VALIDATION REPORT

CARBON RESOURCE MANAGEMENT LTD.

VALIDATION OF THE

HUANENG DAMAO MAOMING PHASE I WIND FARM PROJECT

REPORT NO. BVC/CHINA-VAL/0098/2008

REVISION NO. 01

BUREAU VERITAS CERTIFICATION

VALIDATION REPORT

Date of first issue:	Organizational unit:
27/08/2009	Bureau Veritas Certification Holding SAS
Client: Carbon Resource Management Ltd.	Client ref.: Ms. Qian Yiwen

Summary:

Bureau Veritas Certification has made the validation of Huaneng Damao Maoming Phase I Wind Farm Project of Huaneng New Energy Industrial Co., Ltd. The Project is a newly built wind farm located in Damao Town, Baotou City, Inner Mongolia, 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 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 09 and meets all the relevant UNFCCC requirements for the CDM and the relevant host country criteria.

Report No.:	Subject Group:
BVC/CHINA-val/0098/2008	CDM

Project title:
Huaneng Damao Maoming Phase I Wind Farm Project

Work carried out by:
Jasmine Tang–Team Leader
Sun Na – Team Member

Work verified by:
Robin Wang (Reviewer)

Date of this revision:	Rev. No.:	Number of pages:
08/09/2009	01	66

Indexing terms

☒ No distribution without permission from the Client or responsible organizational unit

☐ Limited distribution

☐ Unrestricted distribution

Abbreviations change / add to the list as necessary

BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reductions
CH_4	Methane
CL	Clarification Request
CO_2	Carbon Dioxide
CPP	Captive Power Plant
DIS	Draft of International Standard
DNA	Designated National Authority
DOE	Designated Operational Entity
DR	Document Review
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
ERPA	Emission Reduction Purchase Agreement
CRM	Carbon Resource Management
FSR	Feasibility Study Report
GHG	Green House Gas(es)
GWP	Global Warming Potential
IETA	International Emissions Trading Association
IPCC	Intergovernmental Panel on Climate Change
IRR	Internal Rate of Return
ISO	International Organization for Standardization
LOA	Letter of Approval
MoV	Means of Verification
MP	Monitoring Plan
NDRC	(China) National Development & Reform Commission
NCPG	North China Power Grid
NGO	Non Government Organization
ODA	Official Development Assistance
PCF	Prototype Carbon Fund
PLF	Plant Load Factor
PR China	Peoples' Republic China
PDD	Project Design Document
UNFCCC	United Nations Framework Convention for Climate Change
VVM	Validation & Verification Manual

Table of Contents *Page*

1 INTRODUCTION

Carbon Resource Management Ltd. has commissioned Bureau Veritas Certification to validate the CDM project: Huaneng Damao Maoming Phase I Wind Farm Project (hereafter called "the Project") of Huaneng New Energy Industrial Co., Ltd (hereafter called "the PP") in Inner Mongolia P. R. China.

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

1.1 Objective

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

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

1.2 Scope

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

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

Validation team

The validation team consists of the following personnel:

(Jasmine) Tang Xuemei

Bureau Veritas Certification Team Leader, Climate Change Verifier

Sun Na

Bureau Veritas Certification Team Member, Climate Change Verifier

2 METHODOLOGY

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

In order to ensure transparency, a validation protocol was customized for the Project, according to the version 01 of the Clean Development Mechanism Validation and Verification Manual, issued by the Executive Board at its 44 meeting on 28/11/2008. The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organizes, details and clarifies the requirements a CDM project is expected to meet;
- It ensures a transparent validation process where the verifier will document how a particular requirement has been validated and the result of the validation.

The validation protocol consists of five tables. The different columns in these tables are described in 错误！未找到引用源。. The completed validation protocol is enclosed in **Appendix A** to this report.

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

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

2.1 Review of Documents

The Project Design Document (PDD) submitted by Carbon Resource Management Ltd. and additional background documents related to the Project design and baseline, i.e. country Law, Guidelines for Completing the Project Design Document (CDM-PDD), Approved methodology, Kyoto Protocol, Clarifications on Validation Requirements to be Checked by a Designated Operational Entity were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests, Carbon Resource Management Ltd. revised the PDD and resubmitted it on 25/08/20009, and the validation findings presented in this report relate to the Project as described in the PDD version 2.0 dated 25/08/2009.

2.2 Follow-up Interviews

On 12/01/2009 Bureau Veritas Certification performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of Huaneng New Energy Industrial Co., Ltd (The Project participant), CDM consultant and local stakeholders were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
Huaneng New Energy Industrial Co., Ltd (Project owner)	➢ Project background information. ➢ Project technology, operation, maintenance and monitoring capability. ➢ Project monitoring and management plan. ➢ Stakeholder consultation process. ➢ Project approval status (incl. EIA approval, CDM project approval status) ➢ Wind power development in the area ➢ Policies related to wind power projects
Local Stakeholder	➢ Project background in details ➢ Stakeholder comments ➢ Social and environmental impact of the Project
CRM	➢ 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.

Corrective Action Requests (CAR) is issued, where:

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

(b) The CDM requirements have not been met;

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

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

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

3 VALIDATION FINDINGS

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

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

The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Validation Protocol in **Appendix A**. The validation of the Project resulted in 5 Corrective Action Requests and 13 Clarification Requests.

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

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

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

3.1 Approval

Letters of approval have been received and following support documentation:

- Letter of Approval issued by DNA of China in Jan. 2009 /3/ authorized Huaneng New Energy Industrial Co., Ltd as project participant and confirmed that Huaneng Damao Maoming Phase I Wind Farm Project contributes to China's Sustainable development. No additional specification of the Project was contained in the LoA.
- Letter of Approval issued by DNA of United Kingdom in Feb. 2009 /4/ authorized Carbon Resource Management Ltd. as project participant for Huaneng Damao Maoming Phase I Wind Farm Project in China.

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

✌ Complying with **Para. 49, 50 and 125/VVM**, Bureau Veritas Certification recognizes that Huaneng Damao Maoming Phase I Wind Farm Project of Huaneng New Energy Industrial Co., Ltd is helping the host country fulfill its goals of promoting sustainable development. The Project is expected to be in line with host-country specific CDM requirements because it

- Reducing CO2, SO2 and NOx emissions;
- Creating local employment opportunity during the assembly and installation of wind turbines, and for operation of the proposed project;
- Reducing other particulate pollutants resulting from the fossil fuel fired power plants compared with a business-as-usual scenario;

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

- Feasibility Study Report (FSR) approved by Inner Mongolia Autonomous Development and Reform Committee in Apr. 2008. /7/
- Environment Impact Assessment (EIA) approved by Environment Protect Bureau of Inner Mongolia Autonomous in Oct. 2007. /9/

- The Project activity of grid connected wind power and the development of such grid connected wind power is listed in the Renewable Energy Law, in the 2005 Guiding Catalogue of Industrial Structure Regulation Issued by National Development and Reform Commission/27/.

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

The expected operational lifetime of the Project of 20 years is in line with the FSR /6/. The Project design is sound and the geographical (Inner Mongolia, P. R. China) and temporal (7 years) boundaries of the Project are clearly defined.

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

3.2 Participation (54)

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

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

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

http://maindb.unfccc.int/public/country.pl?country=GB

3.3 Project Design Document

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

3.4 Project Description

The Project “Huaneng Damao Maoming Phase I Wind Farm Project” (hereafter referred to as “the Project”) is sited in Damao Town, Baotou City, Inner Mongolia, P.R.China. The Project has geographical coordinates with east longitude of 109°52′ and north latitude of 41°34′.

The objective of the Project is to utilize wind power for generating electricity that will be sold to North China Power Grid (NCPG). The total installed capacity of the Project is 49.5MW with 33 sets turbines with a unit capacity of 1500kW.

The estimated electricity delivered to NCPG by the Project is 121,852MWh per year and result in annual emission reductions of 128,535tCO2e during the first crediting period.

The Project load factor is arrived at 28% by an independent design institute (Shanghai Power Design Institute) and the detail procedure including the selection of the parameters are described in FSR/6/, which is approved by Inner Mongolia Autonomous Development and Reform Committee (Document no. Nei Fa Gai Neng Yuan[2008] 697)/7/. BVC confirms "Guidelines for the Reporting and Validation of Plant Load Factors ver.1" (Annex 11, EB48) can be fully complied with.

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

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

3.5 Baseline and monitoring methodology

3.5.1 Baseline and monitoring methodology

The Project uses the approved consolidated baseline and monitoring methodology ACM0002 (version 09) – "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" and monitoring methodology.

By on-site visit and interview with the PP, BVC has confirmed that the information given in PDD complied with the criteria of methodology ACM0002 (Version 09):

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

Bureau Veritas Certification hereby confirms that the selected baseline and monitoring methodology ACM0002 Ver.09 is previously approved by the CDM Executive Board, and is applicable to the Project activity, which complies with all the applicability conditions therein.

Bureau Veritas Certification hereby confirms that, as a result of implementation of the proposed CDM project activity, there is no greenhouse gas emission occurring within the proposed CDM project activity boundary, which is expected to contribute more than 1% of the overall expected average annual emissions reductions, which is not addressed by the applied methodology ACM0002 (Version 09).

3.5.2 Project boundary

BVC validated the Project boundary by a site visit and hereby confirms that the identified boundary and the selected sources and gases are justified for the Project activity. i.e.

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

✌ Complying with **Para. 57/VVM**, Bureau Veritas Certification hereby confirms that the identification of Project boundary is in line with the delineation of grid boundaries as provided by the DNA of China. (Refer *to the China's Regional Grid Baseline Emission Factors* updated by DNA of China and publicly available on the website of China's DNA. /25/

3.5.3 Baseline identification

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

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

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

According to the "Tool to calculate the emission factor for an electricity system" (version 1.1), the delineation of grid boundaries of the Project is the North China Power Grid. Therefore, the baseline scenario of the Project is *"Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources in North China Power Grid, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system".*

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

(a) All the assumptions and data used by the Project participants are listed in the PDD, including their references and sources;

(b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD;

(c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;

(d) Relevant national and/or sectoral policies and circumstances are considered and listed in the PDD;

(e) The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM project activity.

3.6 Additionality of a project activity

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

3.6.1 Prior consideration of the clean development mechanism

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

Date	Event
30/10/2007	EIA approval /9/
Mar-2008	Feasibility Study Report (FSR) (CDM is taken into account) /6/
08/04/2008	Board Meeting to decide that the Project will undertake with CDM /12/
May-2008	Emission Reduction Purchase Agreement (ERPA) signed /15/
26/06/2008	Construction permission (start date of the Project) /13/
28/06/2008	Construction contract
Aug-2008	Wind Turbine Purchase Contract /11/
24/10/2008	Start Global Stakeholders' Process

From the above table and relevant evidence received, BVC was able to verify that the start date of the Project determined as 26/06/2008 (the date of construction permission) is appropriate, which is the earliest dates at which the implementation or construction or real action of the Project activity began. This is in accordance with the latest CDM glossary.

CDM income has been taken into account in FSR /6/ because it was found that the Project IRR will be below the benchmark without incentive of CDM. Therefore, the Project owner decided that the Project had to undertake as a CDM project during the board meeting /12/. After that, the Project owner started negotiation with Carbon Resource Management (CRM) regarding the CDM development and signed ERPA /15/ with CRM. Following the above actions, the Project owner received the permission for construction (defined as the Project starting date) and signed the construction contract and wind turbine contract.

BVC has checked all physical documents mentioned above and is able to verify that all documents are substantial and reasonable. BVC was therefore able to verify that the incentives of CDM were seriously considered prior to the start of the Project activity and continuing and real action were taken to secure CDM status for the Project in parallel with its implementation, which are evident accordance with the "*Guidance on the Demonstration and Assessment of Prior Consideration of the CDM*" (version 2) (EB48, Annex 61).

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

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

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

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

Alternative a): The proposed project activity undertaken without being registered as a CDM project activity project activity;

Alternative b): A fossil fuel-fired power plant with the comparable capacity or electricity generation.

Alternative c): A power plant using other source of renewable energy with the comparable capacity or electricity generation, such as PV, biomass and hydro, etc.

Alternative d): Continuation of the current situation: Electricity delivered to the grid by the Project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources.

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

Of these identified alternatives, alternative b) and c) were correctly excluded because:

In China the thermal power plant with a capacity less than 135MW are prohibited to be built /23/; technology development and the high cost for power generation, solar PV, geothermal and biomass of the similar installed capacity as the proposed project are far from being attractive investment in the grid in China/28/ and there is no exploitable hydro power resource in the region of the proposed project activity. /29/

BVC has verified all relevant evidences and found satisfactory to exclude alternative b) and alternative c).

3.6.3 Investment Analysis (Step 2)

Option III (benchmark analysis) is applied for conducting the investment analysis. Project IRR 8% was employed by the Project as benchmark, which comes from the "*Interim Rules on Economic Assessment of Electric Power Engineering Retrofit Projects*" /16/. This benchmark is widely applied in Chinese power

generation industries; therefore, BVC confirms that the benchmark is suitable for the Project.

Based on the data from the Feasibility Study Report, the project IRR of the Project without CERs revenue is 6.1%, which is much lower than the benchmark. It shows that the Project is not financially attractive in the absence of CDM benefits.

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

According to the relevant evidence provided, BVC confirms that: FSR /6/ finalized in Mar. 2008 has taken CDM revenue into consideration. PP's decision to proceed with CDM revenue has been made based on Board Meeting /12/ on 08/04/2008. BVC was therefore confident that it is unlikely in the context of the underlying project activity that the input values would have materially changed, which is in line with the report of **par. 54th (a) EB38** meeting.

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

Furthermore, BVC has reviewed the FSR and IRR calculation sheet /20/, and confirmed that:
The **operating period** of 20 years was selected reasonably following the requirements of "*Interim Rules on Economic Assessment of Electric Power Engineering Retrofit Projects*" and Para. 3 of "Guidance on the Assessment of Investment Analysis" ver. 2, i.e." In general a minimum period of 10 years and a maximum of 20 years will be appropriate".

- The **Residual Value Rate** was selected reasonably following relevant regulation in China;

Besides, the input values from the FSR have been cross-checked with BVC as follows:

- The main part of **investment** in FSR has been cross-checked with the already signed contracts /10/, /11/, /17/ of key equipments and construction by BVC, and found that the total contract value is slightly higher than the one estimated in FSR, therefore, the assumptions for the investment is reasonable;
- The **tariff** of 0.51 Yuan / kWh (incl. VAT) employed in FSR referred to tariff notifications for wind farms located in Inner Mongolia covered by NCPG (Fa Gai Jia Ge [2007]3303). BVC has studied the tariff notifications and summarized as follows:

-In 2006, China's government issued the Renewable Energy Law /27/ and Tentative Management Measures for Price and Sharing of Expenses for Electricity

Generation from Renewable Energy (Document No. Fa Gai Jia Ge [2006]7) /14/. In the documents, it is clearly stated that the tariff of wind power project should be guided by government. From then on, the tariff of wind power projects began to be unified.

-On 09/06/2007, National Development and Reform Committee (NDRC) issued "Notification of electricity tariff for wind power projects" (Fa Gai Jia Ge [2007]1260 /36/. The tariff of wind power projects in Inner Mongolia covered by NCPG is 0.51 Yuan / kWh (incl. VAT).

-On 03/12/2007, (Fa Gai Jia Ge [2007]3303)/36//37/. National Development and Reform Committee (NDRC) issued "Notification of electricity tariff for wind power projects" (Fa Gai Jia Ge [2007]3303) /37/. The tariff of wind power projects in Inner Mongolia covered by NCPG is 0.51 Yuan / kWh (incl. VAT).

The FSR of the proposed project was completed in Mar. 2008 and it can be concluded that these two notifications were available and the most recent official guiding tariff document public available at that time. Therefore, the tariff of 0.51 Yuan/kWh (incl. VAT) was used in the FSR (and thus also used in the PDD), which was the latest available on-grid tariff at the time of the preparation of the FSR.

- On 23/07/2008, the tariff of wind power projects in Inner Mongolia covered by NCPG is still maintained at the 0.51Yuan/kWh (incl. VAT) in the subsequent tariff notification issued by NDRC (Fa Gai Jia Ge [2008]1876) /38/.

Furthermore, according to the latest tariff document issued by NDRC in July 2009, wind power projects in Inner Mongolia covered by NCPG is still 0.51 Yuan / kWh (incl. VAT) /18/

Therefore, BVC confirmed that it is reasonable to assume the Project tariff as 0.51 Yuan/kWh (incl. VAT)

- The **Supplied Power** of the Project was designed by a third independent party based on local wind resource data in latest 27 years, from which the operational hours was developed based on typical parameters within the industry range, using software for assessment (WAsP8.3). Comparison has been made on various options including wind turbine arrangement, wind turbine model, installation height etc. to optimize the design in FSR. The final installed capacity of each turbine was cross-checked with the design parameters of wind turbine manufactured by Dongfang Electric. Therefore, BVC has verified and confirmed that the net supplied electricity assumed in PDD is reasonable.
- BVC has confirmed that the **annual O&M cost** was studied based on the "Code on Compiling Feasibility Study Report of Wind Farms" issued by NDRC /19/. The figure for calculating annual O&M expense has been crosschecked with relevant criteria for wind farm design and found reasonable.
- BVC also verified values of **various taxes** through cross-check with the taxation rules /35/ conducted by local government and found fully consistent.

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

BVC has reviewed the IRR calculation /20/ and confirmed that the IRR processing is consistent with the "*Guidance on the assessment of investment analysis*" (Annex of "*Tool for Demonstration and Assessment of Additionality version 5.2*") Data sources used and analysis approach are reliable, based on FSR linking directive to the actual situation of the host country. As it shows, without CDM income, the Project IRR of the Project is **6.1%**, which is lower than the benchmark (8%).

Four financial parameters were taken for sensitive analysis:

- Investment
- Annual O&M cost
- Tariff
- Supplied Power

According to "Code on compiling feasibility study report of wind power projects" /19/ published by NDRC, investment, annual electricity output and tariff should be taken to do sensitivity analysis, and ±10% variation of above factors shall be considered in sensitivity analysis. Therefore, BVC has confirmed that the variables and variations ±10% performed for sensitivity analysis is deemed to be reasonable in the wind farm sector in China.

The sensitivity analysis showed that:

- With a decrease in **investment** by 15%, the Project IRR may reach 8%. BVC is confident that the investment won't decrease by 15% because the already signed contract value is already slightly above to the one estimated in FSR. Therefore, a 15% drop in investment is not possible.
- With a decrease in **annual O&M costs** by 88%, the Project IRR may reach 8%. All of expenses in O&M cost are determined by a qualified entity based on long term operation experience. Based on the data published by the Inner Mongolia Autonomous Region Bureau of Statistic /39/, there's an increasing tendency of salary and materials purchasing prices. Therefore, it is impossible for annual O&M cost to drop by 88%.
- With an increase in **supplied power** by 15%, the Project IRR will reach 8%. However, the annual output of the Project is estimated based on wind resource data of the latest 27 years, from which the operational hours are developed based on typical parameters within the industry range, using software for assessment (WAsP8.3). The estimated annual generation of 121,852MWh has been cross-checked with the design parameters of wind turbine manufactured by Dongfang and FSR. Therefore, BVC confirmed that it is unlikely that the annual electricity output increases beyond 15%.

- With an increase in **Tariff** by 15%, the Project IRR may reach 8%. However, According to the notifications issued by National Development and Reform Committee (NDRC) "Notification of electricity tariff for wind power projects" (Fa Gai Jia Ge [2007]1260, (Fa Gai Jia Ge [2007]3303) and (Fa Gai Jia Ge [2008]1876)/38//36//37/. All the wind farm projects in the above notifications approved the tariff of wind power projects in Inner Mongolia covered by NCPG is 0.51 Yuan / kWh (incl. VAT). Furthermore, according to the latest tariff document issued by NDRC in July 2009, the tariff in Inner Mongolia covered by NCPG still maintain at the same level /18/. Therefore, the tariff in Inner Mongolia covered by NCPG in recent years is stable and will not increase by 15%.

If the CERs sales revenues (calculated with EURO9 /tCO_2e) are taken into consideration, the project IRR of the Project can reach 8.7%, which is above the benchmark.

✌ Complying with para.**112/VVM**, Bureau Veritas Certification was able to 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.

3.6.4 Barrier Analysis (Step 3)

Barrier analysis is not been applied.

3.6.5 Common Practice Analysis (Step 4)

Inner Mongolia Autonomous Province is selected as the geographical scope of the common practice analysis, and BVC confirms that the geographical scope is appropriate since the investment circumstance and regulations related to wind power of each province in China are significant different. In addition, in April 2002, Electric Power System Reform was issued by China State Council /30/, which breaks the State-monopoly of the electric supply system, separates electric power generation and electric grid operation into sectors, and promotes market competition and other benefits. The Project is a newly built wind farm located in Inner Mongolia, therefore wind farms located in Inner Mongolia, with a starting date of operation later than April 2002 are considered as similar activities to the Project, which deems reasonable. Also, the analysis is restricted to large scale project (>15MW) as small scale projects are not comparable in size to the 49.5MW installed by the proposed project activity.

Data of wind power plants in Inner Mongolia Autonomous is taken from the *Statistics of Installed capacity of wind farm in China in 2007* /24/ by Mr. Shi Pengfei, Vice Chairman of Chinese Wind Association.

Among all the similar power projects after April 2002 with large scale installed capacity located in **Inner Mongolia Autonomous**, only two wind farms are not registered or validated as CDM projects. The essential distinction between the proposed CDM project activity and the two similar projects has been assessed as follow:

- *Dali Wind Power Project Phase III wind farm* is fall into "the fourth issue of national debt special fund project", which enjoys favorable funds that not available for the proposed project. /32/
- *Da Mao Qi Bailingmiao wind farm Project* applied for foreign capital and had implemented as Gold Standard VER project. /33/ /34/

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

3.7 Calculation of GHG Emissions

According to the baseline methodology ACM0002 Version 09, the emission reductions from the Project shall be calculated based on the *Tool to calculate the emission factor for an electricity system (version 1.1)*.

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

Step 1.-Identify the relevant electric power system.

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

China's Regional Grid Baseline Emission Factors published by DNA of China in 2008 /25/ has been verified, and BVC confirms that the identified electric power system is correct.

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

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

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

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

The data on different fuel consumptions for power generation and the net caloric values of the fuels are obtained from the China Energy Statistical Yearbook from 2004 to 2006. The emission factors of the fuels adopted are obtained from Table 1-2 and Table 1-4 of the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Workbook.

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

The data source are deemed reasonable and BVC confirms that the calculation can be replicated using the data and parameter provided in the PDD. /22/

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

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

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

1) Use of capacity additions during the last 1~3 years for estimating the build margin emission factor for grid electricity.

2) Use of weights estimated using installed capacity in place of annual electricity generation.

Step 5.-Calculate the build margin emission factor.

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

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

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

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

1) Baseline emissions: baseline emissions (BE_y in tCO_2) are equal to baseline emissions factor ($EF_{grid,CM,y}$ in tCO_2/MWh) times the net electricity supplied to the grid (EG_y in MWh).
2) Project Emissions: the Project emissions are regarded as zero for wind power projects as per the ACM0002 Version 09. There is no backup power in the proposed project, so PEy = 0.

3) Leakage: no leakage has to be considered for the proposed project activity since no energy generating equipment is transferred from or to the Project site.

4) Emission reduction: $ER_y = BE_y - PE_y - L_y = BE_y = EF_{grid,CM,y} * EG_y$

With reference to the *China's Regional Grid Baseline Emission Factors* published by DNA of China, the Simple OM emission factor ($EF_{grid,OM,y}$) of the North China Power Grid is calculated as 1.1169tCO_2e/MWh. Similarly, the build margin emission factor ($EF_{grid,BM,y}$) of the North China Power Grid is calculated ex-ante as 0.8687tCO_2e/MWh.

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

$EF_{grid,CM,y}$ =0.75×1.1169 +0.25×0.8687=1.05485tCO$_2$e/MWh

According to the estimated annual electricity delivered to the grid 128,535MWh as stated in the FSR, the estimated annual emission reductions of the Project is 128,535 tCO2e during the first crediting period represents a reasonable estimation using the assumptions given by the Project.

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

(a) All assumptions and data used by the Project participants are listed in the PDD, including their references and sources;

(b) All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD;

(c) All values used in the PDD are considered reasonable in the context of the proposed CDM project activity;

(d) The baseline methodology ACM0002 and the "*Tool to calculate the emission factor for an electricity system*" have been applied correctly to calculate project emissions, baseline emissions, leakages and emission reductions;

(e) All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD.

3.8 Monitoring Plan

The Project uses the approved consolidated monitoring methodology ACM0002 version 09 for "Consolidated baseline methodology for grid-connected electricity generation from renewable sources".

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

The combined margin emission factor is determined ex-ante based on the most recent information available. Accordingly the monitoring plan includes the electricity delivered by the Project to the grid and electricity imported by the Project from the grid.

The electricity meters (main and back-up) installed at the substation of the grid will monitor the electricity generated continuously and accumulatively.

The quantity of annual net electricity delivered to the grid by the proposed project is cross-checked against sales receipts.

According to ACM0002 version 09 no leakage has to be considered for the proposed project activity since no energy generating equipment is transferred from or to the site viz. LE_y=0.

Operational management for the Project activity is comprehensively detailed in PDD and this includes description of the responsibility, training, procedure reference, equipment details, calibration frequency and maintenance needs are clearly mentioned. Archiving of the records is indicated and DOE is of the opinion

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

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

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

3.9 Environmental Impacts

Bureau Veritas Certification has ensured that Environment Impact Assessment (EIA) Report has been carried out by Inner Mongolia Power Exploration & Design Institute in Oct, 2007 /8/ and approved by Environmental Protection Bureau of Inner Mongolia Autonomous Region in Oct 2007. (Document No. Nei Huanshen [2007]213) /9/

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

Furthermore, Letter of Approval issued by DNA of China in Jan 2009 /3/ confirmed that Huaneng Damao Maoming Phase I Wind Farm Project contributes to China's Sustainable development.

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

3.10 Local Stakeholders Consultation

Prior to the publication of the PDD on the UNFCCC website, the Project owner conducted surveys to the local villagers and residents in the area via distributing and collecting responses of the questionnaire.

The questionnaires were distributed to the villages nearby. A total number of 50 questionnaires had been distributed and all of them had been returned with 100% return rate.

According to 50 filled questionnaires, the outcome of this survey showed that the local stakeholder have a very good understanding of the Project, and they agreed that the Project can increase the employment opportunities, reduce air pollution, improve living standards and increase income. A detailed summarize of their opinion is stated in the update version PDD.

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

During the on-site visit, DOE has conducted an interview with local stakeholders and confirms that the procedures of conducting local stakeholders' comment were transparent. Interview with stakeholders and review of returned questionnaires shows that the summary of the comments received has been correctly and completely summarized in PDD. BVC hereby confirms that the process of local stakeholder consultation is observed to be adequate.

✌ Complying with **Para. 128/VVM**, Bureau Veritas Certification hereby confirms that the local stakeholder consultation was performed and the Project will benefit to the local sustainable development without negative 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 the Project design document publicly available 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 24/10/2008 and invited comments within one month by Parties, stakeholders and non-governmental organizations.

No Comments were received from any party or person.

5 VALIDATION OPINION

Bureau Veritas Certification has performed a validation of the Huaneng Damao Maoming Phase I 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 (version02)* 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 North China Power Grid.

By description of the Project, the Project is likely to result in reductions of GHG emissions partially. An analysis of the investment analysis demonstrates that the

proposed project activity is not a likely baseline scenario. Emission reductions attributable to the Project are hence additional to any that would occur in the absence of the Project activity. Given that the Project is implemented and maintained as designed, the Project is likely to achieve the annual emission reductions of 128,535 tCO2e.

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

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

6 REFERENCES

Category 1 Documents:

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

/1/	PDD Version 01 dated 20/04/2008
/2/	PDD Version 02 dated 25/08/2009
/3/	Letter of Approval from DNA of China in Jan 2009.
/4/	Letter of Approval from DNA of United Kingdom in Feb 2009
/5/	Statement of Modalities of Communication signed between Carbon Resource Management and Huaneng New Energy Industrial Co., Ltd in May, 2009
/6/	Feasibility Study Report finalized by Shanghai Power Design Institute in Mar, 2008
/7/	FSR approval issued by Inner Mongolia Autonomous Development and Reform Committee in Apr 2008 (Document no. Nei Fa Gai Neng Yuan [2008]697)
/8/	EIA report finalized by Inner Mongolia Power Exploration & Design Institute
/9/	EIA approval issued by Environmental Protection Bureau of Inner Mongolia Autonomous Region (Document no. Nei Huan Biao [2007]213)
/10/	Construction Contract in June, 2008
/11/	Wind turbine contract in Aug 2008
/12/	Board meeting minute in Apr, 2008
/13/	Construction Permission in Jun, 2008
/14/	Tentative Management Measures for Price and Sharing of Expenses for Electricity Generation from Renewable Energy (Code: Fa Gai Jia Ge

	[2006] No.7) dated 04/01/2006
/15/	Emission Reduction Purchase Agreement
/16/	Interim Rules on Economic Assessment of Electric Power Engineering Retrofit Projects
/17/	Tower purchase contract
/18/	Notification of electricity tariff for wind power projects issued by NDRC (Fa Gai Jia Ge [2009]1906), 20/07/2009
/19/	Code on Compiling Feasibility Study Report of Wind Farms
/20/	IRR spreadsheets of the Project
/21/	Evidence of Local stakeholders' comments viz. 50 pieces of filled questionnaires
/22/	Emission Factor calculation spreadsheet
/23/	Notice on Strictly Prohibiting the Violative Installation of Thermal Power Generation Units with the Capacity of 135 MW or Below issued by the General Office of the State Council, decree no. 2002-6. http://www.gov.cn/gongbao/content/2002/content_61480.htm
/24/	Installed capacity of Wind Farms in China in 2007 issued by Mr. Shi Pengfei, Vice Chairman of Chinese Wind Association
/25/	Notification on Determining Baseline Emission Factor of China's Grid dated on 18/07/2008. http://cdm.ccchina.gov.cn/web/NewsInfo.asp?NewsId=3359
/26/	CDM Training Manual
/27/	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
/28/	http://finance.people.com.cn/GB/1038/59942/59949/6294546.html.
/29/	http://www.shuidianzhan.net/snzy/250.html.
/30/	Electric Power System Reform was issued by China State Council
/31/	http://www.newenergy.org.cn/html/00412/20041605.html
/32/	http://www.china5e.com/news/power/200208/200208220027.html
/33/	http://www.mdjprojects.gov.cn/ArticleContent.asp?ID=1143
/34/	http://www.hlj.gov.cn/tzpd/tzhz/yhzc/200707/t20070706_22263.htm
/35/	Income Tax Law of China effected on 01/01/2008
/36/	Document issued by NDRC on 09/06/2007, (Code: Fa Gai Jia Ge [2007] No. 1260)

	http://www.hebwj.gov.cn/upfiles/xy_col32gjc___20070718164220007126.htm
/37/	Document issued by NDRC on 03/12/2007, (Code: Fa Gai Jia Ge [2007] No. 3303) http://www.gov.cn/zwgk/2008-02/19/content_892937.htm
/38/	Document Code Fa Gai Jia Ge [2008] No. 1876 on 23/07/2008. http://jgs.ndrc.gov.cn/zcfg/t20080813_230722.htm
/39/	http://www.nmgtj.gov.cn/Html/jjshfztjgb/2009-7/0/2385.shtml

Category 2 Documents:

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

/1/	ACM0002 Version 09 dated 27/02/2009
/2/	Tool to calculate the emission factor for an electricity system version 1.1 dated 29/07/2008
/3/	Tool for demonstration and assessment of additionality Version 5.2 dated 26/08/2008
/4/	Paragraph 54 of EB 38th Report dated 14/03/2008.
/5/	Guidance on the Demonstration and Assessment of Prior Consideration of the CDM-dated version 2 (EB48 Annex 61)
/6/	Guidance on PLF (EB48 Annex 11)
/7/	Validation and Verification Manual Version 01 dated 28/11/2008 EB 44th Annex 3
/8/	Glossary of CDM terms Version.04.and paragraph.67 of EB 41st

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. Liu Ruixuan, Project Manager, Huaneng New Energy Industrial Co., Ltd
/2/	Mr. Xu Chao, Project Manager, Carbon Resource Management Ltd.
/3/	Mr. Han Pengfei, Local Resident
/4/	Mr. Zhu Baifeng, Local Resident

7 VERIFIERS CV'S

Ms. Jasmine Tang	Bureau Veritas Certification, China	Team leader Climate Change Verifier, She holds a Master Degree in Environment Engineering. She has 2 years of CDM consulting experience in energy sector in P.R China and involved in approximate 20 CDM projects in P.R China. She obtained the certificate of CDM Lead Verifier and Lead Auditor for ISO 14001.

Ms. Sun Na	Bureau Veritas Certification, China	Team member CDM Verifier. She holds a Master Degree in Environmental Engineering and Science in Standford University in USA and Nanyang Technology University in Singapore. She has 2 years experience in energy industry in P.R China and overseas. She involved in several CDM projects in P.R China. She obtained the certificate of CDM Lead Verifier Lead Auditor for ISO 14000. She has involved in several CDM projects in P.R China.

Mr. Robin Wang	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 obtained the certificate of CDM Lead Verifier and Lead Auditor for ISO 14000.

APPENDIX A: CDM PROJECT VALIDATION PROTOCOL

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

CHECKLIST QUESTION	Ref.	§	comments		Draft Concl	Final Concl
1. Approval			COUNTRY A (China)	COUNTRY B (United Kingdom)		
1.1. 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?	VVM	45	No Letter of Approval from DNA of China has been provided.	No Letter of Approval from DNA of United Kingdom has been provided.	~~CAR-1~~ ~~CAR-2~~	OK
1.2. Does the letter of approval from DNA of each Party confirm that : a. The Party is a Party of the Kyoto Protocol b. The participation is voluntary c. In the case of the host Party, the proposed CDM project activity contributes to the sustainable development of the country d. Refers to the precise proposed CDM project activity title in the PDD being submitted for registration	VVM	45	P. R. China has ratified the Kyoto Protocol on 30/08/2002, refer to http://maindb.unfccc.int/public/country.pl?country=CN Pending on CAR-1	United Kingdom has ratified the Kyoto Protocol on 31/05/2002, refer to http://maindb.unfccc.int/public/country.pl?country=GB Pending on CAR-2	~~Pending~~	OK
1.3. Is(are) the letter(s) of approval unconditional with respect to (1.2) above?	VVM	46	No. It is conditional in China Refer to 1.2 above	No. It is conditional in Norway. Refer to 1.2 above	OK	OK
1.4. Has(ve) the letter(s) of approval been issued by the	VVM	47	Pending on CAR-1	Pending on CAR-	OK	OK

CHECKLIST QUESTION	Ref.	§	comments		Draft Concl	Final Concl
respective Party's designated national authority (DNA)? If there is doubt with respect to (1.2) above, was verified with the DNA that the letter of approval is valid for the proposed CDM project activity under validation?				2		
2. Participation						
2.1. Have all project participants been listed in a consistent manner in the project documentation?	VVM	51	Huaneng New Energy Industrial Co., Ltd. (P.R.China, Host)	Carbon Resource Management Ltd. (United Kingdom. Annex I)	OK	OK
2.2. Is the information in tabular form of section A.3 consistent with the contact details provided in Annex 1 of the PDD?	VVM	52	Yes	Yes	OK	OK
2.3. 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?	VVM	52	Pending on CAR-1	Pending on CAR-2	~~Pending~~	OK
2.4. Are any entities other than those approved as project participants included in these sections of the PDD?	VVM	52	No.		OK	OK
2.5. Has the approval of participation issued from the relevant DNA?	VVM	53	Pending on CAR-1	Pending on CAR-2	~~Pending~~	OK
3. Project design document						
3.1. Is the PDD used as a basis for validation prepared in accordance with the latest template and guidance	VVM	55	Yes. Latest Version 03.2. per the GUIDELINES FOR COMPLETING		OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
from the CDM Executive Board available on the UNFCCC CDM website?			CDM-PDD, CDM-NMB and CDM-NMM – Version 07—02/08/2008 (hereafter referred as “CDM-PDD Guideline”)		
3.2. Is the PDD in accordance with the applicable CDM requirements for completing the PDD?	VVM	56	Yes	OK	OK
3.3. In CDM-PDD section A.1 -Title of project -Current version number and date of document	EB 41	Ann 12	Yes Huaneng Damao Maoming Phase I Wind Farm Project GSP Version number: 1.1 Date of the document: 15/10/2008	OK	OK
3.4. In CDM-PDD section A.2, are following provided?	EB 41	Ann 12			
3.4.1. A brief description of the project activity covering purpose which includes the scenario existing prior to the start of project, project scenario and baseline scenario	EB 41 - VVM	Ann 12 - 58 59 60	The purpose of the project activity is to utilize wind power with installed capacity of 49.5MW to generate electricity which will be sold to the North China Power Grid (NCPG) through 220KV Wanghai substation.	OK	OK
3.4.2. 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
3.4.3. Explanation on how the GHG emission reductions effected.	EB 41	Ann 12	The Project will reduce GHG emissions versus the high-growth, coal-dominated business-as usual scenario in NCPG. The operation of the proposed project will lead to emission reductions of CO_2, which is estimated to be approximately 128,535 t CO_2e	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			per year.		
3.4.4. The PP's views on the contribution of project activity to sustainable development	EB 41	Ann 12	The contribution to sustainable development is included in Section A.2 of the PDD: • To reduce GHG emissions,SO_2 and NOx from the fossil fuel power generation in NCPG; • To reduce other particulate pollutants resulting from the fossil fuel power generation in NCPG, compared to a business-as-usual scenario; • To create employment opportunities during the project construction and operation;	OK	OK
3.5. In CDM-PDD section A.3, are following provided in the tabular format? - List of project participants and parties - Identification of Host Party - Indication whether the Party wishes to be considered as project participant	EB 41 VVM	Ann 12 51,52	Yes. Refer to section 2.2-2.4 above.	OK	OK
3.6. In CDM-PDD section A.4.1, are following provided?	EB 41	Ann 12			
3.6.1. Physical description, location, host party(ies) and address as required	EB 41	Ann 12	The Project is located in the west of Damao County, 140km North of Baotou City. The average altitude of	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			the project site is 1600m above sea level		
3.6.2. Detailed physical location with unique identification of the project activity (e.g. Longitude/latitude)	EB 41	Ann 12	Yes. The center of the Project geographical coordinates is east longitude 109°52′and north latitude of 41°34′.	OK	OK
3.7. In CDM-PDD section A.4.2, is the list of categories of project activities provided?	EB 41	Ann 12	Yes Sectoral Scope 1: Energy Industries	OK	OK
3.8. In CDM-PDD section A.4.3, are following provided?	EB 41	Ann 12			
3.8.1. A description of how environmentally safe and sound technology, and know-how, is transferred to the Host Party(ies)	EB 41	Ann 12	PDD is silent about the WTG model, manufacturer and other relevant parameters employed by the Project	~~CL 1~~	OK
3.8.2. Further 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. The baseline scenario, therefore, is the same as the scenario existing prior to the implementation of the project activity, i.e. generation of electricity by grid connected power plants.	OK	OK
3.8.3. List and arrangement of the main manufacturing/production technologies, systems and equipments involved	EB 41	Ann 12	The Load Factor /equivalent generation hours of the WTG that used for determining the estimated electricity supplied to the NCPG to be 121,852MWh per year is required to be elaborated.	~~CL-2~~	OK
3.8.4. The emissions sources and GHGs involved	EB 41	Ann	Yes	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
		12			
3.9. In CDM-PDD section A.4.4, is the estimation of emission reductions provided as requested in a tabular format?	EB 41	Ann 12	Renewable crediting period has been chosen. The estimation of emission reductions provided as requested in a tabular format.	OK	OK
3.10. In CDM-PDD section A.4.5, is information regarding public funding provided?	EB 41	Ann 12	Yes. There is no pubic funding from Annex 1 Parties for this project.	OK	OK
3.11. In CDM-PDD section (Baseline identification)	EB 41	Ann 12			
3.11.1. The approved methodology and version number	EB 41 VVM	Ann 12 69	ACM0002 “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” (Version 9) As ACM0002 required, the latest version of “Tool to calculate the emission factor for an electricity system” (version 1.1) and “Tool for the demonstration and assessment of additionality” (Version 5.2) shall be applied.	OK	OK
3.11.2. Are the applicability conditions of the methodology met?	VVM	70	- the project involves the electricity capacity additions from the wind power plant; - the project does not involve switching from fossil fuels to renewable energy at		OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			project site; - The geographic and system boundaries of North China Power Grid can be clearly identified and the information of this grid is available. Please clarify if the project is the new project or involved the electricity capacity addition at the existing power plant?	~~CL-3~~	
3.12. 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 78	In the PDD B.3, the Project boundary is clearly identified that includes the physical, geographical site of the Project and all power plants connected physically to the NCPG that the Project is connected to. This is in line with the delineation of grid boundaries as provided by the DNA of China. The defined project boundary is in line with ACM0002 ver 09. And all emission sources and GHGs have been included in the project boundary. The connected electricity system is properly defined as North East Power Grid and Central China Power Grid	OK	OK
3.13. In CDM-PDD section B.3, are following provided? (a) Description of all sources and gases included in	VVM	79	The flow diagram should physically delineate the project activity with all	~~CL-4~~	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
the project boundary in the table (b) A flow diagram of the project boundary physically delineating the project activity with all equipments, systems and flows of mass and energy etc	EB 41	Ann 12	equipments, systems and the emission sources and gases included in the project boundary and the monitoring variables.		
3.14. Is an explanation how the most plausible baseline scenario is identified in accordance with the selected baseline methodology is provided in CDM-PDD section B.4?	EB 41	Ann 12	"Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system", has been identified directly in ACM0002.	OK	OK
3.15. Does the PDD identify the baseline for the proposed CDM project activity, defined as the scenario that reasonably represents the anthropogenic emissions by sources of GHGs that would occur in the absence of the proposed CDM project activity?	VVM	80	Yes. The baseline scenario is clearly identified in section B.4 in accordance with ACM0002 (ver 09).	OK	OK
3.16. Has any procedure contained in the methodology to identify the most reasonable baseline scenario, been correctly applied?	VVM	81	Not applicable, as methodology ACM0002 prescribes the baseline scenario and no further analysis required, therefore, there is no need to take steps to identify the baseline scenarios.	OK	OK
3.17. Does the selected methodology require use of tools	VVM	81	No	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
(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?					
3.18. Does the methodology require several alternative scenarios to be considered in the identification of the most reasonable baseline scenario?	VVM	82	No	OK	OK
3.19. Are the documents and sources referred to in the PDD correctly quoted and interpreted And are they cross checked with other verifiable and credible sources, such as local expert opinion, if available? (identify the sources)	VVM	83	N/A	OK	OK
3.20. Have all applicable CDM requirements been taken into account in the identification of the baseline scenario for the proposed CDM project activity?	VVM	84	N/A	OK	OK
3.21. 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	N/A	OK	OK
3.22. 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	It is identified in the PDD B.4 that: electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants.	OK	OK
3.23. In CDM-PDD section B.5, are following provided?	EB 41	Ann 12			
3.23.1. Explanation and Justification of how and	EB 41	Ann	Pending	~~Pending~~	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
why this project activity is additional and therefore not the baseline scenario in accordance with the selected baseline methodology		12			
3.23.2. 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	The start date of the project activity is identified as 26/06/2008, which is earlier than the date of global stakeholder consultation (24/10/2008). CAL-4: The rationale to identify the starting date of the project activity and the documentation there referred to is not stated. CL-5: The evidence referred to in the timeline is required to be provided.	~~CAL-4~~ ~~CL-5~~	OK
3.24. In CDM-PDD section B.6.1, are following provided? (Algorithms and/or formulae used to determine emission reductions)	EB 41	Ann 12			
3.24.1. Explanation 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	Yes. Complying with ACM0002, the “Tool to calculate the emission factor for an electricity system” ver. 01.1 is used.	OK	OK
3.24.2. Do the steps taken and equations applied to calculate project emissions, baseline emissions, leakage and emission reductions comply with the	VVM	88	Yes. The steps and equations described in “Tool to calculate the emission factor	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
requirements of the selected baseline and monitoring methodology?			for an electricity system" are applied.		
3.24.3. Have the equations and parameters in the PDD been correctly applied with respect those in the select approved methodology?	VVM	89	The steps and equations applied are consistent with the Tool and ACM0002.	OK	OK
3.24.4. Does the methodology provide for selection between different options for equations or parameters?	VVM	89	Yes. Options in Step 1, 2 and 3. can be used for OM factor determination	OK	OK
3.24.5. If yes, has adequate justification been provided and correct equations and parameters been used in accordance with the methodology selected?	VVM	89	As mentioned in the step 3 of "Tool to calculate the emission factor for an electricity system", option C should only be used if only nuclear and renewable power generation are considered as low-cost/must-run power sources and if the quantity of electricity supplied to the grid by these sources is known. However, PDD is silent about it.	~~CL-6~~	OK
3.24.6. If yes, have correct equations and parameters been used, in accordance with the methodology selected?	VVM	89	Yes.	OK	OK
3.24.7. Appropriate and correct?	VVM	90	The data of the latest ''Determination of Baseline Grid Emission Factor" covered the data of China Electric Power Yearbook 2007 and China Energy Statistical Yearbook 2007 and published by Chinese NDRC on 18/07/2008 is used.	~~CAR-3~~	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			However, the web link of footnote-14 stated in PDD is not correct.		
3.24.8. Applicable to the proposed CDM project activity?	VVM	90	Yes	OK	OK
3.24.9. Resulting in a conservative estimate of the emission reductions?	VVM	90	The calculation of the combined margin emission factor should result in 1.05485, instead of 1.0549	~~CAR-5~~	OK
3.24.10. 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.	OK	OK
3.24.11. Explanation and justification for the choice of the source of data	EB 41	Ann 12	The official data of Chinese power grid issued by NDRC annually is used.	OK	OK
3.24.12. Clear and transparent references or additional documentation in Annex 3	EB 41	Ann 12	Yes	OK	OK
3.24.13. 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	N/A	OK	OK
3.25. In CDM-PDD section B.6.3, are following provided?	EB 41	Ann 12			
3.25.1. A transparent ex ante calculation of project emissions, baseline emissions (or, where	EB 41	Ann 12	Yes. The project activity design follows the	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
applicable, direct calculation of emission reductions) and leakage emissions expected during the crediting period, applying all relevant equations provided in the approved methodology			ACM0002 ver. 09. Accordingly, the project emissions and leakage are considered to be zero.		
3.25.2. Documentation how each equation is applied, in a manner that enables the reader to reproduce the calculation	EB 41	Ann 12	Yes.	OK	OK
3.25.3. Additional background information and or data in Annex 3, including relevant electronic files (i.e. spreadsheets)	EB 41	Ann 12	Yes. The calculation process of Emission Factor of NEPG has been provided in Annex 3 of PDD.	OK	OK
3.26. In CDM-PDD section B.6.4 are, the results of the ex ante estimation of emission reductions for all years of the crediting period, provided in a tabular format?	EB 41	Ann 12	Yes. Refer to PDD B.6.4.	~~Pending~~	OK
3.27. In CDM-PDD section B.7.1, are following provided?	EB 41	Ann 12			
3.27.1. 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	OK	OK
3.27.2. For each parameter the following below information, using the table provided:	EB 41	Ann 12		OK	OK
3.27.2.1. The source(s) of data that will be actually used for the proposed project activity (e.g. which exact national statistics). Where several sources may be used, explain and justify which data	EB 41	Ann 12	Yes The source of EG_y is from electricity meter, monitoring supply to the grid and imports from the grid (bidirectional,	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
sources should be preferred.			i.e. recording generation and consumption)		
3.27.2.2. Where data or parameters are supposed to be measured, specify the measurement methods and procedures, how the measurement is undertaken: (i) A description of the QA/QC procedures (if any) that should be applied; (ii) Where relevant: any further comment.	EB 41	Ann 12	Yes The electricity meters (main and back-up) measure continuously and accumulatively. The data is recorded monthly. The meters will be calibrated and checked annually for accuracy, with the calibration carried out as per (Chinese electricity industry regulation DL/T448).	OK	OK
3.28. In CDM-PDD section B.7.2, is a detailed description of the monitoring plan provided?	EB 41	Ann 12	Overall responsibility for monitoring and carrying out the monitoring following this monitoring plan lies with Huaneng New Energy Industrial Co., Ltd. The operating and management structure is provided in B.7.2 in PDD. And the detailed description of the monitoring plan provided in PDD Annex 4.	OK	OK
3.29. In CDM-PDD section B.8, are following provided?	EB 41	Ann 12			
3.29.1. Date of completion of the application of the methodology to the project activity study in DD/MM/YYYY	EB 41	Ann 12	Yes Date of GSP PDD version 1.1: 24/10/2008.	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			Date of latest PDD version 2.0: 25/08/2009		
3.29.2. 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 The relevant contact information is provided.	OK	OK
3.29.3. Indication if the person/entity is also a project participant listed in Annex 1	EB 41	Ann 12	Yes	OK	OK
3.30. In CDM-PDD section C.1.1, are following provided?	EB 41	Ann 12			
3.30.1. Is the project's starting date clearly defined and evidenced?	EB 41	Ann 12	The starting date of the project activity should be identified following the latest CDM Glossary. Pending close above on CL-6.	~~Pending~~	OK
3.31. In CDM-PDD section D., 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	Yes. The impacts have been clearly described in section D.1 of the PDD.	OK	OK
3.32. In CDM-PDD section E.1, are the following provided?	EB 41	Ann 12		OK	OK
3.32.1. The process by which comments by local stakeholders have been invited and compiled. An invitation for comments by local stakeholders shall	EB 41	Ann 12	Yes, As PDD described, it was conducted during Sep. 2007 before the launched construction of the Project.		

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
be made in an open and transparent manner, in a way that facilities comments to be received from local stakeholders and allows for a reasonable time for comments to be submitted.			The survey was carried out by distributing questionnaires to 50 households in local area. The objective evidences of public survey are required to be provided.	~~CL-7~~	OK
3.32.2. 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. The survey was carried out by distributing questionnaires to 50 households in local area.	OK	OK
3.32.3. The local stakeholder process has been, completed before submitting the proposed project activity to the DOE for validation.	EB 41	Ann 12	Yes	OK	OK
3.33. In CDM-PDD section E.2, are following provided?	EB 41	Ann 12			
3.33.1. Identification of local stakeholders that have made comments	EB 41	Ann 12	Not clear. The identification of the local stakeholders, the questionnaires and responses need to be summarized in PDD E.2.	~~CL-8~~	OK
3.33.2. A summary of these comments.	EB 41	Ann 12	The survey shows that the proposed project has strong local support among the local people. They believe the proposed project will promote the local economic development and agree the project construction.	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
3.34. 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	There's no needs to modify the project design due to the comments received are all supportive.	OK	OK
3.35. In CDM-PDD Annex 1, are the following provided?	EB 41	Ann 12			
3.35.1. Contact information of project participants	EB 41	Ann 12	Yes.	OK	OK
3.35.2. For each organization 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
3.36. 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
3.37. 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
3.38. In CDM-PDD Annex 4, is the background information used in the application of the monitoring methodology provided?	EB 41	Ann 12	Yes. The detailed information about the monitoring plan is presented in Annex 4.	OK	OK
4. Additionality of a project activity					

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
4.1. General checklist for additionality					
4.1.1. 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" version 05.2 is used.	OK	OK
4.1.2. 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 (not used) Step 4-common practice analysis	OK	OK
4.1.3. Have the following alternatives been included while defining alternatives as per sub-step 1a?	EB 39	Ann 10			
4.1.3.1. The proposed project activity undertaken without being registered as a CDM project activity;	EB 39	Ann 10	Yes. Yes. Alternative a is identified. Alternative a: The proposed project not as CDM project;	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
4.1.3.2. 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. Yes. Alternative b and c are identified. Alternative b: Construction of a fossil fuel power plant with equivalent amount of annual electricity output; Alternative c: Construction of a power plant using other sources of renewable energy with equivalent amount of annual electricity output;	OK	OK
4.1.3.3. If applicable, continuation of the current situation (no project activity or other alternatives undertaken).	EB 39	Ann 10	Yes. Alternative d is identified. Alternative d: Supply of equivalent annual power output by the Grid to which the proposed project is connected.	OK	OK
4.1.4. Has the outcome of Step 1a: Identified realistic and credible alternative scenario(s) to the project activity done correctly?	EB 39	Ann 10	The Alternative c is excluded since there are no exploitable water resource and the high cost for power generation for biomass, solar PV and geothermal comparable to the Project.	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
4.1.5. 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, and outcome of Step 1.b is thus concluded?	EB 39	Ann 10	Yes According to Chinese power regulations, construction of thermal power plant with the installed capacity less than 135MW are prohibited in the areas covered by large grids, Hence the alternative b, Construction of a thermal power plant with equivalent amount of annual electricity generation is not a realistic and credible alternative. Alternative a and d are left.	OK	OK
4.1.6. If an alternative does not comply with all mandatory applicable legislation and regulations, has it been shown that, based on an examination of current practice in the country or region in which the law or regulation applies, those applicable legal or regulatory requirements are systematically not enforced and that noncompliance with those requirements is widespread in the country?	EB 39	Ann 10	Not applicable.	OK	OK
4.1.7. Has PP selected Step 2 (Investment analysis) or Step 3 (Barrier analysis) or both Steps 2 and 3?	EB 39	Ann 10	Step 2 has been applied.	OK	OK
4.1.8. In step 2, have all the sub-steps as below been followed?	EB 39	Ann 10	Yes	OK	OK
4.1.9. In sub-step 2a has the determination of appropriate method of analysis done as per the guidance as below?	EB 39	Ann 10			

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
4.1.9.1. 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	Excluded as the proposed project activity generates financial benefits by the sales of heat and electricity other than CER revenue.	OK	OK
4.1.9.2. 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 proposed project will use benchmark analysis method (option III) based on Project IRR.	OK	OK
4.1.10. Has the below guideline followed for sub-step 2b Option I. Apply simple cost analysis? Document the costs associated with the CDM project activity and the alternatives identified in Step1 and demonstrate that there is at least one alternative which is less costly than the project activity.	EB 39	Ann 10	Not applicable.	OK	OK
4.1.11. Has the below guideline followed for sub-step 2b Option II. Apply investment comparison analysis? Identify the financial indicator, such as IRR, NPV, cost benefit ratio, or unit cost of service most suitable for the project type and decision-making context. Please specify	EB 39	Ann 10	Not applicable.	OK	OK
4.1.12. Has the most suitable benchmark for the project been determined in Sub-step 2b?	EB 39	Ann 10	Yes	OK	OK
4.1.12.1. Which source shall the discount rates and benchmarks derived from? Please specify benchmark and justify.	EB 39	Ann 10	Yes. Derived from (d) Government/official approved benchmark where such benchmarks are used for investment decisions; With reference to Interim Rules on Economic Assessment of Electrical	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			Engineering Retrofit Projects issued by former State Power Corporation of China in 2002, the financial benchmark total investment Internal rate of return (IRR) excluding income tax of Chinese electricity industry is 8%.		
4.1.13. Has the below guideline followed for Sub-step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III)?	EB 39	Ann 10			
4.1.13.1. 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
4.1.13.2. 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	Pending	~~Pending~~	OK
4.1.13.3. Justify and/or cite assumptions.	EB 39	Ann 10	The data sources of those parameters used in the financial calculation are not stated clearly.	~~CL 9~~	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
4.1.13.4. 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
4.1.13.5. Assumptions and input data for the investment analysis shall not differ across the project activity and its alternatives, unless differences can be well substantiated.	EB 39	Ann 10	Not applicable as Option III is used.	OK	OK
4.1.13.6. 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	Not applicable as Option III is used.	OK	OK
4.1.13.7. 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 will be 20 years, which is in accordance with the requirement of the Guidance of wind power financial analysis issued by government on 13/05/2005 and also widely applied in Chinese wind Power Sector, therefore the chosen period of assessment reflects the expected operation of the underlying project activity.	OK	OK
4.1.13.8. Does the project IRR and equity IRR calculations reflect the period of expected operation of the underlying project activity (technical lifetime), or - if a shorter period is chosen - include the fair value of the project activity assets at the end of the assessment period?	EB 41	Ann 45	Yes	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
4.1.13.9. 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
4.1.13.10. Do the project participants justify the appropriateness of the period of assessment in the context of the underlying project activity, without reference to the proposed CDM crediting period?	EB 41	Ann 45	Yes.	OK	OK
4.1.13.11. 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	Yes.	OK	OK
4.1.14. 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 key indicators are identified for sensitivity analysis of the project, including Static total investment, Annual O&M costs, On-grid tariff, and Annual power generation with a variation range from -10% ~ +10%.	OK	OK
4.1.15. Has the outcome of Step 2 clearly mentioned with justification?	EB 39	Ann 10	Pending	~~Pending~~	OK
4.1.16. Have the barrier analysis been conducted?	EB 39	Ann 10	Not applied.	OK	OK
4.1.17. In step 4: Common practice analysis has all the sub-steps as below followed?	EB 39	Ann 10			
4.1.17.1. 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	EB 39	Ann 10	Considering the same regulatory framework and investment climate is province-wise. Inner Mongolia Autonomous has been chosen as	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
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.			geographical scope. The criteria are: - Projects in Inner Mongolia Autonomous - All wind power projects with capacity no less than 15MW 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		
4.1.17.2. Has the below guideline followed for Sub-step 4b: Discuss any similar Options that are occurring?	EB 39	Ann 10	Yes. The conclusion that there are no similar projects can be identified is reasonable by checking the public statistics made by the authorities.	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
4.1.18. Has the outcome from Step 4 clearly mentioned in PDD?	EB 39	Ann 10	Two similar projects can be identified other than those projects for CDM registration. Bailingmiao wind project was facing financial barriers and has applied for Voluntary Emission Reduction under Golden Standard Voluntary Carbon Standard http://www.sgsqualitynetwork.com/tradeassurance/ccp/projects/project.php?id=423 Dali III with 31.2MW commissioned in Mar.2004, supported by national debt fund. http://www.chifeng.gov.cn/html/2008-11/3130.shtml Hence the essential distinctions can thus be identified. However, the websites provided above are not available.	~~CL 10~~	OK
4.2. Prior consideration of the clean development mechanism					
4.2.1. Is the project activity start date prior to the date of publication of the PDD for stakeholder comments?	VVM	96	Yes The start date is 26/06/2008, which is prior to the date of publication of the PDD for stakeholder comments on 24/10/2008.	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
4.2.2. If yes, were the CDM benefits considered necessary in the decision to undertake the project as a proposed CDM project activity?	VVM	96	Pending on CL-7	~~Pending~~	OK
4.2.3. Is the start date of the project activity, reported in the PDD, in accordance with the "Glossary of CDM terms", which states that "The starting date of a CDM project activity is the earliest date at which either the implementation or construction or real action of a project activity begins"?	VVM	97	Pending on CL-6	~~Pending~~	OK
4.2.4. Does the project activity require construction, retrofit or other modifications?	VVM	97	The project activity requires construction.	OK	OK
4.2.5. Is it ensured that the date of commissioning cannot be considered as the project activity start date?	VVM	97	Not clear. Pending on CL-6	~~Pending~~	OK
4.2.6. Is it a new project activity (project activities with staring 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
4.2.7. 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 the UNFCCC secretariat in writing of the commencement of the project activity and of their intention to seek CDM status?	VVM	99	N/A	OK	OK
4.2.8. For an existing project activity, for which the start date is prior to the date of publication of the PDD	VVM	100	N/A	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
for global stakeholder consultation, are the following evidences provided:					
4.2.8.1. 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,	VVM	100	The supporting evidences need to be clarified. See above CL-6	~~Pending~~	OK
4.2.8.2. 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	VVM	100	PDD is silent about the continuing and real actions taken to secure CDM status for the project in parallel with its implementation.	~~CL-11~~	OK
4.3. Identification of alternatives					
4.3.1. Does the approved methodology that is selected by the proposed CDM project activity prescribe the baseline scenario and hence no further analysis is required?	VVM	103	Yes. It has prescribed the baseline scenario directly as per ACM0002 *Refer to above*	OK	OK
4.3.2. If no, does the PDD identify credible alternatives to the project activity in order to determine the most realistic baseline scenario?	VVM	103	Not applicable	OK	OK
4.3.3. Does the list of alternatives given in the PDD ensure that: - One of the options that the project activity is undertaken without being registered as a proposed CDM project activity - The list contains all plausible alternatives - The alternatives comply with all applicable and enforced legislation	VVM	104	Not applicable The approved methodology ACM0002 prescribes the baseline scenario and no further analysis is required. *Refer to above*	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
4.4. Investment analysis					
4.4.1. If investment analysis has been used to demonstrate the additionality of the proposed CDM project activity , does the PDD provide evidence that the proposed CDM project activity would not be:	VVM	106		OK	OK
4.4.1.1. The most economically or financially attractive alternative?	VVM	106	Not applicable.	OK	OK
4.4.1.2. Economically or financially feasible, without the revenue from the sale of certified emission reductions (CERs)?	VVM	106	Yes Project IRR 6.1% (without CDM revenue) vs benchmark 8%.	OK	OK
4.4.2. Was this shown by one of the following approaches?	VVM	107			
4.4.2.1. Demonstrate that the proposed CDM project activity would produce no financial or economic benefits other than CDM-related income.	VVM	107	Not applicable.	OK	OK
4.4.2.2. The proposed CDM project activity is less economically or financially attractive than at least one other credible and realistic alternative.	VVM	107	Not applicable.	OK	OK
4.4.2.3. The financial returns of the proposed CDM project activity would be insufficient to justify the required investment.	VVM	107	Yes Project IRR 6.1% (without CDM revenue) vs benchmark 8%.	OK	OK
4.4.3. 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	VVM	109	Pending	~~Pending~~	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
evidence and expertise in relevant accounting practices conducted?					
4.4.4. 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 analysis of critical points to reach the benchmark should be provided.	~~CL 12~~	OK
4.4.5. 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: a. Assessing previous investment decisions by the project participants involved, and b. Determining whether the same benchmark has been applied, or c. Determining if there are verifiable circumstances that have led to a change in the benchmark	VVM	110	Yes. The benchmark of 8% is widely used for power projects No other benchmark rate can be applied in China power sector.	OK	OK
4.4.6. 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. The input values are sourced from the FSR which was approved by the local government.	OK	OK
4.4.7. If yes: **(EB38 para.54)**	VVM	111			
4.4.7.1. 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	VVM	111	Yes.	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
activity that the input values would have materially changed?					
4.4.7.2. Are the values used in the PDD and associated annexes fully consistent with the FSR? If not, was the appropriateness of the values validated?	VVM	111	Pending	~~Pending~~	OK
4.4.7.3. On the basis of its specific local and sectoral expertise, is confirmation provided, by cross-checking or other appropriate manner, that the input values from the FSR are valid and applicable at the time of the investment decision?	VVM	111	Pending	~~Pending~~	OK
4.5. Barrier analysis					
4.5.1. Has barrier analysis been used to demonstrate the additionality of the proposed CDM project activity?	VVM	113	No	OK	OK
4.5.2. If yes, does the PDD demonstrate that the proposed CDM project activity faces barriers that: a. Prevent the implementation of this type of proposed CDM project activity? b. Do not prevent the implementation of at least one of the alternatives?	VVM	113	Not applicable.	OK	OK
4.6. Common practice analysis					
4.6.1. Is this a large-scale or first-of-its kind small-scale project activity?	VVM	117	It is a large-scale project activity.	OK	OK
4.6.2. Was common practice analysis carried out as a credibility check of the other available evidence used by the project participants to demonstrate	VVM	117	Yes.	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
additionality?					
4.6.3. Was it assessed whether the geographical scope (e.g. defined region) of the common practice analysis is appropriate for the assessment of common practice related to the project activity's technology or industry type? (For certain technologies the relevant region for assessment will be local and for others it may be trans-national /global.)	VVM	118	Refer to Section 4.17	OK	OK
4.6.4. Was a region other than the entire host country chosen?	VVM	118	Yes Inner Mongolia Autonomous was chosen as the region.	OK	OK
4.6.5. If yes, was the explanation why this region is more appropriate assessed?	VVM	118	Yes	OK	OK
4.6.6. 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, and have been undertaken in the defined region?	VVM	118	Yes.	OK	OK
4.6.7. Are similar and operational projects, other than CDM project activities, already "widely observed and commonly carried out" in the defined region?	VVM	118	No.	OK	OK
4.6.8. If yes, was it assessed whether there are essential distinctions between the proposed CDM project activity and the other similar activities?	VVM	118	Refer to Section 4.17	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
5. Monitoring plan					
5.1. Is this monitoring plan based on the approved monitoring methodology applied to the proposed CDM project activity?	VVM	120	Yes. The monitoring plan based on the approved baseline and monitoring methodology ACM0002 (version 09).	OK	OK
5.2. Does the monitoring plan contain all necessary parameters?	VVM	121	Yes. Electricity export by the Project to the grid and Electricity imported by the Project from the grid will be monitored to get the net electricity generated.	OK	OK
5.3. Are the monitoring arrangements described in the monitoring plan feasible within the project design?	VVM	121	Yes. In line with local practices in power sector	OK	OK
5.4. Are the 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	As monitoring plan described, the main meter is installed in “Wanghai 220kV substation” of NCPG serving as the revenue meter and the backup meter is also installed in the grid substation. The potential separate meters are installed in the project site. The procedures of monitoring the meters and data transfer between the two parties are described in PDD. Considering the power line will be shared with other wind farms and separate metering equipment will be	~~CL-13~~	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			installed for specific project, the approaches for cross-checking the readings of separate meters are required to be further described.		
6. Sustainable development					
6.1. Does the CDM project activity assists Parties not included in Annex I to the Convention in achieving sustainable development?	VVM	123	Pending	~~Pending~~	OK
6.2. 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
7. Local stakeholder consultation					
7.1. 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, As PDD described, it was conducted during Sep. 2007 which is prior to the publication of the PDD The survey was carried out by distributing questionnaires to 50 households in local area. The stakeholder consulting is prior to the publication of the PDD on the UNFCCC website.	OK	OK
7.2. Have comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity been invited?	VVM	127	Refer to section 3.33	~~Pending~~	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
7.3. Is the summary of the comments received as provided in the PDD complete?	VVM	127	Yes	OK	OK
7.4. Have the project participants taken due account of any comments received and described this process in the PDD?	VVM	127	Yes. In PDD section E.3, the villagers are all supportive of the proposed project and to date there has been no need to modify the project design according to the comments received.	OK	OK
8. Environmental impacts					
8.1. Have the project participants submitted documentation on the analysis of the environmental impacts of the project activity?	VVM	129	Yes	OK	OK
8.2. Have the project participants undertaken an analysis of environmental impacts?	VVM	130	Yes. EIA worked out by Inner Mongolia Power Exploration & Design Institute.	OK	OK
8.3. Does the host Party require an environmental impact assessment?	VVM	130	Yes.	OK	OK
8.4. If yes, have the environmental impact assessment approved by local government?	VVM	130	Yes.	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 1	Summary of project owner response	Validation team conclusion
CAR-1: Please provide LoA from China's DNA	1.1	LOA of China government has been provided to DOE.	The LoA from China DNA has been verified, hence CAR 1 closed.
CAR-2: Please provide the LoA from DNA of UK.	1.1	LOA of UK government has been provided to DOE.	The LoA from UK DNA has been verified, hence CAR 2 closed.
CAR-3: The web link of footnote-14 stated in PDD is not correct.	3.24.7	The web link in the revised PDD has been updated.	The footnote has been assessed and verified, hence CAR-3 closed.
CAR-4: The rationale to identify the starting date of the project activity and the documentation there referred to is not stated.	3.23.2	The rationale to identify the starting date of the project activity and the documentation there referred to has been stated in the revised PDD.	The documentation has been provided and assessed. Project starting date has been identified and found appropriate, hence CAR 4 closed.
CAR-5: The calculation of the combined margin emission factor should result in 1.05485, instead of 1.0549	3.24.9	The combined margin emission factor has changed to 1.05485	BVC has assessed the update EF & ER calculation spreadsheet and PDD and confirmed the value, hence CAR 5 closed.
CL-1: PDD is silent about the WTG model, manufacturer and other relevant parameters employed by the Project	3.81.	The relevant parameter has been elaborated in the updated PDD. A total of 33 wind turbines of the 1500kW (FD70B) will be supplied by Dongfang Electric. The turbine technology is introduced from Germany; and therefore, the establishment and operation of the proposed project activity will promote the technology transfer and utilization in	The relevant information has been provided in the update PDD and has been assessed by BVC during site interview, and contract assessment, hence CL-1 closed.

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project owner response	Validation team conclusion
		China, and represents good practice.	
CL-2: The Load Factor /equivalent generation hours of the WTG that used for determining the estimated electricity supplied to the NEPG to be 121,852 MWh per year is required to be elaborated.	3.8.3	The relevant parameter has been elaborated in the updated PDD. The wind turbines are estimated to generate on average 121,852MWh of electricity annually once fully operational, which is based on a detailed wind assessment leading to a load factor of 28% or 2462 hours per year.	PLF has been assessed based on the approved FSR and found that the estimation is reasonable, hence CL-2 closed.
CL-3: Please clarify if the project is the new project or involved the electricity capacity addition at the existing power plant?	3.11.2	The proposed project is a new project, with the installation of 33 wind turbines with an aggregate capacity of 49.5MW.	It has been assessed that the project is a newly built project by BVC, hence CL-3 closed.
CL-4: The flow diagram should physically delineate the project activity with all equipments, systems and the emission sources and gases included in the project boundary and the monitoring variables.	3.13	The flow diagram has delineated all equipments, systems and the emission sources and gases included in the project boundary and the monitoring variables in the revised PDD.	The flow diagram has been properly delineated in the updated PDD, hence CL-4 closed.
CL-5: The evidence referred to in the timeline is required to be provided.	3.23.2	The evidence referred to in the timeline has been provided to DOE.	BVC has received the relevant documents and have assessed during interview, hence CL-5 closed.
CL-6: As mentioned in the step 3 of "Tool to calculate the emission factor for an electricity system", option C should only be used if only nuclear and	3.24.5	This has been revised in the PDD.	Adequate justification been provided and correct equations and parameters been used in accordance with the methodology selected in the updated

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project owner response	Validation team conclusion
renewable power generation are considered as low-cost/must-run power sources and if the quantity of electricity supplied to the grid by these sources is known. However, PDD is silent about it.			PDD, hence CL- 6 closed.
CL-7: The objective evidences of public survey are required to be provided.	3.32.1	The objective evidences of public survey have been provided to DOE.	The objective evidences of public survey have been assessed, hence CL-7 closed.
CL-8: The identification of the local stakeholders, the questionnaires and responses need to be summarized in PDD E.2.	3.33.1	These have been summarized in the revised PDD.	The identification of the local stakeholders and the questions and responses have been summarized in PDD E.2 and has been assessed during interview, hence CL-8 closed.
CL-9: The data sources of parameters used in the financial calculation are not stated clearly.	4.1.13.3	The date sources of parameters in the financial calculation are all from FSR, and which has been stated in the revised PDD.	The data sources of parameters used in the financial calculation are all from FSR and have been assessed and found consistent. The statement of these sources is incorporated in update PDD, hence CL-9 closed.
CL-10: The websites provided in common practice analysis are not available.	4.1.18	The link web has been updated.	The website link has been updated, hence CL-10 closed.
CL-11: PDD is silent about the continuing and real actions taken to secure CDM status for the project in parallel with its implementation.	4.2.8.2	These information have been stated in the revised PDD.	The continuing and real actions taken to secure CDM status for the project in parallel with its implementation has been stated in updated PDD and the

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project owner response	Validation team conclusion
			evidence has been assessed and cross-checked during interview, hence CL-11 closed.
CL-12: An analysis of critical points to reach the benchmark should be provided in Sensitive Analysis.	4.4.4	The analysis of critical points when IRR reaching the benchmark has been provided in the revised PDD.	The analysis of critical points when IRR reaching the benchmark has been provided in the revised PDD and could be re-produced in IRR spreadsheet, hence CL-12 closed.
CL-13: Considering the power line may be shared with other wind farms and separate metering equipment may be installed for specific project, the approaches for cross-checking the readings of separate meters is required to be further described in PDD.	5.4	If in the future, some other wind farms share the same transformer, substation or transmission line with this wind farm, the appropriate separate meters installed in the project site will be used in order that the electricity generation can be monitored respectively to calculate the share of this wind farm of the net supply to the grid. The readings of those separate meters can be cross-checked by the confirmation letter of generation from the grid.	BVC has verified that separate meter will be installed for each project and the readings of those separate meters could be cross-checked by the confirmation letter of generation from the grid company, hence CL-13 closed.

1. GUIDELINES FOR COMPLETING CDM-PDD, CDM-NMB and CDM-NMM – Version 07 – 02 Aug, 2008
2. APPROVED CONSOLIDATED BASELINE AND MONITORING METHODOLOGY ACM0002– Version 09 – 27 Feb, 2009
3. TOOL FOR THE DEMONSTRATION AND ASSESSMENT OF ADDITIONALITY –Version 05.2 – 26 August, 2008
4. TOOL TO CALCULATE THE EMISSION FACTOR FOR AN ELECTRICITY SYSTEM-Version 01.1-29 July, 2008
5. PARAGRAPH 54 OF EB 38th MEETING REPORT – 14 March, 2008.
6. EB 48th ANNEX 61: GUIDANCE ON THE DEMONSTRATION AND ASSESSMENT OF PRIOR CONSIDERATION OF THE CDM–Version 02
7. VALIDATION AND VERIFICATION MANUAL Version 01 –EB 44TH Annex 3.