pending	OK
2. Participation			PP1 (insert PP1 name)	PP2 (insert PP2 name)		
2.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	Pending	OK
2.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=GB	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl.	Final Concl.
2.C. Are the project participants listed in tabular form in section A.3 of the PDD?	VVM	52	Yes	Yes	OK	OK
2.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
2.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	Pending	OK
2.F. Are any entities other than those approved as project participants included in these sections of the PDD?	VVM	52	No.		OK	OK
2.G. Has the approval of participation issued from the relevant DNA?	VVM	53	Pending close CAR-1	Pending close CAR-2	Pending	OK
3. Project desing document						
3.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./2/		OK	OK
3.B. Is the PDD in accordance with the applicable CDM requirements for completing the PDD?	VVM	56	Yes		OK	OK
3.C. In CDM-PDD section A.1 are the following provided?	EB 41	Ann 12	Yes			

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
i. Title of project	EB 41	Ann 12	Yes. Heilongjiang Dongning Dajiazishan and Xidagang Wind Farm Project	OK	OK
ii. Current version number and date of document	EB 41	Ann 12	Yes. Version number: 1.0, dated 27/03/2008 Final version number: 2.4, dated 19/02/2009	OK	OK
3.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 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 33 wind turbines of 1.5MW, which amount to a total capacity of 49.5MW.		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	Ann	Yes.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
	41	12	The contribution to sustainable development is included in Section A.2 of the PDD has been checked against the approved FSR of the Project.		
3.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 Dongning Huafu Wind Power Co., Ltd. Annex I Country United Kingdom– Goldman Sachs International	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	Yes. Not considered as the PP.	OK	OK
3.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. The wind turbines are to be installed at the top of Dajiazishan Mountain (with north latitude of 44°34'57" and east longitude of 130°44'55") and Xidagang Mountain (north latitude of	CL-1	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
			44°34'41" and east longitude of 130°48'38"). The map to show the specific location of the project site needs to be provided. The turbines (model:SL1500/70) are manufactured by a domestic manufacture-Sinovel Wind Co.,Ltd.		
ii. Detailed physical location with unique identification of the project activity (eg. Longitude/latitude) – not to exceed one page	EB 41	Ann 12	Yes. See 3.F.i. above.	OK	OK
3.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
3.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 a domestic manufacturer which ranked at top 5 in China wind power sector.	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 manufacturing/production technologies, systems and equipments involved	EB 41	Ann 12	Yes. Refer the specification listed in A.4.3.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
iv. The emissions sources and GHGs involved	EB 41	Ann 12	Yes. To reduce greenhouse gas emissions of CO ₂ generated in NEPG.	OK	OK
3.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 123,472 tCO ₂ e (later changed to 130, 569, see CL-12 in 5.C.q.c. below) is estimated for the first crediting period;	OK	OK
3.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
3.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. 04 (changed finally to 05.2) and</i> <i>Tool to calculate the emission factor for an electricity system ver. 01 (finally to 01.1)</i>	OK	OK
3.L. In CDM-PDD section B.2 is justification of the choice of methodology that the project activity meets each of the applicability conditions provided?	EB 41	Ann 12	Yes	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
3.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 in PDD B.3.	OK	OK
iii. The flow diagram with all equipments, systems and flows of mass and energy etc	EB 41	Ann 12	Yes	OK	OK
3.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 clear. The "grid" is not described clearly.	GL-2	OK
ii. Justification of key assumptions and rationales	EB 41	Ann 12	Not applicable.	OK	OK
3.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

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	No. See CAR-4 in 5.A.a.below	Pending	OK
3.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)	OK	OK
ii. Equations used in calculating emission reductions	EB 41	Ann 12	The equations of “ <i>Tool-Grid EF</i> ” are used.	OK	OK
iii. Explanation and justification for all relevant methodological choices, including different scenarios or cases, options and default values	EB 41	Ann 12	The official data of Chinese power grid issued by NDRC on 09/08/2007 are used, (referred to as “ Notification of China Grid EF ” in the report) which is effective at the time of the submission for validation.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
3.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 “ <i>Tool-Grid EF</i> ”, 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
3.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 applicable, direct calculation of emission	EB 41	Ann 12	Yes. The calculation process is in line with the steps	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
reductions) and leakage emissions expected during the crediting period, applying all relevant equations provided in the approved methodology			taken prescribed in “ <i>Tool-Grid EF</i> ” 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
3.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 2015 with year-wise data of emission reductions.	OK	OK
3.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	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

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	Monitoring equipments includes two meters. The Check meter is equipped at the project site and to be monitored by project owner. The Main meter (revenue meter) is at the grid's substation and to be monitored by grid company itself. The accuracy of the metering system is waiting to be confirmed by the grid company. The measurement interval is on hourly basis.	OK	OK
3.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	Yes. The relevant details are addressed.	OK	OK
ii. The operational and management structure that the project operator will implement in order to monitor emission reductions and any leakage	EB 41	Ann 12	Yes. No project emission and leakage need to be considered as per ACM0002	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
effects generated by the project activity					
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
3.V. In CDM-PDD section B.8 are following provided?	EB 41	Ann 12	Yes		
i. Date of completion of the application of the methodology to the project activity study in DD/MM/YYYY	EB 41	Ann 12	Not correct. "In March 2008" indicated in the PDD ver.1.0.	CL-3	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. Carbon Resource Management Ltd. registered in United Kingdom.	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
3.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	EB	Ann	Yes.	Pending	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
is the earliest of the date(s) on which the implementation or construction or real action of a project activity begins/has begun (EB33, Para 76/CDM Glossary of terms/EB41, Para 67)	41	12	28/07/2008 Pending on-site assessment		
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	The date of signing the wind turbine purchasing contract with WTG supplier. Pending on-site assessment	OK	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
3.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
3.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			
3.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	EB 41	Ann 12	Yes. 3x7 years This baseline determination is for the first 7 years.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
original project baseline is still valid or has been updated taking account of new data where applicable?					
3.AA. In CDM-PDD section C.2.1.1 are dates in the following format: (DD/MM/YYYY) provided?	EB 41	Ann 12	Yes. 01/07/2009 in the PDD ver.1.1..	OK	OK
3.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
3.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.		
3.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.		
3.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.		
3.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. The support documentation is required during on-site assessment.	Pending	OK
3.GG. In CDM-PDD section E.1 are the following provided?	EB 41	Ann 12			

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
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. Target group-local farmers, workers and government officials were interviewed;	OK	OK
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 February 2008	OK	OK
3.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 farmers, workers and government officials were interviewed;	OK	OK
ii. A summary of this comments.	EB 41	Ann 12	Yes. See PDD-E.2	OK	OK
3.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	Yes. The measures in noise, waste water are to be	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
			taken.		
3.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, Telephone and Fax or e-mail	EB 41	Ann 12	Yes.	OK	OK
3.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
3.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
3.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					
4.A. General requirement					

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
4.A.a Is the baseline and monitoring methodologies selected by the project participants previously approved by the CDM Executive Board?	VVM	65	Refer to (4.B.a) below	OK	OK
4.A.b Is the selected methodology applicable to the project activity?	VVM	66	Refer to (4.B.b) below	OK	OK
4.A.c Had the selected methodology been correctly applied?	VVM	66	Refer to (4.B.c) below	OK	OK
4.A.d Had the selected methodology been correctly applied with respect to project boundary?	VVM	67	Refer to (4.B) below	OK	OK
4.A.e Had the selected methodology been correctly applied with respect to baseline identification?	VVM	67	Refer to (4.B) below	OK	OK
4.A.f Had the selected methodology been correctly applied with respect to Algorithms and/or formulae used to determine emission reductions?	VVM	67	Refer to (4.E) below	OK	OK
4.A.g Had the selected methodology been correctly applied with respect to additionality?	VVM	67	Yes.	OK	OK
4.B. Applicability of the selected methodology to the project activity					
4.B.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 14/12/2007 to 04/08/2009.	OK	OK
4.B.b. Is the methodology correctly quoted?	VVM	69	Yes.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
			<p>The Project fulfills the criteria of ACM0002 ver.07</p> <ul style="list-style-type: none"> - utilization of wind sources; - not involving switching from fossil fuels to renewable energy at project site; - the geographic and system boundaries of NEPG can be clearly identified and the information of this grid is available. 		
4.B.c. Are the applicability conditions of the methodology met?	VVM	70	Yes.	OK	OK
4.B.d. Is the proeject 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
4.B.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	<p>Yes.</p> <p>Public information has been checked and found the consistency in participants, installed capacity, total investment and launch date.</p> <p>http://www.hrbqx.gov.cn/newspage.asp?newsid=102&classname=</p>	OK	OK
4.B.f. If yes, was the PDD cross checked agains the other sources to confirm that the project activity meets the applicability conditions of the methodology? (provide the reference to these choices)	VVM	70	<p>Yes.</p> <p>The same project information is found.</p>	OK	OK
4.B.g. Can a determination regarding the	VVM	71	Yes.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
applicability of the selected methodology to the proposed CDM project activity be made?					
4.B.h. If no, clarification of the methodology was requested, in accordance with the guidance provided by the CDM Executive Board?	VVM	71	N/A		
4.B.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		
4.C. Project boundary					
4.C.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. The spatial extent of the project boundary includes Project site. The project site includes total 33 sets of turbines with a unit capacity of 1.5MW, step-up substations as well as the auxiliary facilities used to support the turbines operation. The Project is connected to the NEPG) and therefore the NEPG that all power plants connected to is selected as the project boundary in line with the ACM0002.	OK	OK
4.C.b. Is the delineation in the PDD of the project boundary correct?	VVM	78	Yes, confirmed by cross-checking with official boundary definitions made by the China's DNA on 09/08/2007 prior to the validation. ^[10]	OK	OK
4.C.c. Does the delineation in the PDD of the	VVM	78	Yes.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
project boundary meet the requirements of the selected baseline?			Clearly identified.		
4.C.d. Have all sources and GHGs required by the methodology been included within the project boundary?	VVM	78	Yes. 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.	OK	OK
4.C.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
4.C.f. If yes, have the project participants justified that choice?	VVM	78	Not applicable	OK	OK
4.C.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
4.D. Baseline identification					
4.D.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 was clearly identified in PDD B.4. in accordance with ACM0002 ver. 07 that it is "provision of an equivalent amount of annual power output by the NEPG".	OK	OK
4.D.b. Has any procedure contained in the	VVM	81	Not applicable, as methodology ACM0002	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
methodology to identify the most reasonable baseline scenario, been correctly applied?			prescribes the baseline scenario and no further analysis required, therefore, there is no need to take steps to identify the baseline scenarios.		
4.D.c. Does the selected methodology require use of tools (such as the “Tool for the demonstration and assessment of additionality” and the “Combined tool to identify the baseline scenario and demonstrate additionality”) to establish the baseline scenario?	VVM	81	No.	OK	OK
4.D.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		
4.D.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
4.D.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
4.D.g. Has any unreasonable alternative scenario been excluded?	VVM	82	N/A .Refer to (4.D.b) above	OK	OK
4.D.h. Are the documents and sources referred to in the PDD correctly quoted and interpreted?	VVM	83	Yes. The supporting documents are derived from public data sources made by governments.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
4.D.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	Yes. Cross-checked with sectoral information that publically available since the year the Project implemented.	OK	OK
4.D.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	Refer to 5.D.g. above	OK	OK
4.D.k. Have all relevant policies and circumstances been identified and correctly considered in the PDD, in accordance with the guidance by the CDM Executive Board?	VVM	84	Refer to 5.D.g. above	OK	OK
4.D.l. 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 "As a result of the above discussion, electricity supply of equal amount as the proposed project from the NEPG is selected as the baseline for the proposed project."	OK	OK
4.E. Algorithms and/or formulae used to determine emission reductions					
4.E.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

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
4.E.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 GRID EF" and ACM0002. However, whether there is an electricity import from connected power system to NEPG in step 1 should be identified.	CAR-3	OK
4.E.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
4.E.d. If yes, has adequate justification been provided (based on the choice of the baseline scenario, context of the proposed CDM project activity and other evidence provided)?	VVM	89	Yes. The relevant justifications in Step 1, 2 and 3.	OK	OK
4.E.e. If yes, have correct equations and parameters been used, in accordance with the methodology selected?	VVM	89	Yes.	OK	OK
4.E.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
4.E.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	The data issued by China's DNA.	OK	OK
ii. Applicable to the proposed CDM project activity?	VVM	90	Yes.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
iii. Resulting in a conservative estimate of the emission reductions?	VVM	90	Yes.	OK	OK
4.E.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
4.E.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					
5.a. Does the PDD describe how a proposed CDM project activity is additional?	VVM	93	Pending close out all Findings in this section.	Pending	OK
5.b. Does the CDM-PDD state the latest version of the additionality tool being used?	VVM	94	Yes. The approved "Tool for the Demonstration and Assessment of Additionality" ver.05.2 is used.	OK	OK
5.c. Were the steps taken of the "Tool for the Demonstration and Assessment of Additionality" to assess additionality used:	EB 39	Ann 10	Yes. Step 1-identification of alternatives of the project activity, Step 2-Investment analysis (Step 3 -Barrier analysis was not used) Step 4-common practice analysis While	OK	OK
i. Identification of alternatives to the project activity? (Step 1)	EB 39	Ann 10	Yes, all plausible and credible alternative scenarios have been identified in the PDD, including:		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
			<p><u>Alternative 1:</u> The project activity undertaken without being registered as a CDM project activity;</p> <p><u>Alternative 2:</u> Construction of a coal-fired power plant with equivalent installed capacity or annual electricity generation;</p> <p><u>Alternative 3:</u> Construction of a power plant using other sources of renewable energy with equivalent installed capacity or annual electricity generation;</p> <p><u>Alternative 4:</u> Continuation of the current situation: Electricity delivered to the grid into which the Project is connected.</p> <p>Alternative 3 is excluded due to lack of hydro and geothermal resources on/around project site, and the financial less attractiveness of solar PV power generation technologies. However, the rationale of excluding biomass is not clear.</p>	CL-4	OK
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	<p>Yes, (2) is used.</p> <p>The appropriate analysis method is clearly discussed and determined in the PDD.</p> <p>Option III (benchmark analysis) is chosen for</p>	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
			investment analysis.		
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 Province covered by NEPG. 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
5.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.	OK	OK
5.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

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
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
5.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	Yes. Alternative 3 is not a feasible alternative as per local geographical and /or economical environment.	OK	OK
5.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 2) is strictly regulated for installation per the current regulations in China i.e. footer 7 of the PDD: <i>Notice on Strictly Controlling the Manufacturing and Construction of Small-scale Fuel-fired Generators</i> , Ref. No.[Jijiqing (1995) 2372]. Consequently, alternative 2 is excluded.	OK	OK
5.h. If an alternative does not comply with all mandatory applicable legislation and regulations, has it been shown that, based on an examination of	EB 39	Ann 10	Yes. Alternative 2) Construction of a fossil fuel power	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
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?			plant with equivalent amount of annual electricity output is prohibited in China as the relevant national regulation and generally the noncompliance under this requirements is not appeared in the country.		
5.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 2) is not consistent with mandatory laws and regulations.	OK	OK
5.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
5.k. In step 2, have all the sub-steps as below been followed?	EB 39	Ann 10	Yes.	OK	OK
i. Sub-step 2a: Determine appropriate analysis method;	EB 39	Ann 10	Yes. The three analysis methods suggested by Tools for the demonstration and assessment of additionality are simple cost analysis (Option I), investment comparison analysis (Option II) and benchmark analysis (Option III)	OK	OK
ii. Sub-step 2b: Option I. Apply simple cost analysis;	EB 39	Ann 10	No. It is considered not applicable to the Project	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
iii. Sub-step 2b: Option II. Apply investment comparison analysis;	EB 39	Ann 10	No. It is considered not applicable to the Project	OK	OK
iv. Sub-step 2b: Option III. Apply benchmark analysis;	EB 39	Ann 10	Yes. 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
5.l. 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 electricity output.	OK	OK
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
5.m. Has the below guideline followed for sub-step 2b Option I. Apply simple cost analysis? Document	EB 39	Ann 10	Not applicable.		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
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.					
5.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.		
5.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. project IRR used	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, 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.	EB 39	Ann 10	Yes.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
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 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.	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 power industry is 8% on project (after tax), which has been used widely in feasibility studies of new power plants, including wind power projects in China.	OK	OK
5.p. Has the below guideline followed for Sub-	EB	Ann	Yes.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III)?	39	10			
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 is provided	OK	OK
iii. Justify and/or cite assumptions.	EB 39	Ann 10	Yes. All input values for model options 1.5MW×33 sets are taken from the approved FSR	OK	OK
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	EB	Ann	Not applicable as Option III is used.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
analysis shall not differ across the project activity and its alternatives, unless differences can be well substantiated.	39	10			
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	6.70% VS benchmark of 8%	OK	OK
5.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, Tariff and Power generation, are chosen for sensitive analysis with variation range of 10% and evaluation at critical points of each.	OK	OK
5.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
5.s. In step 4: Common practise analysis have all the sub-steps as below followed?	EB 39	Ann 10		OK	OK
i. Sub-step 4a: Analyze other activities similar to the proposed project activity;	EB 39	Ann 10	Yes. Mulan Menggushan Wind Farm Project (with higher tariff of 0.78RMB/kWh) and, Fujin Bielayinshan Wind Farm Project (with low interest loan) are identified for analysis.	OK	OK
ii. Sub-step 4b: Discuss any similar Options that are occurring.	EB 39	Ann 10	Yes.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
5.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: in Heilongjiang Province; However, the ranges of capacity and construction period are not identified.	CL-5	OK
5.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 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	EB 39	Ann 10	Yes. Mulan Menggushan Wind Farm Project enjoyed a favorable tariff of 0.78RMB/kWh Fujin Bielayinshan Wind Farm Project was invested with a low interest loan of ADB. The supporting data sources as quoted in the PDD is verified reliable	OK	OK

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not accessible, the PDD should include justification about non-accessibility of data/information.					
5.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
5.w. Has it been proved that the project is additional?	EB 39	Ann 10	Yes.	OK	OK
5.A. Prior consideration of the clean development mechanism					
5.A.a. Is the project activity start date prior to the date of publication of the PDD for stakeholder comments?	VVM	96	Yes. However "29/11/2005, when the Feasibility Study Report of the Project was finished" described in the PDD ver1.0, which is not in line with the "Guidance –Prior consideration" ./5/	CAR-4	OK
5.A.b. If yes, were the CDM benefits considered necessary in the decision to undertake the project as a proposed CDM project activity?	VVM	96	No. The supporting evidences including I. the PP's consideration II. the signed WTG contracts with Sinovel. III. the signed construction contract with the contractor.	CL-6	OK
5.A.c. Is the start date of the project activity, reported in the PDD, in accordance with the	VVM	97	No. See CAR-3 above 5.A.a.	Pending	OK

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"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."?					
5.A.d. Does the project activity require construction, retrofit or other modifications?	VVM	97	Not required.	OK	OK
5.A.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
5.A.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
5.A.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
5.A.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	VVM	100			

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
following evidences provided:					
5.A.h.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-6 in above 5.A.b.	Pending	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	OK
5.A.h.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	Yes.	OK	OK
a. contract with consultants for CDM/PDD/methodology services?	VVM	100	Yes. The signed ERPA with GSI is presented.	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 GSI in August 2007	OK	OK
c. evidence of agreements or negotiations with a DOE for validation services?	VVM	100	Yes.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
			Kept by BV Certification.		
d. submission of a new methodology to the CDM Executive Board?	VVM	100	Not applicable		
e. publication in newspaper?	VVM	100	Not applicable		
f. interviews with DNA?	VVM	100	Yes. Bulletin on 47 rd Meeting of National CDM Board issued by China's DNA on 22/09/2008 provided. http://cdm.ccchina.gov.cn/WebSite/CDM/UpFile/File1777.pdf	OK	OK
g. earlier correspondence on the project with the DNA or the UNFCCC secretariat?	VVM	100	Not applicable		
5.B. Identification of alternatives					
5.B.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. Refer to 4.D.b. and 5.c.i. above.	OK	OK
5.B.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		
5.B.c. Does the list of alternatives given in the PDD ensure that:	VVM	104	Yes.	OK	OK
i. the list of alternatives includes as one of the options that the project activity is undertaken	VVM	104	Yes. Refer to 5.c.i. above	OK	OK

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without being registered as a proposed CDM project activity?					
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	Yes. Refer to 5.c.i. above	OK	OK
iii. the alternatives comply with all applicable and enforced legislation?	VVM	104	Yes. Refer to 5.c. above	OK	OK
5.C. Investment analysis					
5.C.a. Has investment analysis been used to demonstrate the additionality of the proposed CDM project activity?	VVM	106	Yes.	OK	OK
5.C.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	OK
ii. economically or financially feasible, without the revenue from the sale of certified emission reductions (CERs)?	VVM	106	Yes. Concluded based on the IRR calculation (6.70% less than the benchmark of 8%) and signed ERPA. The input values from the approved FSR and latest guiding tariff are used.	CL-7	OK

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			However, the input value of "total investment" is not specified i.e. static or dynamic.		
5.C.c. Was this shown by one of the following approaches?	VVM	107	Yes.	OK	OK
i. Demonstrate that the proposed CDM project 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.	VVM	107	Not applicable.		
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.		
iii. The financial returns of the proposed CDM project activity would be insufficient to justify the required investment.	VVM	107	Yes.	OK	OK
5.C.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
5.C.e. Does the project IRR and equity IRR calculations reflect the period of expected operation of the underlying project activity (technical lifetime),	EB 41	Ann 45	Yes. 1 year for construction period and 20 years for	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
or - if a shorter period is chosen - include the fair value of the project activity assets at the end of the assessment period?			operation period per the approved FSR. The operation period of no less than 20 years is widely applied in Chinese wind Power Sector. The fair value set as 5% same as the approved FSR.		
5.C.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
5.C.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. According to the <i>Design code for wind power plants</i> worked out by local authorities the period of assessment is prescribed no less than 20 years. The 20 years used in the PDD is reasonable.	OK	OK
5.C.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	The IRR sheet is required to checked.	CL-8	OK
5.C.i. Has the fair value been calculated in accordance with local accounting regulations where available, or international best practice?	EB 41	Ann 45	Pending close above CL-5.	Pending	OK
5.C.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	VVM	109	Not clear. The “ <i>annual power output</i> ” is not identified as a main variable factor in line with the “Codes on Compiling Feasibility Study Report of Wind Farms” issued by NDRC on 25/05/2005.	CAR-5	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
accounting practices conducted?			<p>The rationale that the total investment of the proposed project is impossible to be decreased by over 10%</p> <p>The further supporting evidences of the tariff that unlikely to be changed in the life time are required.</p>	<p>CL-9</p> <p>CL-10</p>	
5.C.k. Were the parameters cross-checked against third-party or publicly available sources, such as invoices or price indices?	VVM	109	<p>Not presented.</p> <p>Pending close (5.C.j) above</p>	Pending	OK
5.C.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
5.C.m. Was the correctness of computations carried out and documented by the project participants assessed?	VVM	109	Yes	OK	OK
5.C.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	The critical points is not analyzed in PDD.	CL-14	OK
5.C.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	Not analyzed in PDD. See above 5.C.n. CL-11.	Pending	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
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
5.C.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
5.C.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 unlikely in the context of the underlying project activity that the input values would have materially changed?	VVM	111	Yes. As interviewed, the PP's final decision to proceed with the investment in the Project was made on 05/04/2007 based on the key financial indicator in the FSR and real guiding tariff issued by NDRC in 2006. The 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.	OK	OK
b. Are the values used in the PDD and associated annexes fully consistent with the FSR?	VVM	111	All parameters used in the PDD are fully consistent with the FSR except the value of the	OK	OK

[illegible]

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			Annual O&M cost Cross-checked with the similar projects with CDM registration in Heilongjiang Province. Tax rate, Fair value, depreciation etc Cross-checked with the relevant tax regulation conducted by State Administration of Taxation. http://www.chinatax.gov.cn/n8136506/index.html		
5.D. Barrier analysis					
5.D.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
5.E. Common practice analysis					
5.E.a. Is this a large-scale, or first-of-its kind small-scale project activity?	VVM	117	a large-scale	OK	OK
5.E.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
5.E.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	VVM	118	Yes. Refer to 5.t. above.	OK	OK





CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
for others it may be transnational/global.					
5.E.d. Was a region other than the entire host country chosen?	VVM	118	Yes. Heilongjiang Province	OK	OK
5.E.e. If yes, was the explanation why this region is more appropriate assessed?	VVM	118	Not addressed. See CL-5 in 5.t above.	Pending	OK
5.E.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	Only two similar projects as PDD listed can be identified in Heilongjiang Province.	OK	OK
5.E.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. The national debt found or foreign investment is identified to be the essential distinctions to the proposed project.	OK	OK
5.E.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					
6.a. Does the PDD include a monitoring plan?	VVM	120	Yes.	OK	OK
6.b. Is this monitoring plan based on the approved monitoring methodology applied to the proposed	VVM	120	Yes.	OK	OK







CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
CDM project activity?					
6.c. Were the list of parameters required by the the selected methodology identified?	VVM	121	Yes.	OK	OK
6.d. Does the monitoring plan contains all necessary parameters?	VVM	121	Yes. Only EGy is required.	OK	OK
6.e. Are the parameters clearly described?	VVM	121	Yes EGy is the net electricity supplied to the grid.	OK	OK
6.f. Does the means of monitoring described in the plan comply with the requirements of the methodology?	VVM	121	Not clear. The monitoring plan is silent about the installation location of the metering system (grid side or on-site?) and the number of digital electricity meters.	GL-14	OK
6.g. Specific questions per methodology ACM0002 version 09 regarding parameters.			Yes. Hourly measurement and monthly recording Commercial receipts will be kept for cross-check	OK	OK
6.h. Are the monitoring arrangements described in the monitoring plan feasible within the project design?	VVM	121	Not clear. The QA/QC, calibration frequency and the national standards used for metering system are required to be addressed.	GL-15	OK
6.i. 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	Yes.	OK	OK







CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
i. data management procedures?	VVM	121	Yes. The procedures are appropriate and practicable.	OK	OK
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					
7.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	Pending	OK
7.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	Pending	OK
8. Local stakeholder consultation					
8.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 since Jan. 2008; 25 pieces of questionnaires were distributed and totally returned. The evidences are required to be presented.	CL-16	OK

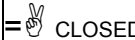
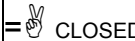

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl.	Final Concl.
8.b. Have comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity been invited?	VVM	127	Yes. The potential impacts including noise, waste water and electromagnetic interference were considered seriously.	OK	OK
8.c. Is the summary of the comments received as provided in the PDD complete?	VVM	127	Yes. Sampled questionnaires have been cross-checked with the description in the PDD -E.7.2.	OK	OK
8.d. Have the project participants taken due account of any comments received and described this process in the PDD?	VVM	127	Yes. PDD - E.7.3. There will be no significant negative impacts after specific measures taken as the conclusion of the approved EIA.	OK	OK
9. Environmental impacts					
9.a. Have the project participants submitted documentation on the analysis of the environmental impacts of the project activity?	VVM	129	EIA and its approval made by local EPA are presented. The developer of the EIA is required to be described in the PDD.	GL-17	OK
9.b. Have the project participants undertaken an analysis of environmental impacts?	VVM	130	Yes.	OK	OK
9.c. Does the host Party require an environmental impact assessment?	VVM	130	Yes.	OK	OK
9.d. If yes, have the environmental impact assessment approved by local government?	VVM	130	Yes. Approved by Heilongjiang Environmental Protection Bureau on 08/02/2006.	OK	OK




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 2/3	Summary of project owner response	Validation team conclusion
CAR-1 Please provide LoA from China's DNA	Table 1. 1.A.	The LoA from DNA of China dated 14/08/2008 has been provided to BV	The submitted evidence has been verified and found substantial. =  CLOSED
CAR-2 Please provide LoA from DNA of United Kingdom	Table 1. 1.A.	The LoA from DNA of China dated 25/03/2009 has been provided to BV	The submitted evidence has been verified and found substantial. =  CLOSED
CAR-3 Please address whether there is an electricity import from connected power system (NCPG) to NEPG in step 1 should be identified.	Table 1 4.E.b.	According to the official statistic (Power year book), there is no net electricity import from NCPG to NEPG.	The revision has been verified and found credible. =  CLOSED
CAR-4 Please re-identify the address the start date of the Project in accordance with the "Guidance on the demonstration and assessment of prior consideration of the CDM (EB41 Annex 46). The corresponding timeline of the Project implementation is also required in the PDD B.5.	Table 1 5.A.a.	It has been justified in revised PDD with a timeline. The start date of the Project has been re-identified as per the Glossary. The earliest date of substantial action to the project implementation is signing the contract of WTG on 22/05/2007 not 29/11/2005, the date of completion of the FSR.	The relevant evidences have been verified against the timeline stated in PDD and found consistent. =  CLOSED
CAR-5 According to the "Codes on Compiling Feasibility Study Report of Wind Farms" issued by NDRC	Table 1 5.C.j.	It has been analyzed accordingly in PDD B.5.	The analysis has been verified and found reasonable.

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2/3	Summary of project owner response	Validation team conclusion
on 25/05/2005, electricity output should be taken as a main variable factor to do sensitivity analysis. Please take into consideration this indicator.			=  CLOSED
CL-1 Please provide the map with the specific location of the project site in the PDD A.4.1.4.	Table 1 3.F.i.	The specific map added.	The revision has been verified and found correct. =  CLOSED
CL-2 The “grid” is not described clearly in the PDD B.4.	Table 1 3.N.i.	The baseline scenario has been identified clearly, the grid is NEPG.	The revision has been verified and found correct. =  CLOSED
CL-3 Please provide a specific date of completion of the application of the methodology to the project activity study in DD/MM/YYYY	Table 1 3.V.i.	The date has been specified as 10/11/2008	The date format has been verified and found appropriate. =  CLOSED
CL-4 Please further elaborate the argument for excluding biomass in PDD B.5.	Table 1 5.c.i.	The argument with data sources has been added in the PDD.	The revision has been verified and found credible. =  CLOSED
CL-5 Please address the criteria further including the range of capacity and construction period in common practice analysis.	Table 1 5.t.	The explanation was modified in the revised PDD that wind farm projects with installed capacity no less than 15 MW in Heilongjiang Province.	It has been verified and found appropriate =  CLOSED
CL-6 Please address the argument of identifying the	Table 1 5.A.b.	The supporting evidences have been provided.	It has been verified and found appropriate

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2/3	Summary of project owner response	Validation team conclusion
start date of the Project in accordance with the latest Glossary of CDM terms Ver.04.			=  CLOSED
CL-7 Please clarify whether the value of "total investment" in the PDD is the static total investment for determine the project IRR.	Table 1 5.C.b.i.	The "static total investment" in the FSR is 555,863,000RMB, which is consistent with the value in the PDD. The "static" has been supplemented in the revised PDD.	The revised value has been verified against the FSR and found appropriate. =  CLOSED
CL-8 Please provide the IRR sheet including the parameter of Depreciation Period and Residue Rate etc.	Table 1 5.C.i.	The required values have been added in PDD Table 3 and the IRR sheet has been provided.	The added parameters have been reviewed against the FSR. =  CLOSED
CL-9 Please justify the total investment of the Project is impossible to be decreased by over 10%.	Table 1 5.C.j.	The variation has been addressed in the revised PDD.	The explanation have been verified and found appropriate. =  CLOSED
CL-10 Please justify the on-grid tariff of the Project is impossible to be decreased by over 10%.	Table 1 5.C.j.	The variation has been addressed in the revised PDD.	The explanation have been verified and found appropriate. =  CLOSED
CL-11 Please further address the possibility at the critical point of each financial indicator in the Sensitivity Analysis.	Table 1 5.C.n.	It has been addressed in the revised PDD.	The address to each financial indicator has been verified and found appropriate. =  CLOSED
CL-12 Please address the difference of the tariff	Table 1	The data source of the tariff mentioned	The clarification has been

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2/3	Summary of project owner response	Validation team conclusion
between the FSR and PDD.	5.C.q.c.	in the FSR is the real tariff adopted by the Heilongjiang Provincial Bureau of Price Administration tariff for wind power projects in the province in 2005. However, considering the latest tariff variation, the guiding tariff of 0.61 RMB/kWh (Incl.VAT) is used in the financial analysis by the project owner.	verified and found credible. It has been cross-checked with the latest public data source - <i>Notification of electricity tariff for wind power projects</i> . issued by NDRC from 2007 to 2008 and found it the same.  CLOSED
CL-13 The relevant parameters used for determination of the estimated power generation of the Project such as load factor and annual generation hours etc. are required to be elaborated in the PDD.	Table 1 5.C.q.c.	The annual power generation of the Project is estimated as 119,921MWh and the net power supply from the Project to NEPG is about 113,925MWh, which is based on the long-term forecast of the equivalent annual operating hours of 2,423 hours or load factor of 0.277. The data in the PDD ver.1.0 is not correct.	It has been verified and found consistent with the FSR of the Project.  CLOSED
CL-14 Please address further the installation location of the metering system (grid side or on-site?) and the number of digital electricity meters in the monitoring plan.	Table 1 6.f.	It was added in the revised PDD that the number and location of electricity meters are to be determined according to the PPA between the project owner and the grid company.	It has been verified and found credible for local power sector.  CLOSED
CL-15 Please further address the QA/QC, calibration frequency and the national standards used for	Table 1 6.h.	It has been supplemented in the revised PDD.	It has been verified and found credible for local power sector.

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2/3	Summary of project owner response	Validation team conclusion
meters in the Monitoring Plan.			=  CLOSED
CL-16 The returned questionnaires with contact information are required to be presented.	Table 1 8.a.	The returned questionnaires have been presented on 20/09/2008.	It has been verified and found substantial. =  CLOSED
CL-17 The EIA developer is not stated PDD D.1.	Table 1 9.a.	The EIA was completed by Heilongjiang Institute of Technology on 06/11/2005.	It has been verified and found credible. =  CLOSED