



VALIDATION REPORT

GANSU CGN WIND POWER

Co., LTD

VALIDATION OF THE

GANSU GUAZHOU DALIANGXI

WIND POWER PROJECT

BUREAU VERITAS CERTIFICATION

REPORT No. BVC/CHINA-VAL/0152/2009

REVISION No. 02



VALIDATION REPORT

Date of first issue: 27/10/2009		Organizational unit: Bureau Veritas Certification Holding SAS	
Client: EcoSecurities International Limited		Client ref.: Mr. Patrick James Browne	
Summary: Bureau Veritas Certification has conducted the validation of Gansu Guazhou Daliangxi Wind Power Project owned by Gansu CGN Wind Power Co., Ltd. The Project is a newly built wind farm located at Guazhou County, Jiuquan City, Gansu Province, P.R.China on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria. The validation scope is defined as an independent and objective review of the project design document, the project's baseline study, monitoring plan and other relevant documents, and consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final validation report and opinion. The overall validation, from Contract Review to Validation Report & Opinion, was conducted using BVC 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 BVC's opinion that the project correctly applies the baseline and monitoring methodology ACM0002 version 09 and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria.			
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Abbreviations

BM	Build Margin
BVC	Bureau Veritas Certification
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reductions
CH ₄	Methane
CL	Clarification Request
CO ₂	Carbon Dioxide
DECC	Department of Energy and Climate Change
DIS	Draft of International Standard
DNA	Designated National Authority
DOE	Designated Operational Entity
DR	Document Review
DRC	Development & Reform Commission
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
ERPA	Emission Reduction Purchase Agreement
FSR	Feasibility Study Report
GHG	Green House Gas(es)
GSP	Global Stakeholders Process
GWP	Global Warming Potential
IETA	International Emissions Trading Association
IPCC	Intergovernmental Panel on Climate Change
IRR	Internal Rate of Return
ISCH	International Stakeholder Consultation
LoA	Letter of Approval
MoV	Means of Verification
MP	Monitoring Plan
NDRC	National Development and Reform Commission
NWCPG	Northwest China Power Grid
ODA	Official Development Assistance
PDD	Project Design Document
PLF	Plant Load Factor
PP	Project Participant(project owner)
PPA	Power Purchase Agreement
PRC	People's Republic of China
SWPC	Statistics of wind power installed capacity in China
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation & Verification Manual
WTG	Wind Turbine Generator

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1 INTRODUCTION

EcoSecurities International Limited. has commissioned Bureau Veritas Certification (hereafter called “**BVC**”) to validate the CDM project Gansu Guazhou Daliangxi Wind Power Project (hereafter called “**the Project**”) owned by Gansu CGN Wind Power Co., Ltd (the project participant, hereafter called “**the PP**”) at Gansu Province, PRC.

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 service towards the PPs. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

1.3 Validation team

The validation team consists of the following personnel:

Jasmine Tang Team Leader

BVC, Climate Change Verifier

Zeng Ziyuan Team Member

BVC, Climate Change Verifier

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2 METHODOLOGY

The overall validation, from Contract Review to Validation Report & Opinion, was conducted using BVC 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.^[2] The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from validating the identified criteria. The validation protocol serves the following purposes:

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

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

Figure 1 Validation Protocol Tables

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
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.

2.1 Review of Documents

The Project Design Document (PDD) submitted by EcoSecurities International Limited (Eco, the client) 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 BVC's corrective action and clarification requests Eco revised the PDD and resubmitted it on 20/10/2009 and the validation findings presented in the report submitted to request for registration this report relate to the Project as described in the PDD version 4.0. After the minor correction request raised by CDM EB, Eco revised the PDD to version 5 dated 27/04/2010 and this validation report related to the Project is as described in the PDD version 5.0.

2.2 Follow-up Interviews

On 15/04/2009 BVC performed on-site interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of the PP, the consultant and local stakeholders were interviewed (see Section 6-References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
Gansu CGN Wind Power Co., Ltd (Project owner)	➤ Project background information and CDM consideration. ➤ Project technology, operation, maintenance and monitoring capability. ➤ Project monitoring and management plan. ➤ Stakeholder consultation process. ➤ Project approval status (incl. EIA approval, CDM project approval status) ➤ Wind power development in the area ➤ Government policies related to wind power projects
Local Stakeholder	➤ Project background in details ➤ Stakeholder comments ➤ Social and environmental impact of the project
EcoSecurities International Limited (CDM Consultant)	➤ 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 BVC positive conclusion on the project design.



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Corrective Action Requests (CAR) is issued, where:

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

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 the Appendix A.

3 VALIDATION CONCLUSIONS

In the following sections, the findings of the validation are stated.

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 2 Corrective Action Requests and 9 Clarification Requests.

3.1 Approval

The letters of approval have been provided by PPs and the following support documentation has been verified by BVC:

- ✍ The China's DNA has issued a Letter of Approval (No. 1614) in Dec 2008, authorizing Gansu CGN Wind Power Co., Ltd. as the Project Participant and confirmed that the Gansu Guazhou Daliangxi Wind Power Project contributes to China's Sustainable development.
- ✍ The UK's DNA has issued a Letter of Approval (ref ESInt/17/2009) on 16/07/2009, authorizing EcoSecurities International Limited as the Project Participant for the Project.
- ✍ The UK's DNA has issued a Letter of Approval (ref CSINT/09/2009) on 23/09/2009, authorizing Credit Suisse International as the Project Participant for the Project.

BVC does not doubt the letters' authenticity by checking the relevant official information.

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

✍ Complying with para.49, 50 and 125/VVM, BVC recognizes that the letters of approval provided by the PPs are in accordance with VVM para.45-48, and the Project is helping country fulfill its goals of promoting sustainable development. The Project will contribute to sustainable development of the local community, the host country and the world by means of:

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- (a) GHG emission reduction;
- (b) Reducing pollutants emission through replacing fossil fuel combustion;
- (c) Employment opportunities.

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

- ✍ The Project is grid connected wind power generation and the development of such Grid connected wind power generation is listed in the Renewable Energy Law (/6/)
- ✍ Environment Impact Assessment (EIA) of the Project approved by Gansu Provincial Environmental Protection Bureau on 13/03/2008. (/10/)
- ✍ Feasibility Study Report (FSR) of the Project approved by Gansu Provincial Development & Reform Commission (DRC) on 19/05/2008 (Code: Gan Fa Gai Neng Yuan [2008] No.283). (/9/)

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

The overall layout of the Project is sound and the geographical (Guazhou County, Jiuquan City, Gansu Province, PRC) and temporal (7 years) boundary of the Project is clearly defined.

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

3.2 Participation

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

✍ Complying with para.54/VVM, BVC hereby confirms that by referring to the information on UNFCCC website i.e.

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

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

3.3 Project design document

Complying with para.57/VVM, BVC hereby confirms that the PDD complies with the latest Project Design Document Form (CDM-PDD) version 03.2 and guidance documents for completion of PDD version 7.0.

3.4 Project description



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The Project is sited in Guazhou County, Jiuquan City, Gansu Province, PRC. The exact geographical coordinates of the Project are E 95°36'37" Longitude, N 40°42'55" Latitude.

The total installed capacity of the Project is 49.5MW, consisting of 33 wind turbines, each with the unit capacity of 1500kW, supplied by Dongfang Steam Turbine Works Company. The Plant Load Factor of 27% is determined by a qualified third party of Northwest Survey Design and Research Institute of China Hydropower Advisory Group in the FSR (/8/), which has been approved by Gansu Provincial DRC (/9/). BVC confirms "Guidelines for the Reporting and Validation of Plant Load Factors ver.1" (Annex 11, EB48) is fully complied with. The estimated annual electricity supplied to the grid is estimated as 115,144MWh, which will be sold to the Northwest China Power Grid (NWCPG). As the NWCPG is dominated by thermal power generation, the Project is expected to achieve an annual emission reduction of 114,781tCO₂e during the first seven years of its renewable crediting period.

The process undertaken to validate the accuracy and completeness of the Project description includes document review and cross-check by BVC with the relevant approvals issued by local government. And relevant data, including estimated annual electricity supplied to the grid and the plant load factor, are all taken from the approved FSR.

☞ Complying with para.64/VVM and Annex11/EB48, BVC hereby confirms that the project description in PDD (/2/) 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" valid from 27 Feb 09 to 10 Jun 09.^[1]

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

- The Project involves the installation of a wind power plant; and
- The Project is connected to the grid; and
- The Project does not involve switching from fossil fuels to renewable energy at the site of the project activity; and
- The geographic and system boundaries for the Northwest China Power Grid (NWCPG) can be clearly identified and information on the characteristics of the grid is available.

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

Based on the on-site assessment, BVC hereby confirms that, as a result of the implementation of the Project, there are no greenhouse gas emissions occurring within the project boundary, which

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are expected to contribute more than 1% of the overall expected average annual emissions reductions, which are not addressed by the applied methodology.

3.5.2 Project boundary

The spatial extent of the Project boundary is clearly defined in line with ACM0002 version 09 as the physical, geographical site of the Project and all other power plants connected physically to the NWCPG that the Project is connected to.

☞ Complying with **para.57/VVM**, BVC hereby confirms that the identification of Project boundary is in line with the delineation of grid boundaries as provided in the latest version of “Notification on Determining Baseline Emission Factor of China’s Grid” published by China’s DNA on 30/12/2008 (hereafter called “Notification of China-Grid EF”). (/11/)

3.5.3 Baseline identification

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

The electricity delivered to the grid by the Project would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the “Tool to calculate the emission factor for an electricity system” version 02, published at **EB 50** (hereafter called “Tool-Grid EF”).^[3]

According to the “Notification of China-Grid EF”, the delineation of grid boundary of the Project is the NWCPG. Furthermore, the baseline of the Project determined in the PDD i.e. “electricity delivered to the grid by the Project would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources”, as reflected in the combined margin calculations in section B.6.1 of PDD is transparent and deemed to be reasonable.

☞ Complying with **para.80 and 81/VVM**, BVC 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

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The additionality of the Project has been assessed in accordance with the “*Tool for Demonstration and Assessment of Additionality*” version 05.2 dated 26/08/2008 (hereinafter called “*Tool-Additionality*”). [4]

3.6.1 Prior consideration of the CDM

The start date of the Project identified in the PDD is 30/04/2008, on which the PP signed the equipments purchase contract with the supplier (/17/). The PDD has been published for global stakeholder consultation on 20/02/2009 after the start date of the Project (/12/). The PDD addressed the serious consideration on the incentives from CDM prior to the project implementation.[5]

☞ Complying with para.102/VVM, BVC verified this issue which was considered much related to the additionality of the Project and can confirm that the serious consideration under the context of the Project has been addressed appropriately in accordance with the *Guidance on the demonstration and assessment of prior consideration of the CDM* (“*Guidance-Prior Consideration*”) Version02 (Annex 61, EB 48th). Consequently, the chronological events described with the relevant documented evidences can form the objective basis of the validation opinions of BVC. Accordingly BVC summarized a timeline as Table 2 below and raised Clarification Requests for submission of the corresponding documented evidences.

Table 2 Timeline of the Project

Date	Actions	Reasons or Impacts	Evidences verified
Dec 2007	Completion of FSR with consideration of CDM	The project IRR is lower than the benchmark without CDM revenue while higher than benchmark with CDM revenue. The Project will only be financially feasible with CDM support.	/8/
20/12/2007	CDM decision made in PP's board meeting	The PP decided to apply for CDM support.	/15/
29/01/2008	Emission Reduction Purchase Agreement included CDM services was signed (ERPA)	Secure the progress of the CDM development in parallel with the implementation of the Project.	/16/
30/04/2008	The bank agreed to grant a loan to the PP with the requirement of CDM	Seek the support of CDM to make the Project to be financially feasible to repay the loan.	/18/
30/04/2008	PP signed equipment purchase contract with the manufacturer	Take real actions based on CDM development initiated	/17/
May 2008	Stakeholder consultation was held for the Project	Secure the progress of the CDM development in parallel with the implementation of the Project.	/28/



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Date	Actions	Reasons or Impacts	Evidences verified
06/05/2008	Construction contract was signed.	Take real actions based on CDM development initiated	/39/
31/05/2008	Project construction started	Take real actions based on CDM development initiated	/30/
Oct 2008	Applying for Letter of Approval from Chinese DNA	Secure the progress of the CDM development in parallel with the implementation of the Project.	/20/
10/12/2008	Letter of Approval issued by Chinese DNA	Secure the progress of the CDM development in parallel with the implementation of the Project.	/4/ /29/
15/01/2009	Validation Contract signed with BVC	Secure the progress of the CDM development in parallel with the implementation of the Project.	
20/02/2009	PDD was published for global stakeholder consultation at UNFCCC website	Secure the progress of the CDM development in parallel with the implementation of the Project.	/12/
16/07/2009	Letters of Approval were issued by UK's DNA	Secure the progress of the CDM development in parallel with the implementation of the Project.	/5/

BVC has checked all documents mentioned above and was able to verify that all documents are substantial at that situation in the host country. From the table above, BVC confirms that the start date of the Project is 30/04/2008 (the signed date of Equipment Purchase Contract), which is the earliest date when the implementation or construction or real action of the project activity began.

According to the FSR, the Project is financially unfeasible as its project IRR is lower than the benchmark without CDM revenue; on the contrary, the project IRR can exceed benchmark with considering CDM revenue. Therefore, based on the conclusion of the FSR, the PP finally made the investment decision of the Project based on the seriously consideration on the incentives from CDM revenue and then push the CDM development continuously for CDM support in parallel with the implementation of the Project. And then ERPA (including CDM service) was signed with Credit Suisse International and EcoSecurities International Limited on 29/01/2008 (/16/) prior to the start date of the Project.

BVC was therefore able to verify that the incentives of CDM were seriously considered prior to the start of the Project and continuing and real action were taken to secure CDM status for the Project in parallel with its implementation, which are in accordance with the "Guidance-Prior Consideration" version 02.

☞ According to the latest Glossary of CDM terms Ver.05 and the "Guidance-Prior Consideration" version 02 ⁵, BVC was able to verify the start date of the Project of 30/04/2008 identified in the PDD is appropriate



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✎ By assessing the material actions taken by the PP, the gap of documented evidence is less than 2 years; BVC confirmed that continuing and real actions were taken to secure CDM status for the project activity, which is in accordance with the requirements of “Guidance –Prior consideration”.

5

3.6.2 Identification of alternatives

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.

The plausible and credible alternatives to the Project were identified as per the ACM0002 version 09 and “Tool for Demonstration and Assessment of Additionality” version 5.2:

Alternative 1: The proposed project not undertaken as a CDM project activity;

Alternative 2: Continuation of the current situation, i.e. electricity will continue to be generated by the existing generation mix operating in the grid.

Alternative 3: Construction of a thermal power plant with the same installed capacity or the same annual power output.

Alternative 4: Construction of a power plant using another renewable energy resource with the same installed capacity or the same annual power output.

Alternative 3 was correctly eliminated through examination of current practice in China in which the laws or regulations applies. According to the Notice on Strictly Prohibiting the Installation of Thermal Generators with the Capacity of 135MW or Below issued by the General Office of the State Council, Decree No. 2002-6 (/31/), construction of thermal power plants of less than 135MW are prohibited in the areas covered by the large grid such as provincial grids in China. Therefore, alternative 3 was not in line with applicable laws and regulations, and was excluded.

Alternative 4 was eliminated by analyzing the availability of utilizing local renewable energy resources including Solar PV, geothermal, biomass and hydropower as addressed in the PDD. Realizing the technology development status and the high cost, power generation from solar PV, geothermal and biomass is unfeasible in China. However, due to dry climate and the lack of water resource in project area, there is no enough hydro resource which can be utilized. (/32/ /33/ /34/)

✎ Complying with para.105/VVM, BVC was able to verify that the Project scenario and the baseline scenario defined to the Project are credible and hence found **Step 1** of “Tool-Additionality” was applied appropriately.

3.6.3 Investment analysis

Considering the baseline scenario as above identified, the Benchmark Analysis (Option III) was applied in the Investment analysis as per the *Sub-step 2b* of **Step 2** of “Tool-Additionality”.

✎ BVC has verified the applicability of the benchmark, i.e. project IRR of 8% used in the PDD, and is able to confirm that the data sources mentioned in the PDD, viz. “*Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects*” issued by State Power



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Corporation of China in 2002, (/23/) is a national standard and project IRR of 8% used as a benchmark is a current practice in the power sector in China.

Before reviewing the IRR calculation, Bureau Veritas Certification firstly validated the basic parameters listed in the PDD in accordance with the Guidance of EB 38th paragraph 54.^[6]

a) The input values used in the financial analysis were all taken from the FSR completed by Northwest Design & Investigation Research Institute of China Hydropower Advisory Group in Dec. 2007, (/8/). Based on the outcome of financial analysis in the FSR, the PP held a Board Meeting on 20/12/2007 (/15/) and decided to seek CDM support. The period of time between the finalization of the FSR and the PP's final decision is thus considered as short.

☞ Therefore, BVC is able to confirm that the Project meet the guidance of **EB 38 par. 54th (a)**, i.e. the input values used in the financial analysis are credible and reliable, and it is unlikely in the context of the underlying project activity that the input values would have materially changed.

b) All input values used in the financial analysis are sourced from the approved FSR; Therefore, BVC confirms that the investment analysis is in accordance with **EB38 par. 54th (b)**.

c) Furthermore, BVC has reviewed the IRR calculation sheet and cross checked the relevant regulations/laws/evidences and confirms that:

➤ As for the tariff

Since 2006, the Renewable Energy Law issued by China's government came into effect. From then on, the wind power projects increased rapidly in China.

☞ On 04/01/2006, China's government issued the Tentative Management Measures for Price and Sharing of Expenses for Electricity Generation from Renewable Energy (Document No. Fa Gai Jia Ge [2006]7) (/7/), which stated that the tariff of wind power projects should execute government guiding tariff; and

☞ Renewable generation projects which are approved by government authorities after 01/01/2006 must execute this regulation;

When the FSR was preparing in Dec 2007, there were two tariff notifications public available in Gansu Province after 2006, which are the document issued by NDRC on 22/12/2006 (Code: Fa Gai Jia Ge [2006] No. 2908 /40/), and the document issued by NDRC on 09/06/2007 (Code: Fa Gai Jia Ge [2007] No. 1260 /13/).

In the tariff document Fa Gai Jia Ge [2006] No.2908, the guiding tariffs were approved individually, each project in the same province has different tariff, and the average guiding tariffs for those wind power projects in Gansu Province of their first 30,000 equivalent full load hours is 0.528CNY/kWh (0.518CNY/kWh for Gansu Anxi Daliang project, 0.5599CNY/kWh for Yumen Sanshi Li Jingzi project, 0.506CNY/kWh for Anxi Xiangyang project, all incl. VAT), and down to the average tariff of local thermal power plants after 30,000 hours. In the tariff document Fa Gai Jia Ge [2007] No. 1260, the guiding tariff for the wind power projects in



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Gansu Province of their first 30,000 equivalent full load hours are all 0.54CNY/kWh (incl. VAT), and down to the average tariff of local thermal power plants after 30,000hours. Therefore, BVC is able to confirm that the tariff of 0.54CNY/kWh (incl. VAT) used in the FSR was the most recent available guiding tariff at the time the FSR was preparing, thus the fixed tariff of 0.54CNY/kWh (incl. VAT) used for the whole life time, is appropriate and conservative.

Moreover, the guiding tariff for the wind power projects in Gansu Province in 2008 was also 0.54CNY/kWh (Document Fa Gai Jia Ge [2008]1876 /37/), and the tariff of the Project approved by local price bureau was 0.54CNY/kWh (Gan Jia Dian Li [2009]197 /38/) for its first 30,000 equivalent full load hours and down to the average tariff of local thermal power plants after 30,000hours, so the fixed tariff of 0.54CNY/kWh adopted in the PDD is reasonable and appropriate. Even the historical highest 0.5599CNY/kWh (Fa Gai Jia Ge [2006] No. 2908 /40/) was applied, the project IRR of the Project would only reach 7.18% below the benchmark 8%.

- As the project construction has not completed yet, the actual values of total investment of the Project cannot be verified exactly, and BVC reviewed the wind turbine generators purchase contract and the wind tower purchase contract and the construction contract (/17/, /39/) signed with the equipment suppliers and construction contract found that the already signed contract values are close to those estimated in the approved FSR. Therefore, BVC confirms that the total investment estimated in the FSR is appropriate.
- The operating period of 20 years was selected reasonably in the FSR and the PDD following the requirements of “*Interim Rules on Economic Assessment of Electric Power Engineering Retrofit Projects*”, which is same as the lifetime of the WTG of 20 years as stated in the equipment purchase contract. /17/
- The annual supplied power of the Project was determined by a qualified independent authority, Northwest Survey Design and Research Institute of China Hydropower Advisory Group, through:
 - ↳ the wind resource data of the latest 30 years (1978 to 2007) in the region and one latest full year of anemometric data measured onsite;
 - ↳ Integrating the generation efficiency of the WTGs and the captive power of the wind power project, the annual power supplied to NWCPG will be 115,144MWh;
 - ↳ The annual equivalent generation hours to be:

$$115,144\text{MWh} \div 49.5\text{MW} = 2,326 \text{ hours}$$

The annual equivalent generation hours are the key parameters to determine the annual supplied power, thus BVC compares the annual equivalent generation hours of the Project with all three registered CDM wind power projects in Gansu Province, and found that the annual equivalent generation hours of the Project of 2,326 hours is higher than the average value of 2,219 hours (2100 hours for Ref no.1081, 2188 hours for Ref no.2193 and 2371 hours for Ref no.2109). Therefore, BVC confirms that the annual

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supplied power of the Project estimated in FSR is appropriate and reliable.

- The value of annual O&M cost was studied based on the “Codes on Compiling Feasibility Study Report of Wind Farms” issued by NDRC on 25/05/2005 and “*Economic assessment method and parameters for construction projects*”, 3rd edition. (/21/) According to the “Wind Energy – the Facts” implemented by European Wind Energy Association (EWEA) published in Mar. 2009, the O&M costs are generally estimated to be around 1.2 to 1.5 eurocents (c€) per kWh (0.12CNY/kWh to 0.15CNY/kWh) of wind power produced /41/, the O&M cost of the Project was calculated as 0.09CNY/kWh, lower than the 0.12CNY/kWh, therefore, BVC can confirm that the annual O&M cost estimated in FSR is appropriate.
- BVC also verified values of various taxes through cross-check with the taxation rules conducted by local government and found to be fully consistent.

✎ In summary, based on the above reliable data sources, BVC was 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 confirmed that the input values used in the PDD meet the guidance of **EB 38 par. 54(c)**.

Based on the above conclusion, BVC reviewed the IRR calculation and found that the calculation is correct and in accordance with “*Guidance on the assessment of investment analysis*” Version 02 (the annex of “*Tool- Additionality*” Ver.05.2) [4](#). As it shows, without CDM revenue, the project IRR of the Project is 6.71%, which is lower than the benchmark of 8%. (/23/ /24/)

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

- * [a]. Static investment
- * [b]. Annual O&M cost
- ⊗ [c]. Electricity Tariff
- ⊗ [d]. Annual electricity output

As it shows, the IRR will remain lower than the benchmark while each indicator varies from -10% to +10%.

BVC has reviewed the sensitivity analysis in the FSR and confirms that the indicators identified and the variation range employed in the PDD are consistent with the approved FSR and in accordance with the requirement of Tool for demonstration and assessment of additionality Version 05.2 [4](#) and prescription in the host country i.e. the “Codes on Compiling Feasibility Study Report of Wind Farms” issued by NDRC on 25/05/2005. (/21/) Then, BVC reproduced the calculation based on the IRR spreadsheet and worked out the same outcomes as it shows.

Furthermore, a critical assessment was presented in the PDD to show to what extent the IRR of the project could reach the benchmark. As a result, in the following scenarios the IRR will reach the benchmark:

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- The static investment decreases by about 10.1%, or
- The annual O&M cost decreases by 53.5%, or
- The tariff increases by 10.1%, or
- The annual electricity output increases by 10.14%

However, all these four parameters will not fluctuate at above ranges, because:

For the financial indicators [a], [b],

As described above, the values of signed WTG purchase contract, wind tower purchase contract and the construction contract (/17/ /39/) are close to the sub-items estimated in the FSR, and considering increasing price level of material price and manpower cost (/35/), BVC is able to confirm that neither the static investment decrease by 10.1% or the annual O&M cost decreases by 53.5%.

For the financial indicator [c]

According to the tariff notification issued by the Gansu Provincial Price Bureau in Aug. 2009 /38/, the tariff for the Project is fixed at 0.540 CNY/kWh (including VAT) in the first 30,000 hours, and the average tariff in the local grid is to be used after 30,000 hours. Since the fixed tariff (0.540 CNY/kWh) was used for the entire lifetime of the financial analysis in the PDD, BVC confirms that the tariff would not increase 10.1% for the whole operation period. (/14/)

For the financial indicator [d]

The annual electricity output is estimated by a professional third party with the qualification in power sector viz. Northwest Design & Investigation Research Institute of China Hydropower Advisory Group based on the 30 years historical data of local wind resources and on-site measured wind data. The annual electricity output was based on the long-term wind resource with considering the variation and it reflects the average available wind source. Therefore BVC confirms that the annual electricity output is unlikely increased by 10.1% during the Project life time.

Considering the CERs sales revenues, (/8/) the project IRR of the Project is able to reach 9.43%, exceeding the benchmark.

☞ Complying with para.112/VVM, BVC is 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 unfeasible.

3.6.4 Barrier analysis

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

3.6.5 Common practice analysis

The Common practice analysis was addressed as per **Step 4** of “Tool-Additionality” and latest rules issued by EB.



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Gansu 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.

Before 2002, the grids and the power plants were all owned by the state power company. A reform has been implemented in China's electric power sector since 2002 (/36/) to separate the grid and the power plant from the state power company, therefore BVC is able to confirm that the wind farm projects put into operation after 2002 will face to comparable regulatory framework and reasonable for the common practice analysis.

Subsequently, Bureau Veritas Certification identified the similar projects in terms of:

- a) Wind power project in Gansu Province,
- b) Put into operation after 2002.
- c) Non CDM projects

Following these criteria, BVC has verified the wind power project as identified in the PDD by cross-checking the public statistics i.e. "*Statistics of wind power installed capacity in China*" (hereafter refer to as SWPC) Version 2007 dated 28/02/2008 conducted by Mr. Shi Pengfei, the authoritative Expert in the wind power sector. (/25/)

As the public information presents, the "Yumen Phase I (30.6MW)" developed in 2004 is identified as similar project complying with the above criteria. As 'Yumen Phase I (30.6MW)' is a pilot project and has lower investment per kW, which meant more financially attractive than the Project and did not face the same financial difficulties. Before 2005, there were no wind power projects developed by private developers in the province. Since 2005, more new wind farms started construction by different developers, however, all those projects secure carbon funding to overcome their financial barrier.

That is essentially different from the Project in the investment environment. BVC has verified the description in the PDD and found that it is consistent with the sectoral statistics and therefore is able to conclude that the Project is not common practice in the region.

☞ Complying with para.119/VVM, Based on above demonstration that in accordance with "*Tool-Additionality*" and supported by reliable data sources, it is the opinion of BVC that the Project is thus additional.

3.7 Calculation of GHG Emissions

According to the baseline methodology ACM0002 Version 09 and "Tool-Grid EF" version 02, ^[3] the baseline emission from the Project were calculated as following seven steps. In addition, the calculation in the PDD refers to the latest "Notification of China-Grid EF" published by China's DNA on 30/12/2008 which is valid at the time of the validation. (/11/)

As per "Tool-Grid EF" version 02, seven steps therein are applied to calculate the emission factor:

Step 1.-Identify the relevant electricity systems.



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Northwest China Power Grid (NWCPG) is selected as the electric power system of the Project. There is no electricity imported from other grids.

☞ BVC was able to verify the data sources of “Notification of China-Grid EF”, and confirms that the identified electric power systems are appropriate.

Step 2.-Choose whether to include off-grid power plants in the project electricity system.

Option I: Only grid power plants are included in the calculation.

Step 3.-Select a method to determine the operating margin (OM).

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 during the last 5 years.

☞ BVC has checked the calculation for low cost/must-run constitution of the total grid generation and confirmed the calculation is correct. Therefore, simple OM emission factor calculation method is selected reasonable. Data from China Electric Power Yearbook 2003-2007 has been applied correctly.

Step 4.-Calculate the operating margin emission factor according to the selected method.

The data on electricity generation and auxiliary electricity consumption are obtained from the China Electric Power Yearbook from 2005 to 2007 (published annually). The data on different fuel consumptions for power generation and the net caloric values of the fuels are obtained from the China Energy Statistical Yearbook from 2005 to 2007. 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 is able to be replicated using the data and parameter provided in the PDD.

Step 5.-Identify the group 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.

☞ BVC hereby confirms that the data source and approaches taken are deemed reliable.

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Step 6.-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 approach to 20% of total installed capacity. The emission factor for thermal power is determined based on the most advanced and commercially available technology endorsed by China's DNA.

☞ BVC hereby confirms that the data sources are deemed reliable and calculation is appropriate.

Step 7.-Calculate the combined margin (CM) emissions factor.

According to the "Tool-Grid EF" the default weights: $\omega_{OM}=0.75$ for Operating Margin and $\omega_{BM}=0.25$ for build Margin in the first crediting period of Wind Power Projects are adopted.

As per baseline methodology ACM0002 and "Tool-Grid EF", the emission reduction ER_y during the crediting period is the difference between baseline emissions, project emissions and leakage. These are:

- 1) Baseline emissions: baseline emissions BE_y (tCO₂e) are equal to baseline emission factor $EF_{grid,CM,y}$ (tCO₂e/MWh) times the net electricity supplied to the grid EG_y (MWh).
- 2) Project Emissions: the project emissions are zero as there was no backup power in the Project, and as per the ACM0002 version 09.
- 3) Leakage: no leakage has to be considered for the proposed project activity since no energy generating equipment is transferred from or to the project site.
- 4) Emission reductions:

$$ER_y = BE_y - PE_y - LE_y = BE_y = EF_{grid,CM,y} \times EG_y$$

With reference to the Tool-Grid EF, the Simple OM emission factor ($EF_{grid,OM,y}$) of NWCPG is calculated as 1.1225tCO₂e/MWh. Similarly, the build margin emission factor ($EF_{grid,BM,y}$) of the NWCPG is calculated ex-ante as 0.6199tCO₂e/MWh.

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

$$EF_{grid,CM,y} = 1.1225 \times 0.75 + 0.6199 \times 0.25 = 0.99685 \text{ tCO}_2\text{e/MWh}$$

According to the estimated annual electricity delivered to the grid 115,144MWh the estimated annual emission reductions of the Project is 114,781tCO₂e during the first crediting period represents a reasonable estimation using the assumptions given by the Project.

☞ Complying with **para.91 and 92/VVM**, BVC hereby confirms that:

- a) All assumptions and data used by the PP 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; (/11/)



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- c) All values used in the PDD are considered reasonable in the context of the proposed CDM project activity;
- d) The baseline methodology ACM0002 and “Tool-Grid EF” has been applied correctly to calculate project emissions, baseline emissions, leakages and emission reductions; [1], [3]
- e) All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD.

3.8 Monitoring Plan

The Project uses the approved consolidated monitoring methodology ACM0002 version 09 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 quantity of electricity exported to and quantity of electricity imported from the grid.

According to ACM0002 version 09 no leakage need to be considered for the Project since no energy generating equipment is transferred from or to the site, viz. $LE_y=0$.

Operational management for the Project is comprehensively detailed in PDD and this include description of the responsibility, training, procedure reference, equipment details, calibration frequency and maintenance needs. Archiving of the records was indicated and BVC is of the opinion that the retrievability of relevant CDM project activity records is pro-actively considered.

Monitoring equipments includes two meters with accuracy class at least of 0.5S located at the output of the project site, one as main meter and one as backup meter. The 33 wind turbines will be connected to the grid by a main power line, and the main bidirectional (two-way metering) meter will monitor the electricity exported to and imported from the grid. Net electricity supplied to the grid (EG_y) is calculated as exports minus imports.

The data will be continuously measured and recorded on a monthly basis; and double checked by electricity sales receipts issued by the grid company.

☞ Complying with para.122/VVM, BVC hereby confirms that the monitoring plan complies with the requirements of the methodology, and the project participants are able to implement the monitoring plan.

3.9 Environmental Impacts

BVC has confirmed that the Environmental Impact Assessment was carried out by Northwest Institute of Mining and Metallurgy, and approved by the Gansu Provincial Environmental Protection Bureau on 13/03/2008. (/10/)



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

☞ Complying with para.131/VVM, BVC hereby confirms that the Project will not have any significant impacts on the environment by means of measures of pollution avoidance and control as well as ecological recovery.

3.10 Local Stakeholder consultation

The PP held a stakeholder consultation in May 2008 for inviting comments from stakeholders. The PP introduced the Project to local stakeholders and invited comments from the local stakeholders prior to the publication of the PDD on the UNFCCC website. The survey was conducted by distributing 29 copies of questionnaires and collecting responses from all interviewee from local villagers and residents near the project area, and 28 questionnaires were recovered with 97% response rate. (/28/)

The survey shows that the Project has strong local support amongst the public. All the stakeholders support the construction of the project. They all believe the proposed project will promote the local economic development and agree the project construction.

No negative comments received. BVC interviewed the local stakeholders during the on-site visit of the validation process and received the consistent responses. Furthermore, BVC also assessed the questionnaires answered by the stakeholders, and found the adequacy of the local stakeholder consultation.

☞ Complying with para.128/VVM, BVC hereby confirms that the local stakeholder consultation was performed, the Project will benefit to the local sustainable development without seriously affect to the local stakeholders.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

According to the modalities for the Validation of CDM projects, the DOE shall make publicly available the project design document and receive, within 30 days, comments from Parties, stakeholders and UNFCCC accredited non-governmental organizations and make them publicly available. (/12/)

No comments were received during this period.

☞ Complying with para.166/VVM, BVC published the project documents on the UNFCCC CDM website on 20/02/2009 and invited comments within 21/03/2009 by Parties, stakeholders and non-governmental organizations.

5 VALIDATION OPINION

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BVC has performed a validation of the Gansu Guazhou Daliangxi Wind Power Project owned by Gansu CGN Wind Power Co., Ltd. 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 on-site visit and 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 investment analysis 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 02)* is also applied to determine the emission factor of NWCPG.

By synthetic description of the project, the Project is likely to result in reductions of GHG emissions partially. An investment analysis demonstrates that the Project 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. Given that the project is implemented and maintained as designed, the project is likely to achieve the estimated amount of emission reductions.

The review of the project design documentation (version 05) and the subsequent follow-up interviews have provided BVC 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 15/12/2008
/2/	PDD Version 04 dated 20/10/2009
/3/	PDD Version 05 dated 27/04/2010
/4/	Letter of Approval from DNA of China (Host country) dated 10/12/2008 (No. 1614)
/5/	Letters of Approval from DNA of UK (Annex I party) dated 16/07/2009 (Reference ESInt/17/2009) and (ref CSINT/09/2009) dated 23/09/2009
/6/	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

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/7/	Interim Measures for Renewable Energy Power Tariff and Cost-sharing http://nyj.ndrc.gov.cn/zywx/W020060206507863382290.doc
/8/	Feasible Study Report (FSR) conducted by Northwest Survey Design and Research Institute of China Hydropower Advisory Group in Dec. 2007
/9/	The FSR approval issued by Gansu Province Development & Reform Commission (DRC) on 19/05/2008 (Code: Gan Fa Gai Neng Yuan [2008] No.283)
/10/	EIA report conducted by Institute of Northwest Institute of Mining and Metallurgy in 05/03/2008 and Approval issued by Gansu Province Environmental Protection Bureau on 13/03/2008
/11/	Notification on Determining Baseline Emission Factor of China's Grid dated on 30/12/2008. http://cdm.ccchina.gov.cn/web/NewsInfo.asp?NewsId=3359
/12/	The website of PDD was made available for public comments (GSP) on 20/02/2009. http://cdm.unfccc.int/Projects/Validation/DB/FO1R9WYNXB0L00TJMJ1OPNW5YTWZMP/view.html
/13/	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
/14/	Signed PPA with the grid company in Oct 2008.
/15/	PP's Board Meeting Minutes made on 20/12/2007.
/16/	Emission Reduction Purchase Agreement signed (ERPA) with Credit Suisse International and EcoSecurities International Limited on 29/01/2008
/17/	WTG Purchase Contract signed with Dongfang Steam Turbine Works Company on 30/04/2008 and Wind Tower Purchase Contract signed with Gansu Great Wall Electric Power Mechanical Engineering Co., Ltd. on 15/05/2008
/18/	Loan Contract with requirement on CDM signed with China Construction Bank on 06/08/2008
/19/	Bulletin on 54th Meeting of National CDM Board issued by China's DNA on 17/10/2008. http://cdm.ccchina.gov.cn/WebSite/CDM/UpFile/File1975.pdf
/20/	Notification of intention to seek CDM status issued by China DNA on 30/10/2008 http://cdm.ccchina.gov.cn/WebSite/CDM/UpFile/File1975.pdf
/21/	The Codes on Compiling Feasibility Study Report of Wind Farms issued by NDRC on 25/05/2005. http://www.windpower.org.cn/news/links/js_2005_0508.htm
/22/	"Economic Evaluation Method and Parameter of Construction Projects" edition 3rd issued by NDRC in 2006
/23/	Data source of Benchmark (Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects)



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/24/	IRR calculation spreadsheet of the Project
/25/	"Statistics of wind power installed capacity in China" conducted by Professor Shi Pengfei Version 2006 dated 18/03/2007 http://www.nwtc.cn/Article/UploadSoft/200605/20060508061645569.doc Version 2007 dated 28/02/2008 http://www.gsec.gov.cn/ClassNews.asp?newsID=664
/26/	Public information of Yumen Phase I Wind Farm http://www.gskydl.com/fd.htm
/27/	Emission Factor calculation spreadsheet
/28/	Evidence of 28 pieces of stakeholder survey questionnaires
/29/	Public information of Letter of Approval issued by NDRC http://cdm.ccchina.gov.cn/web/NewsInfo.asp?NewsId=3210
/30/	Starting Construction Order issued by supervision company on 31/05/2008
/31/	Notice on Strictly Prohibiting the Installation of Thermal Generators with the Capacity of 135MW or Below issued by the General Office of the State Council, Decree No. 2002-6. http://www.gov.cn/gongbao/content/2002/content_61480.htm
/32/	Wang Zhongying & Zhang Zhengmin, <i>The Status of Renewable Energy Technologies and Priority Areas of Development in China</i>, Science and Technology in China, Vol. 1 (January 2006), P38 http://www.sinoscitech.cn/newver/browarticle.php?articleid=903
/33/	Shui bo, Development of Renewable Energy, http://scitech.people.com.cn/GB/5347113.html
/34/	Development of Biomass Generation, http://www.sdpc.gov.cn/zjgx/t20071123_174054.htm
/35/	Building Materials Price Keep Rising, Ministry of Industry and Information Technology of China http://www.miit.gov.cn/n11293472/n11295125/n11299425/12164560.html
/36/	"Notice of National Council Issued about the Power System of Organization Reform Programme" (National issued [2002] No. 5)
/37/	Average tariff of Gansu Province in 2008 http://www.yangling.gov.cn/_info/sbgj/sbgjcont_5492.htm
/38/	On-grid tariff notice set by Gansu Province Price Bureau in August 2009 (Gan Jia Dian Li[2009]197)
/39/	Construction contract signed with Lanzhou Yineng Electric Group Co. Ltd., on 06/05/2008
/40/	Document issued by NDRC on 22/12/2006, (Code: Fa Gai Jia Ge [2006] No. 2908)
/41/	Public available information about Operation and Maintenance Costs for Wind Turbines



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<http://www.wind-energy-the-facts.org/en/part-3-economics-of-wind-power/chapter-1-cost-of-on-land-wind-power/operation-and-maintenance-costs-of-wind-generated-power.html>

Category 2 Documents:

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

- 1 ACM0002 version 09 valid from 27 Feb 09 to 10 Jun 09
- 2 Validation and Verification Manual Version 01 dated 28/11/2008 EB 44th Annex 3
- 3 Tool to calculate the emission factor for an electricity system Version 02, EB 50
- 4 Tool for demonstration and assessment of additionality Version 05.2 dated 26/08/2008
- 5 Guidance on the demonstration and assessment of prior consideration of the CDM Version02 (Annex 61, EB 48th)
- 6 Paragraph 54 of EB 38th dated 14/03/2008.
- 7 Glossary of CDM terms Version.05.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. Zhao Jingjing CDM Manager, Gansu CGN Wind Power Co., Ltd.
 2. Mr. Lin Qiang Local stakeholder
 3. Mr. Sun Zuowen Local stakeholder
 4. Ms. Li Yaqiong Project Manager, EcoSecurities International Limited
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7 CURRICULA VITAE OF THE DOE'S VALIDATION TEAM MEMBERS

Ms. Jasmine Tang	Bureau Veritas Certification, China	Team leader Climate Change Lead Verifier, She holds a Master Degree in Environment Engineering. She has 3 years of CDM technical experience in energy sector in P.R China and involved in approximate 60 CDM projects in P.R. China. She obtained the certificate of CDM Lead Verifier and Lead Auditor for ISO 14001.
Mr. Zeng Ziyuan	BVC, China	Team Member, Climate Change Lead Verifier. Verifier, He holds a Bachelor Degree in Building Environment and Equipment Engineering. He has 2 years of experience in building science in P.R China. He obtained the certificate of CDM Lead Verifier and Lead Auditor for ISO 14001. He was involved in approximate 20 CDM projects in P.R. China.
Mr. (Robin) Wang Jing	BVC, China	Technical Reviewer, Climate Change Lead Verifier. He has total experience of twelve years and has worked in energy sector in oil or gas companies in PR China. He obtained the certificate of CDM Lead Verifier and Lead Auditor for EMS ISO14000. He was involved in approximate 100 CDM projects in P.R China.

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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 (UK)		
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	Yes	CAR-1. <u>Letter of approval from DNA of UK is required.</u>	~~CAR-1.~~	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	Yes. As indicated in the LoA from Chinese DNA NDRC with code FA GAI QI HOU [2008] No.3449.	Pending on 1.1.	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	Pending on 1.1.	Pending	OK
1.4 Has(ve) the letter(s) of approval been issued by the 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?	VVM	47	Yes. LoA is issued by the NDRC without doubt.	Pending on 1.1.	Pending	OK



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CHECKLIST QUESTION	Ref.	§	comments		Draft Concl	Final Concl
2 Participation						
2.1 Have all project participants been listed in a consistent manner in the project documentation?	VVM	51	Gansu CGN Wind Power Co., Ltd	EcoSecurities International Limited And Credit Suisse International	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	Yes.	Pending on 1.1.	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	Yes.	Pending on 1.1.	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 from the CDM Executive Board available on the UNFCCC CDM website?	VVM	55	Yes. Latest Version 03.2. per the GUIDELINES FOR COMPLETING CDM-PDD, CDM-NMB and CDM-NMM – Version 07—02/08/2008		OK	OK
3.2 Is the PDD in accordance with the applicable CDM requirements for completing the PDD?	VVM	56	Yes		OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
3.3 In CDM-PDD section A.1 -Title of project -Current version number and date of document	EB 41	Ann 12	Yes Gansu Guazhou Daliangxi Wind Power Project GSP Version number: 01 Completion date: 15/12/2008. Final Version number: 05 Completion date: 27/04/2010	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	Yes. The proposed CDM project activity is a newly-built large scale wind power project. The baseline scenario is the same with the scenario existing prior to the start of the project, viz. generation of electricity by grid connected power plants. The Project involves the installation of 33 wind turbines of 1500kW, which amount to a total capacity of 49.5MW, and expected to supply 115,144MWh electricity power to the Northwest China Power Grid (NWCPG) annually.	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



 VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
3.4.3 Explanation on how the GHG emission reductions effected.	EB 41	Ann 12	Yes. To utilize the wind resource for power generation which will be delivered to the NWCPG and displace the power from thermal power plants.	OK	OK
3.4.4 The PP's views on the contribution of project activity to sustainable development	EB 41	Ann 12	Yes. The contribution to sustainable development is included in Section A.2 of the PDD has been checked against the approved FSR of the Project, including: -Achieves GHG emission reductions; -Increase employment opportunities; -Enhances the local investment environment; -Diversifies the sources of electricity generation; -Makes greater use of renewable wind resources;	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 2.2.	OK	OK
3.6 In CDM-PDD section A.4.1, are following provided?	EB 41	Ann			



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
		12			
3.6.1 Physical description, location, host party(ies) and address as required	EB 41	Ann 12	Yes. Jiuquan city, Gansu Province, in the People's Republic of China	OK	OK
3.6.2 Detailed physical location with unique identification of the project activity (e.g. Longitude/latitude)	EB 41	Ann 12	Yes. The geographical coordinates is N 40°42'55", E95°36'37"	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	Yes. No technology transferred involved. The technology reflects the current good practice in the host country. The WTG is manufactured by a domestic manufacturer.	OK	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 is the same with the scenario existing prior to the start of the project, viz. generation of electricity by grid connected power plants.	OK	OK
3.8.3 List and arrangement of the main manufacturing/production technologies, systems and	EB 41	Ann 12	Yes	OK	OK



 VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
equipments involved					
3.8.4 The emissions sources and GHGs involved	EB 41	Ann 12	Yes. To reduce greenhouse gas emissions of CO ₂ produced in fossil fuel fired power plants of NWCPG.	OK	OK
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	7×3 renewable crediting periods were chosen; Annual emission reductions of 114,781tCO ₂ e are estimated for the first crediting period;	OK	OK
3.10 In CDM-PDD section A.4.5, is information regarding public funding provided?	EB 41	Ann 12	Yes. No public founding involved confirmed with the approved FSR	OK	OK
3.11 In CDM-PDD section B.1 (Baseline identification)	EB 41	Ann 12			
3.11.1 The approved methodology and version number	EB 41 VVM	Ann 12 69	Yes. ACM0002 ver.09 "Consolidated methodology for grid-connected electricity generation from renewable sources" "Tool for the Demonstration and Assessment of Additionality ver. 05.2" and "Tool to calculate the emission factor for an	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			<i>electricity system ver. 02</i>		
3.11.2 Are the applicability conditions of the methodology met?	VVM	70	Yes. The Project is the installation of a new wind power plant; The geographic and system boundary of the NWCPG can be clearly identified and information on the characteristics of the grid is available; The Project does not involve switching from fossil fuels to renewable energy at the site of the project activity;	OK	OK
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 Section B.3 of the PDD, for the baseline determination only CO ₂ emissions from electricity generation by fossil fuel fired power plant that is displaced due to the project activity are taken into account.	OK	OK
3.13 In CDM-PDD section B.3, are following provided? (a) Description of all sources and gases included in 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	VVM EB 41	79 Ann 12	Yes. Equipments like turbines, transformers, and substation which are used for electricity generation are included. Fossil fuel fired power plants in NWCPG which emit CO₂ together with NWCPG indicate the power transmission system and the flows of mass and energy.	~~CL-1~~	OK



 VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			CL-1 <u>The flow diagram doesn't include all equipments indicated above.</u>		
3.14Is 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	Yes.	OK	OK
3.15Does 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	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
3.16Has any procedure contained in the methodology to identify the most reasonable baseline scenario, been correctly applied?	VVM	81	Not applicable.	OK	OK
3.17Does the selected methodology require use of tools (such as the "Tool for the demonstration and assessment of additionality" and the "Combined tool to identify the baseline scenario and demonstrate additionality") to establish the baseline scenario?	VVM	81	Not applicable.	OK	OK
3.18Does the methodology require several alternative scenarios to be considered in the identification of the most reasonable baseline scenario?	VVM	82	Not applicable.	OK	OK
3.19Are 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	VVM	83	Not applicable.	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
as local expert opinion, if available? (identify the sources)					
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	Not applicable.	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	Not applicable.	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	Not applicable as refer to 3.15.	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 why this project activity is additional and therefore not the baseline scenario in accordance with the selected baseline methodology	EB 41	Ann 12	Yes. Investment analysis used for demonstration of the additionality.	OK	OK
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 is identified as 30/04/2008, the date of the equipment purchase contract was signed. Evidences of CDM formal consideration of the Project are presented, including Board	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			Decision, ERPA and acceptance of granting load from the bank.		
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. 02 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 requirements of the selected baseline and monitoring?	VVM	88	Yes. The steps and equations described in "Tool to calculate the emission factor for an electricity system" are applied.	OK	OK
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	Yes. The relevant justifications in Step 1, 2 and 3.	OK	OK
3.24.6 If yes, have correct equations and parameters been used, in accordance with the methodology selected?	VVM	89	Yes.	OK	OK



 VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
3.24.7 Appropriate and correct?	VVM	90	Yes, the data issued by China's DNA was used, which is appropriate and correct.	OK	OK
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	Yes	OK	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 based on <i>China Energy Statistical Yearbook</i> and <i>China Power Yearbook</i> and authorities' expertise 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	It is not applicable in this case as the emission factor is determined ex-ante as per the options in ACM0002.	OK	OK
3.25 In CDM-PDD section B.6.3, are following provided?	EB 41	Ann 12			



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
3.25.1 A transparent ex ante calculation of project emissions, baseline emissions (or, where applicable, direct calculation of emission reductions) and leakage emissions expected during the crediting period, applying all relevant equations provided in the approved methodology	EB 41	Ann 12	Yes. The calculation process is in line with the steps taken prescribed in "Tool-Grid EF" and addressed in PDD B.6.3 and Annex 3.	OK	OK
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. The emission reduction calculation spreadsheet has been provided and checked.	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 spreadsheet has been presented for re-produced.	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. From 2010 to 2016 with year-wise data of emission reductions.	OK	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. EG y –net electricity supplied to NWCPG.	OK	OK
3.27.2 For each parameter the following below information, using the table provided:	EB 41	Ann 12			
3.27.2.1 The source(s) of data that will be actually used for the proposed project activity (e.g. which exact national	EB 41	Ann 12	N/A No other outside source(s) of data should	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
statistics). Where several sources may be used, explain and justify which data sources should be preferred.			be used.		
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	Meter(s) is(are) used to measure the only parameter EG_y. QA/QC procedures and monitoring team structure are provided. Monitoring parameter will be cross-check with electricity sales receipts. CL-2 <u>A clarification is required on the accuracy of the meters.</u> The measurement is cumulatively measured and monthly recording.	CL-2	OK
3.28 In CDM-PDD section B.7.2, is a detailed description of the monitoring plan provided?	EB 41	Ann 12	Yes. The relevant details are addressed.	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 completion of the baseline study is 20/10/2009.	OK	OK
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. EcoSecurities International Limited and persons involved in baseline study are	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			listed.		
3.29.3 Indication if the person/entity is also a project participant listed in Annex 1	EB 41	Ann 12	Yes. The person/entity is the project participant.	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 is 30/04/2008.	OK	OK
3.30.2 The expected operational lifetime and crediting period provided correctly in format (DD/MM/YYYY)?			Yes.	OK	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 conclusion stated. The support document has been provided during on-site assessment.	OK	OK
3.32 In CDM-PDD section E.1, are the following provided?	EB 41	Ann 12			
3.32.1 The process by which comments by local stakeholders have been invited and compiled. An invitation for comments by local stakeholders shall be made in an open and transparent manner, in a way that facilitates comments to be received from local stakeholders and allows for a reasonable time for comments to be submitted.	EB 41	Ann 12	Yes. Local villagers and residents in the area were interviewed by distributing questionnaires to household on a consultation meeting in May 2008.	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
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. By distributing questionnaires on a consultation meeting.	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
3.33In 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	Yes. Local villagers and residents in the area were interviewed.	OK	OK
3.33.2 A summary of these comments.	EB 41	Ann 12	Yes. The Project received strong support from local people.	OK	OK
3.34In CDM-PDD section E.3 is the explanation of how due account have been taken of comments received from local stakeholders provided?	EB 41	Ann 12	Yes. The stakeholders are all supportive of the Project and to date there has been no need to modify the project design according to the comments received.	OK	OK
3.35In 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



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
3.35.2 For each organisation listed in section A.3 the following mandatory fields: Organization, Name of contact person, Street, City, Postfix/ZIP, Country, Telephone and Fax or e-mail	EB 41	Ann 12	Yes.	OK	OK
3.36 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, there's no public funding for the proposed project.	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. Further information on monitoring system procedures has been provided in Annex 4.	OK	OK
4 Additionality of a project activity					
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

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
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. Alternative 1) is identified. 1) The proposed project activity undertaken without being registered as a CDM project activity.	OK	OK
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	CAR-2. <u>The alternatives to the project scenario listed in B.5, Sub-step 1a, were not consistent with the procedures in ‘Tool for the demonstration and assessment of additionality, version 05.2’.</u>	CAR-2.	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 2) is identified. Equivalent electricity service provided by the NWCPG.	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
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	Yes.	OK	OK
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	Pending on 4.1.3.2.	Pending	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	Pending on 4.1.3.2.	Pending	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			



VALIDATION REPORT

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 Project generates financial benefits by the sales of 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 Project will use benchmark analysis method (option III) based on the 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 derive 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;	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			With reference to Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects, the financial benchmark IRR of Chinese electric power industry is 8% on project, which has been used widely in feasibility studies of new power plants, including wind power projects in China.		
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 Below four indicators are identified, -Total investment -Annual electricity output amount -Electricity tariff -Operational cost	OK	OK



 VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
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	Yes. IRR calculation spread sheet has been provided.	OK	OK
4.1.13.3 Justify and/or cite assumptions.	EB 39	Ann 10	Yes All input values are taken from the approved FSR.	OK	OK
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	CL-3 <u>The contingencies and insurance are 0% in the IRR spreadsheet, please clarify it.</u>	CL-3	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 21 years (including one year of construction), and will not be limited to the proposed crediting period.	OK	OK



 VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
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 20 years for operation period per the approved FSR. The operation period 20 years is widely applied in power plant sector.	OK	OK
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. The assessment of 21 years (including one construction year) used in the PDD is reasonable according to "Tool for the demonstration and assessment of additionality" (Version 05.2).	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



 VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
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 main variable factors are identified for sensitivity analysis of the Project, including Total investment; Annual power generation; Tariff (Incl. VAT); Annual Operation and Maintenance cost. CL-4 <u>The result of the four parameters with a variation range from -10% ~ +10% is required to be present.</u>	CL-4	OK
4.1.15 Has the outcome of Step 2 clearly mentioned with justification?	EB 39	Ann 10	Yes. The Project is not financially feasible without the revenue of CERs.	OK	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			



 VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
4.1.18 Has the below guideline followed for Sub-step 4a: Analyze other activities similar to the proposed project activity? Provide an analysis of any other activities that are operational and that are similar to the proposed project activity. Other CDM project activities are not to be included in this analysis. Provide documented evidence and, where relevant, quantitative information. On the basis of that analysis, describe whether and to which extent similar activities have already diffused in the relevant region.	EB 39	Ann 10	CL-5 <u>A clarification is required on how the similar project(s) is (are) identified.</u> Yumen Phase I Wind Farm Project with 30.6MW capacity built in 2004 is identified for analysis.	CL-5	OK
4.1.19 Has the below guideline followed for Sub-step 4b: Discuss any similar Options that are occurring?	EB 39	Ann 10	Yes.	OK	OK
4.1.20 Has the outcome from Step 4 clearly mentioned in PDD?	EB 39	Ann 10	Yes. In conclusion the proposed project shall be deemed to be additional according to ACM0002.	OK	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 defined as 30/04/2008 prior to 20/02/2009 the validation started.	OK	OK
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	Yes. In the FSR, the tariff is 0.54CNY/kWh, which led the project IRR below the benchmark without CDM revenue. While considering the CDM revenue, the project	OK	OK



 VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			IRR will over the benchmark 8%. It's strongly advised the PP to apply CDM. The project owner held a director's meeting for introducing CDM to make the Project to be financial attractive. The supporting evidences including I. the relevant description in the approved FSR II. the local guiding tariff published by NDRC III. the decision file of the director's meeting		
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	Yes. The signed date of equipments purchase contracts is defined appropriately complying with the Glossary.	OK	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 If yes, is it ensured that the date of commissioning cannot be considered as the project activity start date?	VVM	97	The date of commissioning will not be considered as the start date of the Project as the PP identified the date of signing the equipment purchasing agreement as the start date in the PDD.	OK	OK

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CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
4.2.6 Is it a new project activity (project activities with starting date on or after 02 August 2008) or an existing project activity (project activities with a start date before 02 August 2008)?	VVM	98	It is an existing project activity.	OK	OK
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/or the UNFCCC secretariat in writing of the commencement of the project activity and of their intention to seek CDM status?	VVM	99	Not applicable.	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 for global stakeholder consultation, are the following evidences provided:	VVM	100			
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	Yes, the board decision of introducing CDM was made on 20/12/2007.	OK	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	Yes. The CDM consultation service contract and ERPA were signed with EcoSecurities and Credit Suisse on 29/01/2008.	OK	OK
4.3 Identification of alternatives					



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CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
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	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	VVM	104	Not applicable The approved methodology ACM0002 prescribes the baseline scenario and no further analysis is required.	OK	OK
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			
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 6.71% (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	VVM	107	Not applicable.	OK	OK

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CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
would produce no financial or economic benefits other than CDM-related income.					
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 6.71% (without CDM revenue) vs. benchmark 8%.	OK	OK
4.4.3 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 21 years (including one year of construction), and will not be limited to the proposed crediting period.	OK	OK
4.4.4 Does the project IRR and equity IRR calculations reflect the period of expected operation of the underlying project activity (technical lifetime), or - if a shorter period is chosen - include the fair value of the project activity assets at the end of the assessment period?	EB 41	Ann 45	Yes 20 years for operation period per the approved FSR. The operation period 20 years is widely applied in power plant sector.	OK	OK
4.4.5 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
4.4.6 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. The 20 operation years and one construction year used in the PDD is reasonable according to "Tool for the	OK	OK



 VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			demonstration and assessment of additionality" (Version 05.2).		
4.4.7 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	CL-6 <u>The residual rate and residual value are not presented in the financial spreadsheet.</u>	CL-6	OK
4.4.8 Was a thorough assessment of all parameters and assumptions used in calculating the relevant financial indicator, and determine the accuracy and suitability of these parameters using the available evidence and expertise in relevant accounting practices conducted?	VVM	109	Yes.	OK	OK
4.4.9 Was the sensitivity analysis by the project participants to determine under what conditions variations in the result would occur and the likelihood of these conditions assessed?	VVM	109	Yes. Four parameters are chosen for the sensitivity analysis. Operating costs: due to sustained increases in labor and raw material costs in China and the annual operating cost of this project is 2.2% of the total investment which is a reasonable range for the wind farms. So this parameter would not decrease significant 53.5% to make IRR reach benchmark. Investment costs: as the trend of increase price of construction materials and the staff salaries, this parameter is not likely to decrease.	OK	OK



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CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			Electricity tariff: as indicated in the approved tariff by Gansu Provincial Price Bureau, the tariff of the proposed project is 0.54CNY/kWh (Incl. VAT), same with that used in the PDD. And after the 30,000 hours, the tariff will be the average tariff of the province, which is regulated by NDRC, and the average tariff is considerably lower than 0.540 CNY/kWh. Thus this parameter is not likely to increase. Operating hours: based on past 30 years of historical wind power data, the operating hours is not likely to increase to make the IRR reach the benchmark.		
4.4.10 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
4.4.11 Did the project participants rely on values from Feasibility Study Reports (FSR) that are approved by	VVM	111	Yes. The input values are sourced from the FSR	OK	OK



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CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
national authorities for proposed project activities?			which was approved by the local government.		
4.4.12 If yes: (EB38 para.54)	VVM	111			
4.4.12.1 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 activity that the input values would have materially changed?	VVM	111	Yes, as interviewed, the PP's final decision to proceed with the investment in the Project has been made based on the FSR completed by an independent third party in December 2007 and decided to invest the project soon on 20/12/2007 with consideration of CDM revenues. BVC was therefore confident that it is unlikely in the context of the underlying project activity that the input values would have materially changed.	OK	OK
4.4.12.2 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	All parameters used in the PDD are fully consistent with the FSR except the power tariff. CL-7 <u>A clarification is required on why the source of power tariff in calculation is not consistent with other parameters.</u> CL-8 <u>The total investment in the financial analysis of the FSR is larger than that in</u>	CL-7 CL-8	OK

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CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			<i>the PDD. Furthermore, the verified amount of provided contracts is almost same to the value in the FSR. Please clarify the how the total investment in the PDD was chosen.</i>		
4.4.12.3 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	The WTG purchase contract and construction contract have been checked and found the actual cost of the WTG is almost same to those estimated in the FSR. Document issued by NDRC on June 2007 (Code: Fa Gai Jia Ge [2007] No.1260) have been checked and confirmed that the government guiding tariff for projects in project region is 0.54CNY/kWh, which is also used in the PDD. Therefore, the PDD used 0.54CNY/kWh (incl. VAT) in the FSR is reasonable and conservative. The annual supplied power of the Project was determined by a qualified independent authority, Northwest Survey Design and Research Institute of China Hydropower Advisory Group, through: The wind resource data of the latest 30 years (1978 to 2007) in the region and one	OK	OK



 VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			latest full year of anemometric data measured onsite: Integrating the generation efficiency of the WTGs and the captive power of the wind power project, the annual power supplied to NWCPG will be 115,144MWh; The annual equivalent generation hours to be 2,326 hours The annual equivalent generation hours are the key parameters to determine the annual supplied power, thus BVC compares the annual equivalent generation hours of the Project with all registered CDM wind power projects in Gansu Province, and found that the annual equivalent generation hours of the Project of 2,326 hours is higher than the average value of 2,219 hours (2100 hours for Ref no.1081, 2188 hours for Ref no.2193 and 2371 hours for Ref no.2109). Therefore, BVC confirms that the annual supplied power of the Project estimated in FSR is appropriate and reliable The values of O&M costs and various		



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CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			taxes have been verified through cross-check with the relevant codes or taxation rules conducted by local government and have been found the full consistency.		
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 additionality?	VVM	117	Yes.	OK	OK
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	VVM	118	Yes. The Project is located in Gansu Province. As projects of same type developed within	OK	OK

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CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
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.)			the same region face a similar regulatory framework that makes them comparable. Therefore, activities similar to the Project should be wind farm located in Gansu Province.		
4.6.4 Was a region other than the entire host country chosen?	VVM	118	Yes. Gansu Province.	OK	OK
4.6.5 If yes, was the explanation why this region is more appropriate assessed?	VVM	118	Yes. Because of the policies and investment environment is different in different provinces.	Pending	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	Only one similar project as PDD listed can be identified in Gansu Province.	Pending	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	Yes. Yumen Phase I (30.6MW) was identified.	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	Yes. The similar activity 'Yumen Phase I (30.6MW)' is a pilot project and has lower investment per kW, which meant more financially attractive than the Project and	OK	OK



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CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			did not face the same financial difficulties.		
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. 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	CL-9 <u>The detail of the monitoring method is required to be addressed, i.e., how many meters will be installed and where will them be installed.</u>	CL-9	OK
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	Yes.	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
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	Yes.	OK	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. The local stakeholders including local villagers and residents in the area, 29 pieces of questionnaires were distributed in May 2008 and 28 of them were returned. 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	Yes. The stakeholders 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
7.3 Is the summary of the comments received as provided in the PDD complete?	VVM	127	Yes. Sampled questionnaires have been cross-checked with the description in the PDD section E. 2.	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. PDD section E.3. The stakeholders are all supportive of the proposed project and to date there has been no need to modify the	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			project design according to the comments received.		
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. EIA and its approval made by local EPA are presented.	OK	OK
8.2 Have the project participants undertaken an analysis of environmental impacts?	VVM	130	Yes. EIA worked out by Mining and Metallurgical Research Institute of Northwest China on 05/03/2008.	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. Approved by Environmental Protection Bureau of Gansu Province on 13/03/2008.	OK	OK



 VALIDATION REPORT

Table 2 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project owner response	Validation team conclusion
CAR-1: Please provide LoA from UK's DNA	1.1	The LoAs from the United Kingdom's DNA are included with the revised PDD in this response to the DOE.	The LoAs have been provided and found reliable. BVC confirms that the LoAs from UK are reliable and comply with the requirement of CDM. This CAR is closed.
CAR-2: The alternatives to the project scenario listed in B.5, Sub-step 1a, were not consistent with the procedures in 'Tool for the demonstration and assessment of additionality, version 05.2'. Please correct it.	4.1.3.2	The other two alternatives to the project scenario in Section B.5, Sub-step 1a have been corrected to be consistent with the procedures in "Tool for the demonstration and assessment of additionality, version 05.2'.	The revised PDD contains four alternatives in section B.5, sub-step 1a. BVC confirms that the alternatives in the revised PDD section B.5 comply with the procedures in 'Tool for additionality, ver 05.2'. And relevant analysis and evidences are found logical and reliable. Hence this CAR is closed.
CL-1: Please update the flow diagram to include all equipments indicated in PDD	3.13	The flow diagram with all equipments has been updated in Section B.3 of the revised PDD.	The revised flow diagram contains all equipments indicated in PDD.



 VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project owner response	Validation team conclusion
B.3.			BVC confirms that the flow diagram of revised PDD complies with the requirement of '1. GUIDELINES FOR COMPLETING CDM-PDD, CDM-NMB and CDM-NMM – Version 07'. Hence this CL is closed.
CL-2: Please present the accuracy of the meters in PDD.	3.27.2.2	Meter(s) will be installed and calibrated according to the relevant national standard. The accuracy of the main meter(s) will at least reach 0.5s.	The accuracy of the meters is at least 0.5s in the revised PDD. BVC confirms that the accuracy complies with the national standard and requirement of monitoring methodology. This CL is closed.
CL-3: The contingencies and insurance are 0% in the IRR spreadsheet, please clarify it.	4.1.13.4	As per the FSR, the insurance rate is 0.25% of the fixed asset. Since the insurance value has been included in the operation cost in the FSR, the insurance was excluded in the IRR spreadsheet to avoid double counting. It is difficult to predict the contingency cost before operation, so the contingency cost in the IRR	BVC has checked the FSR of the project and confirms that the O&M cost contains insurance cost. And the O&M costs in FSR are consistent with that in PDD. BVC confirms that relevant cost is considered in the financial analysis



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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
		spreadsheet was assumed as 0% to be conservative.	of the submitted IRR spreadsheet. And the costs rate complies with national standard. This CL is closed.
CL-4: The result of the four parameters with a variation range from -10% ~ +10% is required to be presented.	4.1.14	The result of the four parameters with a variation range from -10% ~ +10% has been added to Section B.5 of the revised PDD.	The revised PDD contains the sensitive analysis for the four parameters with a variation range from -10% to +10%. BVC confirms that the sensitive analysis complies with the requirement of the additionality tool. This CL is closed.
CL-5: Please clarify how the similar project(s) is (are) identified.	4.1.18	There is only Yumen phase I wind project in Gansu Province, which started operating after 2002 without CDM support The reason of this conditions is as below: - The common practice analysis is limited to the provincial level, as the investment environment (e.g. with regards to taxes, loan policy, and electricity tariffs) for each province differs. - Only the projects which were developed after 2002	BVC confirms that the principle for identifying the similar projects is reasonable and widely use. This CL is closed.



 VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project owner response	Validation team conclusion
		are considered in the common practice analysis due to that 2002 was a landmark year for the wind industry in the Host Country. Before 2002, wind power projects in China were undertaken under non-commercial conditions with supporting policies, such as favorable higher tariffs, domestic loan subsidies etc. After 2002, only limited wind farm development occurred (except under CDM) due to a change in regulations issued by NDRC, which required the wind projects to be developed on a commercial basis, through a bidding process. As a result, the investment environment of power production projects changed significantly in 2002, thus projects developed before 2002 cannot be considered similar to the proposed Project.	
CL-6: The residual rate is not presented in the financial spreadsheet.	4.4.7	The residual value of 5% has been included as a cash inflow in the final year in the revised financial spreadsheet.	The revised financial spreadsheet considering the residual value. BVC confirms that the revised financial analysis complies with national standard and requirement of investment guidance and is conservative. This CL is closed.



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Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project owner response	Validation team conclusion
CL-7: A clarification is required on why the source of power tariff is not consistent with other parameters.	4.4.12.2	The tariff in PDD was revised to 0.54 CNY/kWh which came from the FSR. The FSR was developed by an independent third party, the Northwest Design & Investigation Research Institute in December 2007. The electricity tariff in the FSR was 0.540 CNY//kWh (including VAT) in the first 30,000 hours according to local tariff policy (i.e. http://www.hebwj.gov.cn/upfiles/xy_col32gjc_20070718164220007126.htm (Fa Gai Jia Ge [2007]1260). According to the approved tariff issued by local price bureau in Aug, 2009, the tariff of the proposed project is 0.54CNY/kWh (Incl. VAT) in the first 30,000 hours, the average tariff in the local grid is to be used after 30,000 hours. Therefore, the tariff in the FSR (0.540 CNY//kWh, including VAT) was used in the financial calculation to be conservative.	BVC check the signed PPA between the PP and the grid company in Oct 2008 and found the tariff is 0.518CNY/kWh (including VAT). However when the PP made decision, which is Dec 2007, the available tariff is 0.54CNY/kWh (including VAT) as indicated in the web link: http://www.hebwj.gov.cn/upfiles/xy_col32gjc_20070718164220007126.htm (Fa Gai Jia Ge [2007]1260)). So the PDD and financial analysis is revised using tariff of 0.54CNY/kWh (including VAT) in the FSR to be conservative. BVC confirms that the tariff 0.54CNY/kWh (including VAT) in revised PDD is reasonable and reliable and available when PP



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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
			made decision. This CL is closed.
CL-8: The total investment in the PDD is inconsistent with the one in the financial analysis of the FSR. Please correct.	4.4.12.2	The total investment on page 14-2 of the FSR is 474,331,000 CNY. It's a typo error in the first version of the PDD. The total investment has been corrected to 474,331,000 CNY in the revised PDD.	The total investment has been revised in the PDD and financial analysis spreadsheet. BVC verified the FSR and relevant contracts, confirmed that the total investment value is reliable. Hence this CL is closed.
CL-9: Please present the detail of the monitoring method, i.e., how many meters will be installed and where will them be installed.	5.4	Two meters will be installed at the output of the project site, one as main meter and one as backup meter. Main meter(s) will be used to obtain the amount of electricity effectively supplied to the grid. The electricity supplied to the Grid and imported from the Grid will be monitored by the main meter(s) that is bidirectional. Detailed meters information will be described in the Grid Entry Agreement signed by the Project Developer and the grid company, which will be provided to the verifier during verifications.	The revised PDD illustrates the monitoring plan more clearly. Two meters will be employed and one main one backup. BVC confirms that the monitoring plan comply with the national standard and the requirement of monitoring methodology. This CL is closed.