



VALIDATION REPORT

ZHANGBEI MANJING WINDFARM PROJECT IN CHINA

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DET NORSKE VERITAS



VALIDATION REPORT

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Client: Beijing Guotou Energy Conservation Company	Client ref.: Huang Gen Xin

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Summary:

Det Norske Veritas Certification Ltd. (DNV) validated the “Zhangbei Manjing Windfarm Project” (hereafter called “the project”) in 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 modalities and procedures and the subsequent decisions by the CDM Executive Board.

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

In summary, it is DNV’s opinion that the project, as described in the project design document of 8 December 2005, meets all relevant UNFCCC requirements for the CDM and correctly applies the approved baseline and monitoring methodology AM0005. Hence, DNV requests the registration of the “Zhangbei Manjing Windfarm Project” as CDM project activity.

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Abbreviations

BJGT	Beijing Guotou Energy Conservation Company
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEF	Carbon Emission Factor
CER	Certified Emission Reduction
CH ₄	Methane
CL	Clarification request
CM	Combined Margin
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
DNV	Det Norske Veritas
DNA	Designated National Authority
GHG	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
OM	Operating Margin
MP	Monitoring Plan
MVP	Monitoring and Verification Plan
N ₂ O	Nitrous oxide
NGO	Non-governmental Organisation
ODA	Official Development Assistance
PDD	Project Design Document
PPA	Power Purchase Agreement
UNFCCC	United Nations Framework Convention on Climate Change



1 INTRODUCTION

The Beijing Guotou Energy Conservation Company has commissioned Det Norske Veritas Certification Ltd. (DNV) to validate the Zhangbei Manjing Windfarm Project (hereafter called “the project”) in China. The validation team consisted of the following personnel:

Mr. HaoXiang Jiang	DNV Certification Beijing	Team Leader, GHG auditor
Mr. Michael Lehmann	DNV Certification Oslo	GHG auditor, Energy sector specialist
Mrs. Susanne Haefeli	DNV Certification Oslo	Technical reviewer

1.1 Validation Objective

The purpose of a validation is to have an independent third party assess the project design. In particular, the project's baseline, monitoring plan, and the project's compliance with relevant UNFCCC and host Party criteria are validated in order to confirm that the project design, as documented, is sound and reasonable and meets the 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).

1.2 Scope

The validation scope is defined as an independent and objective review of the project design document (PDD). The PDD is reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords and the relevant decisions by the CDM Executive Board. The validation team has, based on the recommendations in the Validation and Verification Manual /6/, employed a risk-based approach, focusing on the identification of significant risks for project implementation and the generation of CERs.

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

1.3 Description of Proposed CDM Project

The Zhangbei Manjing Windfarm project is located near Manjing village, West of Zhangbei County, Hebei Province, in the People's Republic of China.

The objective of the Zhangbei Manjing Windfarm Project is to generate renewable electricity using wind power resources and to sell the generated output to the North China Power Grid on the basis of a power purchase agreement (PPA). The project activity will generate greenhouse gas (GHG) emission reductions by avoiding CO₂ emissions from electricity generation by fossil fuel power plants.

The project involves the installation of 30 wind turbines, each of which has a rated output of 1500 kW, providing a total capacity of 45 MW. It is expected to generate approximately 108 GWh (net) per year, which will be fed into the grid.



The ex-ante estimated annual emission reductions of the proposed project are on average 94 095 tCO₂e, and 658 662 tCO₂e over the seven-year crediting period of the project of 2006–2012.

2 METHODOLOGY

The validation consisted of the following three phases:

- i) a desk review of the project design documents
- ii) follow-up interviews with project stakeholders
- iii) the resolution of outstanding issues and the issuance of the final validation report and opinion.

In order to ensure transparency, a validation protocol was customised for the project, according to the Validation and Verification Manual /6/. The protocol shows in transparent manner criteria (requirements), means of verification and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organises, 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 three tables. The different columns in these tables are described in Figure 1.

The completed validation protocol for the Zhangbei Manjing Windfarm Project is enclosed in Appendix A to this report.

Findings established during the validation can either be seen as a non-fulfilment of validation protocol criteria or where a risk to the fulfilment of project objectives is identified. Corrective Action Requests (CAR) are issued, where:

- i) mistakes have been made with a direct influence on project results;
- ii) validation protocol requirements have not been met; or
- iii) there is a risk that the project would not be accepted as a CDM project or that emission reductions will not be certified.

The term Clarification may be used where additional information is needed to fully clarify an issue.



Validation Protocol Table 1: Mandatory Requirements for CDM Project Activities			
Requirement	Reference	Conclusion	Cross reference
<i>The requirements the project must meet.</i>	<i>Gives reference to the legislation or agreement where the requirement is found.</i>	<i>This is either acceptable based on evidence provided (OK), a Corrective Action Request (CAR) of risk or non-compliance with stated requirements or a request for Clarification (CL) where further clarifications are needed.</i>	<i>Used to refer to the relevant checklist questions in Table 2 to show how the specific requirement is validated. This is to ensure a transparent Validation process.</i>

Validation Protocol Table 2: Requirement Checklist				
Checklist Question	Reference	Means of verification (MoV)	Comment	Draft and/or Final Conclusion
<i>The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organised in seven different sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.</i>	<i>Gives reference to documents where the answer to the checklist question or item is found.</i>	<i>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.</i>	<i>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.</i>	<i>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). A request for Clarification (CL) is used when the validation team has identified a need for further clarification.</i>

Validation Protocol Table 3: Resolution of Corrective Action Requests and Requests for Clarification			
Draft report corrective action requests and requests for clarifications	Ref. to Table 2	Summary of project participants' response	Final conclusion
<i>If the conclusions from the draft Validation are either a Corrective Action Request or a Clarification Request, these should be listed in this section.</i>	<i>Reference to the checklist question number in Table 2 where the Corrective Action Request or Clarification Request is explained.</i>	<i>The responses given by the project participants during the communications with the validation team should be summarised in this section.</i>	<i>This section should summarise the validation team's responses and final conclusions. The conclusions should also be included in Table 2, under "Final Conclusion".</i>

Figure 1 Validation protocol tables



2.1 Review of Documents

The PDD /1/ submitted by Beijing Guotou Energy Conservation Company and IT Power and additional background documents related to the project design and baseline were assessed. Background documents which were reviewed included:

- Zhangbei windfarm project feasibility study report and approval letter by Heibei Development & Reform Commission /2/
- Zhangbei Windfarm project Environmental Impact Assessment report and approval letter by Heibei Environmental Protection Bureau /3/

The validation findings stated hereafter are based on the PDD version 3.3, dated 8 December 2005.

2.2 Follow-up Interviews

On 30 May 2005 DNV performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of Beijing Guotou Energy Conservation Company /9/ and IT Power /10/-/11/ were interviewed. An on site visit was conducted October 7-8 2005. The main topics of the interviews are summarised in Table 1.

Table 1 Interview topics

Interviewed organisation	Interview topics
Beijing Guotou Energy Conservation Company (Project owner) <i>Huang Genxin</i>	<ul style="list-style-type: none"> ➤ Project background information ➤ Project boundary ➤ Technology used for the project ➤ Project approval status (incl. EIA approval, CDM project approval status) ➤ Stakeholder consultation process
IT Power (Project consultant) <i>Qian Yi wen</i> <i>Liu Jinze</i>	<ul style="list-style-type: none"> ➤ Applicability of selected methodology ➤ Baseline determination ➤ Project additionality ➤ Emission reduction performance monitoring

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation was to resolve any outstanding issues which needed to be clarified for DNV's positive conclusion on the project design.

The initial validation identified two Corrective Action Requests and four requests for Clarification. Beijing Guotou Energy Conservation Company and IT Power were invited to provide a response to these requests.



8 December 2005 IT Power provided a revised PDD and responded satisfactorily to all clarification requests. After assessing the revised PDD, DNV has issued this final validation report and opinion.

To guarantee the transparency of the validation process, the concerns raised by DNV and the responses provided have been documented in Table 3 of the Validation Protocol in Appendix A to this report.



3 VALIDATION FINDINGS

3.1 Participation Requirements

The project participants are First Carbon Fund Ltd. and Beijing Guotou Energy Conservation Company (BJGT). Both participants have been authorized by the respective DNAs to participate in this project activity.

China as the host Party and the United Kingdom as the Annex-I Party meet the requirements to participate in the CDM.

The National Development and Reform Commission of the People's Republic of China has given approval for the project on behalf of the Chinese DNA, confirming that the project will assist China in achieving sustainable development.

The Secretary of State for Environment, Food and Rural Affairs acting as the United Kingdom's DNA has also given approval for the project on behalf of the United Kingdom.

3.2 Project Design

The project will install a total of 30 turbines, each of which has a capacity of 1.500 kW. The technology used represents state of the art practices. Considering a load factor of 27.6%, and parasitic consumption of 0.2%, the project is expected to generate approximately 108 GWh per year, which will be exported to the grid.

Sufficient training to operate and maintain the wind farm will be provided by the turbine manufacturer during the first two years of commissioning.

The project started construction on 28/07/2004. Evidence includes subcontract agreements, invoices and pictures of the commencement ceremony. The project lifetime is minim 21 years and it is expected to start generation of electricity on 01/01/2006. The crediting period selected will start on 01/01/2006. A renewable crediting period of 7 years is selected.

DNV has verified that the CDM has been considered before the starting of the project activity.

The annual emission reductions are estimated ex-ante to be 97 848 tCO₂e/year, and 658 662 tCO₂e over the first seven-year crediting period of the project i.e. 2006–2012.

No ODA funding is involved in this project.

3.3 Project Baseline

The Project applies the approved methodology AM0005. It has been verified that the methodology is applicable for the project. The baseline scenario is that the electricity grid generates electricity by operation of the connected power plants. The baseline determination is sound and reasonable. The Renewable Energy Law was approved on 28 February 2005, and this *may* give support to wind power development from 2006 onwards. However, the Law only provides principles and guidance but lacks detailed regulations. Therefore, it is reasonable to assume that coal will continue to dominate the fuel mix of the Chinese electricity grids for at least the first crediting period. Both the operating and build margin will be calculated ex-post, based on actual power plant fuel consumption and electricity generation data. The sources of the



data are official and published, including the Chinese Electric Power Yearbook, the Chinese Energy statistical yearbook and the IPCC.

At the time of writing the PDD, the latest available information on the North China Power Grid was from 2003, published in the China Energy Statistical Yearbook 2004.

The baseline CO₂ coefficient is calculated as 0.906 tCO₂/MWh, the actual CO₂ coefficient will be calculated *ex-post*. In line with AM0005, the conservatism and accuracy of the baseline methodology of the project has been sufficiently demonstrated and verified by DNV.

Project Boundary

The project boundary is correctly defined as the project site and the connected North China Power Grid system. In accordance with AM0005, it has been sufficiently justified that leakage does not need to be considered as emissions during the construction phase are comparable to those occurring during the construction of a fossil fuel fired power plant of a similar size. The emissions associated with the electricity import/export are not included in the *ex-ante* calculations because import and export to the project grid are below 2% of total grid generation and because the CO₂ coefficient from the adjacent grids is similar to the one from the North China Power Grid. However, net import and export will be monitored and included as soon as they constitute more than 5% of total grid generation.

Approved deviation from AM0005

Because plant specific fuel consumption and electricity generation data is missing in China, DNV requested guidance from the CDM Executive Board for a deviation of the baseline methodology from AM0005 and received the following answer, from which the project baseline has been assessed*:

For the operating margin, aggregated fuel consumption per fossil fuel is multiplied by a local energy content factor as well as the IPCC default oxidation and carbon content factors and then divided by the total grid electricity generation.

For the build margin, a local value of 320 g_{standard coal}/kWh_{generated}, a local value of 29.27 TJ/1 000 t_{standard coal} and the IPCC default value of 25.8 tC/TJ are used to calculate the CO₂ coefficient. This can be acknowledged as the best available data available for estimation of emissions in the North China Power Grid.

The capacity additions from the years 1999 to 2003 were chosen and reach 20.9% of total installed capacity.

The total annual fuel consumption for different fuel types and total annual generation for different generation types (i.e. thermal, hydro, nuclear) is available for each province that is part of the North China Power Grid (i.e. Beijing, Tianjing, Hebei, Shanxi and Inner Mongolia). However, it must be noted that the data reported for Inner Mongolia includes fuel consumption and energy generation of power plants located in Inner Mongolia. These plants are connected to the Easter Inner Mongolian Grid which is interconnected with the provincial grids of the North East Power Grid System. There is a risk that the operating and build margin emission factors are slightly overestimated, if the emission factors for the project are calculated including total fossil fuel consumption and generation in Inner Mongolia. However, no detailed data are currently available that would allow an exact determination of fuel consumption and generation of power plants of the Western Inner Mongolian Grid only. Therefore, the above issue will need to be considered in the *ex-post* determination of the operating and build margin emission factors.

* to be found on <http://cdm.unfccc.int/Projects/Deviations>



3.4 Additionality

The project additionality demonstration is conducted through a set of barrier analyses following the approved methodology AM0005. The identified prohibitive barriers to the project include:

- Financial barrier: the investment analysis shows that the project has a lower IRR compared to the investment criteria of Beijing Guotou Energy Conservation (project IRR is 7.39%, the investment criterion is 8.5%). Also the risk free rate of return in China (rate of return for national bond) in 2005 is 3.81%*. Considering the various risks related to the project, an IRR of 7.39% for the project is considerably low.
- Institutional barrier: The project also faces the uncertainty of the electricity price as the assumed high price per kWh of 0.659 RMB is not guaranteed throughout the whole project lifetime. Although the project has a PPA, the electricity price is based on annual negotiations.
- Technological barrier: The technology barrier is also obvious because the project is among the first to utilise turbines with a capacity exceeding 1MW in China. It causes significant additional investment and technology risks.

An investigation of other activities similar to the proposed project has been conducted by the project developer. This shows that very few wind farm projects have been established in China during the past years.

In summary it demonstrated that the project activity itself is not a likely baseline scenario.

3.5 Monitoring Plan

The project uses the approved monitoring methodology AM0005. The selected monitoring methodology is applicable for this project and consistent with the approved baseline methodology AM0005.

The monitoring plan provides for the collection and archiving of all relevant data necessary for determining baseline emissions. The choice of baseline indicators is reasonable. Generated electricity will be measured twice i.e. by the BJGT and the grid operator.

Monitoring of sustainable development indicators is not necessary. The environmental impacts are considered minor and will be monitored by the local environmental authority during the project lifetime.

The project is currently under construction. The operation and management manual including

- responsibilities and authorities for project management,
- procedures for monitoring and reporting, and QA/QC procedures,
- procedures for the calibration of metering equipment,
- procedures for training and maintenance

is currently being elaborated. It will be implemented at the latest prior to the start of the crediting period to enable subsequent verification of emission reductions.

3.6 Calculation of GHG Emissions

The GHG calculations are complete and transparent. There are no emissions from the project which is a renewable energy project. Auxiliary energy use for the operation of the plant is netted



out from the generation of the electricity from the plant itself. Forecast net electricity generation is 79 GWh in 2006 and 108 GWh thereafter. Forecast emission reductions are therefore 71 574 tCO₂ in 2006 and 97 848 tCO₂ thereafter.

3.7 Environmental Impacts

An Environmental Impact Assessment has been conducted following Chinese environmental law and regulations. The potential environmental impacts have been addressed in the PDD. The project developer has ensured that the impact on the environment is minimal during the project construction and operation. No significant environmental impacts are expected during the project activity. The Heibei Environmental Protection Bureau has approved the project.

3.8 Comments by Local Stakeholders

The stakeholder consultation has been conducted according to Chinese Environmental regulations. The local community and the local government were invited to comment on the project. The local residents were contacted in a survey, similar to the one prepared for the already registered Huitengxile project. The consultations resulted in a clear support letter for the project. A summary of the stakeholder comments is included in the PDD. Most comments were positive and it has been verified that all comments have sufficiently been addressed.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

The PDD of April 2005 was made publicly available on www.dnv.com/certification/climatechange and Parties, stakeholders and NGOs were through the CDM website invited to provide comments during the period 28 April 2005 to 28 May 2005.

One comment was received on 23 May 2005. The comment received is in unedited form given in below text box.

Comment by: Anandi Sharan-Meili, <mailto:anandi@climateindia.com>]

Inserted on: 2005-05-23

Subject: General

Comment: I think this is an excellent project and should be registered immediately. I hope the project leads to replication of the same type of activity in more locations. I hope it secures high CER prices and that the promoters hold out for good prices. The aim should be to recover a substantial part of the investment cost over the lifetime of the project. Good Luck.

How DNV has considered the comment received in its validation:

The comment supports the projects and therefore no action by DNV is necessary.



5 VALIDATION OPINION

Det Norske Veritas Certification Ltd. (DNV) validated the Zhangbei Manjing Windfarm project in China. The validation was performed on the basis of UNFCCC criteria for the Clean Development Mechanism and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The review of the project design documentation and the subsequent follow-up interviews have provided DNV with sufficient evidence to determine the fulfilment of stated criteria.

The host country is China and the Annex I country is the United Kingdom. Both countries fulfil the participation criteria and have approved the project and authorized the project participants. The DNA from China confirmed that the project assists in achieving sustainable development. No ODA is involved in this project.

The project correctly applies AM0005. By using wind power resources generating renewable energy which will displace grid electricity from the North China Power Grid which is dominated by fossil fuel power plants, the project results in reductions of CO₂ emissions that are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated 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 activity.

The project management procedures are currently being elaborated and are planned to be implemented before the start of the crediting period.

The total emission reductions from the project are estimated to be on average 94 095 tCO₂ per year over the selected 7 year renewable crediting period.

No significant environmental impacts have been detected in the EIA conducted for the project and the local stakeholders are in favour of the project.

In summary, it is DNV's opinion that the Zhangbei Manjing Windfarm Project in China, as described in the PDD of 8 December 2005, meets all relevant UNFCCC requirements for the CDM and all Chinese CDM criteria and correctly applies the baseline and monitoring methodology AM0005. DNV thus requests the registration of the Zhangbei Manjing Windfarm Project as a CDM project activity.



REFERENCES

Documents provided by the project proponent that relate directly to the project:

- /1/ Beijing Guotou Energy Conservation Company and IT Power: *CDM-PDD for the Zhangbei Manjing Wind Farm Project*, 4 April 2005 and 8 December 2005.
- /2/ Beijing Guotou Energy Conservation Company: *Zhangbei windfarm project feasibility study report* and Approval letter by the Hebei Development & Reform Commission, 3 August 2004.
- /3/ Beijing Guotou Energy Conservation Company: *Zhangbei Windfarm project environmental Impact Assessment report*, Approval letter by the Hebei Environmental Protection Bureau, 21 April 2004.
- /4/ DNA of China, *Approval Letter*, 16 August 2005.
- /5/ DNA of UK, *Approval Letter*, 9 September 2005.

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

- /6/ International Emission Trading Association (IETA) & the World Bank's Prototype Carbon Fund (PCF): *Validation and Verification Manual*. <http://www.vvmanual.info>
- /7/ CDM EB, Approved baseline and monitoring methodology AM0005: *Baseline methodology (barrier analysis, baseline scenario development and baseline emission rate, using combined margin) for small grid-connected zero-emissions renewable electricity generation*. Version 01 of 14 April 2004.
- /8/ CDM EB, Answer to DNV's request for deviation of Chinese project activities from AM0005, received on 1 December 2005.

Persons interviewed during the validation, or persons contributed with other information that are not included in the documents listed above:

- /9/ Huang Gengxin, Project Manager, Beijing Guotou Energy Conservation Company
- /10/ Qian Yiwen, Senior Project Manager, IT Power
- /11/ Liu Jinze, Assistant Consultant, IT Power
- /12/ Christiaan Vrolijk, Senior Energy Specialist, IT Power

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APPENDIX A

CDM VALIDATION PROTOCOL

Table 1 Mandatory Requirements for Clean Development Mechanism (CDM) Project Activities

Requirement	Reference	Conclusion	Cross Reference / Comment
1. The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3	Kyoto Protocol Art.12.2	OK	
2. The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof	Kyoto Protocol Art. 12.2, CDM Modalities and Procedures §40a	OK	Table 2, Section A.3
3. The project shall assist non-Annex I Parties in contributing to the ultimate objective of the UNFCCC	Kyoto Protocol Art.12.2.	OK	Table 2, Section E.4.1
4. The project shall have the written approval of voluntary participation from the designated national authority of each party involved	Kyoto Protocol Art. 12.5a, CDM Modalities and Procedures §40a	CAR-1	LoA from the Chinese and UK DNAs have been received.
5. The emission reductions shall be real, measurable and give long-term benefits related to the mitigation of climate change	Kyoto Protocol Art. 12.5b	OK	Table 2, Section E
6. Reduction in GHG emissions shall be additional to any that would occur in absence of the project activity, i.e. a CDM project activity is additional if anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the registered CDM project activity	Kyoto Protocol Art. 12.5c, CDM Modalities and Procedures §43	OK	Table 2, Section B.2
7. Potential public funding for the project from Parties in Annex I shall not be a diversion of official development assistance	Decision 17/CP.7	OK	No public funding is involved.
8. Parties participating in the CDM shall designate a national authority for the CDM	CDM Modalities and Procedures §29	OK	The Chinese DNA is the State Development and Reform Commission The UK DNA is the Department for

Requirement	Reference	Conclusion	Cross Reference / Comment
			Environment, Food and Rural Affairs
9. The host Party and the participating Annex I Party shall be a Party to the Kyoto Protocol	CDM Modalities §30/31a	OK	China ratified the Kyoto Protocol on 30 August, 2002. UK ratified the Kyoto Protocol on 31 May 2002.
10. The participating Annex I Party's assigned amount shall have been calculated and recorded	CDM Modalities and Procedures §31b	OK	-
11. The participating Annex I Party shall have in place a national system for estimating GHG emissions and a national registry in accordance with Kyoto Protocol Article 5 and 7	CDM Modalities and Procedures §31b	OK	-
12. Comments by local stakeholders shall be invited, a summary of these provided and how due account was taken of any comments received	CDM Modalities and Procedures §37b	OK	Table 2, Section G
13. Documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts, shall be submitted, and, if those impacts are considered significant by the project participants or the Host Party, an environmental impact assessment in accordance with procedures as required by the Host Party shall be carried out.	CDM Modalities and Procedures §37c	OK	Table 2, Section F
14. Baseline and monitoring methodology shall be previously approved by the CDM Executive Board	CDM Modalities and Procedures §37e	OK	Table 2, Section B.1.1 and D.1.1
15. Provisions for monitoring, verification and reporting shall be in accordance with the modalities described in the Marrakech Accords and relevant decisions of the COP/MOP	CDM Modalities and Procedures §37f	OK	Table 2, Section D
16. Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days, and the project design document and comments have been made publicly available	CDM Modalities and Procedures §40	OK	The PDD has been published on DNV's climate change website and Parties, stakeholders and NGOs have

Requirement	Reference	Conclusion	Cross Reference / Comment
			through the UNFCCC CDM website been invited to provide comments on the validation requirements during a period of 30 days from 2005-04-28 to 2005-05-28. One supporting comment was received on this call.
17. A baseline shall be established on a project-specific basis, in a transparent manner and taking into account relevant national and/or sectoral policies and circumstances	CDM Modalities and Procedures §45c,d	OK	Table 2, Section B.2
18. The baseline methodology shall exclude to earn CERs for decreases in activity levels outside the project activity or due to force majeure	CDM Modalities and Procedures §47	OK	Table 2, Section B.2
19. The project design document shall be in conformance with the UNFCCC CDM-PDD format	CDM Modalities and Procedures Appendix B, EB Decision	OK	PDD format version 2

Table 2 Requirements Checklist

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
A. General Description of Project Activity <i>The project design is assessed.</i>					
A.1. Project Boundaries <i>Project Boundaries are the limits and borders defining the GHG emission reduction project.</i>					
A.1.1. Are the project's spatial (geographical) boundaries clearly defined?	/1/	DR	Project is located in the west of Zhangbei County, Hebei Province, in the People's Republic of China.		OK
A.1.2. Are the project's system (components and facilities used to mitigate GHGs) boundaries clearly defined?	/1/	DR I	The project boundary is the Zhangbei Manjing Windfarm Project site and the connected North China Power Grid.	CL1	OK
A.2. Technology to be employed <i>Validation of project technology focuses on the project engineering, choice of technology and competence/ maintenance needs. The validator should ensure that environmentally safe and sound technology and know-how is used.</i>					
A.2.1. Does the project design engineering reflect current good practices?	/1/	DR	The supplier of the 1.500 kW turbines selected for the project has extensive experience with manufacturing of wind turbines. The wind resources at the site were measured extensively and were found to be good.		OK
A.2.2. Does the project use state of the art technology or would the technology result in a significantly	/1/	DR	This project will be one of the first projects in China utilising turbines with a capacity		OK

* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
better performance than any commonly used technologies in the host country?			exceeding 1MW.		
A.2.3. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	/1/	DR	The project technology is unlikely to be substituted by other or more efficient technologies within the crediting period		OK
A.2.4. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	/1/	DR	Yes. Training needs have been identified.		OK
A.2.5. Does the project make provisions for meeting training and maintenance needs?	/1/	DR	The first two years of operation will be under the auspices of the wind turbine manufacturer. Sufficient training will be provided.		OK
A.3. Contribution to Sustainable Development <i>The project's contribution to sustainable development is assessed.</i>					
A.3.1. Is the project in line with relevant legislation and plans in the host country?	/1/	DR	The project is approved by the Hebei Development & Reform Commission.		OK
A.3.2. Is the project in line with host-country specific CDM requirements?	/1/	DR	The LoA of China has yet to be received.	CAR-1	OK
A.3.3. Is the project in line with sustainable development policies of the host country?	/1/ /1/	DR	The Approval letter from the local authority has confirmed that the project is in line with China's sustainable development policies.		OK
A.3.4. Will the project create other environmental or social benefits than GHG emission reductions?	/1/	DR	The project will reduce greenhouse gas emissions in China compared to a business-as-usual scenario. It will create local employment during the assembly and installation of wind turbines, and for operation of the wind farm. It will also reduce other pollutants resulting from the power generation industry in China such as		OK

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			sulphur, soot and photochemical agents.		
B. Project Baseline <i>The validation of the project baseline establishes whether the selected baseline methodology is appropriate and whether the selected baseline represents a likely baseline scenario.</i>					
B.1. Baseline Methodology <i>It is assessed whether the project applies an appropriate baseline methodology.</i>					
B.1.1. Is the baseline methodology previously approved by the CDM Executive Board?	/1/ /7/	DR	Yes, The project applies the approved baseline methodology AM0005 "baseline methodology (barrier analysis, baseline scenario development and baseline emission rate, using combined margin) for small grid-connected zero-emissions renewable electricity generation".		OK
B.1.2. Is the baseline methodology the one deemed most applicable for this project and is the appropriateness justified?	/1/ /7/ /10/ /11/	DR I	Yes, - the project faced prohibitive barriers and do not represent common practice in China today. - the North China Power Grid is dominated by coal-fired power generation. - The project will install a total of 45 MW, below the limit of 60MW for AM0005.		OK

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Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
B.2. Baseline Determination <i>The choice of baseline will be validated with focus on whether the baseline is a likely scenario, whether the project itself is not a likely baseline scenario, and whether the baseline is complete and transparent.</i>					
B.2.1. Is the application of the methodology and the discussion and determination of the chosen baseline transparent?	/1/	DR I	Yes. The baseline is determined as the operation and expansion of the North China Power Grid which largely consists of fossil-fuel fired power plants.		OK
B.2.2. Has the baseline been determined using conservative assumptions where possible?	/1/	DR I	Sufficient data is not available to calculate the operating and build margin according to AM0005.	CAR-2	OK
B.2.3. Has the baseline been established on a project-specific basis?	/1/	DR I	Yes.		OK
B.2.4. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?	/1/	DR I	Yes. Relevant national policies, macro-economic trends and political aspirations have been discussed.		OK
B.2.5. Is the baseline determination compatible with the available data?	/1/	DR I	Yes. The data to calculate the OM and BM is derived from the China Electricity Power year book and the China Energy Statistic year book.		OK
B.2.6. Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?	/1/	DR I	Yes. It is most likely that the North China Power Grid continues to be dominated by fossil fuel fired power plants. The actual baseline CO ₂ coefficient will be monitored <i>ex-post</i> .		OK
B.2.7. Is it demonstrated/justified that the project activity itself is not a likely baseline scenario?	/1/	DR I	The project addtionality demonstration is conducted through a set of barrier analyses	CL-2	OK

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Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
			following the approved methodology AM0005. It has been clearly demonstrated that the project faces an institutional and technological barrier. Also, it has been demonstrated in a second step that other wind farms recently added to the project grid are few in number as well as installed capacity, and that some of these projects also apply for CDM funding. However, it is unclear why an IRR of 7.39% is not sufficient for the project to go ahead without the additional revenue from selling the CERs.		
B.2.8. Have the major risks to the baseline been identified?	/1/	DR	Emission reductions are estimated <i>ex-ante</i> , the actual baseline CO ₂ coefficient will be monitored <i>ex-post</i> based on the operating and build margin. This baseline approach takes into account any fuel trend to produce electricity. Hence, there are no major risks to the baseline.		OK
B.2.9. Is all literature and sources clearly referenced?	/1/	DR	Yes.		OK
C. Duration of the Project/ Crediting Period <i>It is assessed whether the temporary boundaries of the project are clearly defined.</i>					
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	/1/	DR	The project is expected to start operation on 01/01/2006. The project lifetime is minim 21 years.		OK
C.1.2. Is the assumed crediting time clearly defined (renewable crediting period of seven years with two possible renewals or fixed crediting period of 10 years with no renewal)?	/1/	DR	A fixed crediting period of 7y-0m starting on 01/01/2006 is chosen. The crediting period can not start before the project's registration. A different starting date needs	CL3	OK

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Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
			to be selected.		
D. Monitoring Plan <i>The monitoring plan review aims to establish whether all relevant project aspects deemed necessary to monitor and report reliable emission reductions are properly addressed ((Blue text contains requirements to be assessed for optional review of monitoring methodology prior to submission and approval by CDM EB).</i>					
D.1. Monitoring Methodology <i>It is assessed whether the project applies an appropriate baseline methodology.</i>					
D.1.1. Is the monitoring methodology previously approved by the CDM Executive Board?	/1/	DR	The project participants propose to use the approved monitoring methodology AM0005 "monitoring methodology for small grid-connected zero-emissions renewable electricity generation".		OK
D.1.2. Is the monitoring methodology applicable for this project and is the appropriateness justified?	/1/	DR	The grid is identified as the North China Power Grid which is not dominated by zero or low-operating cost generating sources, The fuel mix is expected to persist for the duration of the crediting period; The project activity is small compared with the total additions to the grid.		OK
D.1.3. Does the monitoring methodology reflect good monitoring and reporting practices?	/1/	DR	Direct monitoring of the emission reductions is selected. This involves monitoring of the following: - Electricity generation from the project, - Annual determination of the emission		OK

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			<p>factor of the grid to recalculate the operating margin by monitoring fuel consumption and total electricity generation,</p> <ul style="list-style-type: none"> - Annual determination of the emission factor of the grid to recalculate the build margin by monitoring annual capacity additions. <p>Due to the fact that import and exports between the North China Power Grid and neighbouring grids are negligible, no correction of emission factors for import/exports are necessary. This is deemed justified. BJGT will however monitor the imports/exports and include them as soon as they account for more than 5% of the total grid generation.</p>		
D.1.4. Is the discussion and selection of the monitoring methodology transparent?	/1/	DR	Yes		OK
D.2. Monitoring of Project Emissions <i>It is established whether the monitoring plan provides for reliable and complete project emission data over time.</i>					
D.2.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the greenhouse gas emissions within the project boundary during the crediting period?	/1/	DR	The project activity, being a renewable energy project does not cause greenhouse gas emissions itself. The on-site auxiliary power usage can be considered to lead to project emissions. However, in this methodology the power usage is netted out, and net electricity generation is used to calculate emission reductions.		OK

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Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
D.3. Monitoring of Leakage <i>It is assessed whether the monitoring plan provides for reliable and complete leakage data over time.</i>					
D.3.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	/1/	DR	Emissions due to activities such as power plant construction are considered similar or less than those emitted during construction of a fossil-fuel fired power plant of similar size. No leakage is therefore considered.		OK
D.4. Monitoring of Baseline Emissions <i>It is established whether the monitoring plan provides for reliable and complete project emission data over time.</i>					
D.4.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining baseline emissions during the crediting period?	/1/	DR I	Yes. All data handling is clearly organized.		OK
D.4.2. Is the choice of baseline indicators, in particular for baseline emissions, reasonable?	/1/	DR	Yes. The operating and build margin are calculated according to AM0005.		OK
D.4.3. Will it be possible to monitor the specified baseline indicators?	/1/	DR	Yes. Aggregated fuel data is available from the North China Power Grid and can be monitored on an annual basis. The EB, in its answer to DNV's request for guidance on a deviation to AM0005 has acknowledged that this is sufficient to calculate the operating and build margin.		OK

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Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
D.5. Monitoring of Sustainable Development Indicators/ Environmental Impacts <i>It is checked that choices of indicators are reasonable and complete to monitor sustainable performance over time.</i>					
D.5.1. Does the monitoring plan provide the collection and archiving of relevant data concerning environmental, social and economic impacts?	/1/	DR	Neither AM0005 nor the DNA of China requires the monitoring of sustainable development indicators.		OK
D.6. Project Management Planning <i>It is checked that project implementation is properly prepared for and that critical arrangements are addressed.</i>					
D.6.1. Is the authority and responsibility of project management clearly described?	/1/	DR	The authority and responsibility of project management is described in the MP. Further details should be provided on a) the allocation of clear authority and responsibility for project management and monitoring and reporting, b) procedures for monitoring and reporting, c) procedures for calibration of monitoring equipment and d) QA/QC procedures.	CL4	OK
D.6.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	/1/	DR	The authority and responsibility for registration, monitoring, measurement and reporting is described in the MP.	CL4	OK
D.6.3. Are procedures identified for training of monitoring personnel?	/1/	DR	Yes.		OK
D.6.4. Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	/1/	DR	No emergencies that can cause unintended emissions are expected.		OK

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Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
D.6.5. Are procedures identified for calibration of monitoring equipment?	/1/	DR	Yes. See D.6.1	CL 4	OK
D.6.6. Are procedures identified for maintenance of monitoring equipment and installations?	/1/	DR	Yes. See D.6.1	CL 4	OK
D.6.7. Are procedures identified for monitoring, measurements and reporting?	/1/	DR	Yes. See D.6.1	CL 4	OK
D.6.8. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	/1/	DR	Yes. See D.6.1	CL 4	OK
D.6.9. Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?	/1/	DR	Yes. See D.6.1	CL 4	OK
D.6.10. Are procedures identified for review of reported results/data?	/1/	DR	Yes. See D.6.1	CL 4	OK
D.6.11. Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	/1/	DR	Yes. See D.6.1	CL 4	OK
D.6.12. Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?	/1/	DR	Yes. See D.6.1	CL 4	OK
D.6.13. Are procedures identified for corrective actions in order to provide for more accurate future monitoring and reporting?	/1/	DR	Yes. See D.6.1	CL 4	OK

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Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
E. Calculation of GHG Emissions by Source <i>It is assessed whether all material GHG emission sources are addressed and how sensitivities and data uncertainties have been addressed to arrive at conservative estimates of projected emission reductions.</i>					
E.1.Predicted Project GHG Emissions <i>The validation of predicted project GHG emissions focuses on transparency and completeness of calculations.</i>					
E.1.1. Are all aspects related to direct and indirect GHG emissions captured in the project design?	/1/	DR	There are no emissions from the Zhangbei Manjing Windfarm Project, which is a renewable energy project. Auxiliary energy use for the operation of the plant is netted out from the generation of the electricity from the plant itself.		OK
E.2.Leakage <i>It is assessed whether there leakage effects, i.e. change of emissions which occurs outside the project boundary and which are measurable and attributable to the project, have been properly assessed.</i>					
E.2.1. Are potential leakage effects beyond the chosen project boundaries properly identified?	/1/	DR	The leakage from the project is considered zero.		OK

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Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
E.3.Baseline Emissions <i>The validation of predicted baseline GHG emissions focuses on transparency and completeness of calculations.</i>					
E.3.1. Have the most relevant and likely operational characteristics and baseline indicators been chosen as reference for baseline emissions?	/1/	DR	Yes. the fossil fuelled power plants supplying electricity to the grid are considered when calculating the baseline emissions.		OK
E.3.2. Are the baseline boundaries clearly defined and do they sufficiently cover sources and sinks for baseline emissions?	/1/	DR	Yes. The North China Power Grid is defined as the baseline boundary.		OK
E.3.3. Are the GHG calculations documented in a complete and transparent manner?	/1/	DR	Yes. The GHG calculations are completely and transparently documented.		OK
E.3.4. Have conservative assumptions been used when calculating baseline emissions?	/1/	DR	Yes. The efficiency level of the best coal technology commercially available in the North China Power Grid is defined as 320 grams of standard coal per kWh. This is deemed conservative.		OK
E.3.5. Are uncertainties in the GHG emission estimates properly addressed in the documentation?	/1/	DR	Yes.		OK
E.4.Emission Reductions Validation of baseline GHG emissions will focus on methodology transparency and completeness in emission estimations.					
E.4.1. Will the project result in fewer GHG emissions than the baseline scenario?	/1/	DR	Yes. The forecasted annual electricity generation is 108 GWh and the forecasted CO ₂ coefficient is 0.868 tCO ₂ /MWh.		OK

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Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
F. Environmental Impacts <i>Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the validator.</i>					
F.1.1. Has an analysis of the environmental impacts of the project activity been sufficiently described?	/1/	DR	Yes. According to Chinese environmental regulations, the project should conduct an environmental impact assessment. This is done.		OK
F.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	/1/	DR	Yes. The Heibei Environmental project Bureau approved the project on 21 June 2004.		OK
F.1.3. Will the project create any adverse environmental effects?	/1/	DR	According to the environmental impact assessment, no significant environmental impacts are expected from the project implementation.		OK
F.1.4. Are transboundary environmental impacts considered in the analysis?	/1/	DR	No transboundary environmental impacts are expected.		OK
F.1.5. Have identified environmental impacts been addressed in the project design?	/1/	DR	Yes, all the environmental impacts have been described in the PDD.		OK
F.1.6. Does the project comply with environmental legislation in the host country?	/1/	DR	Yes. According to Chinese environmental regulations, an on-site environmental verification by the local environmental authority will have to be conducted when the project is implemented.		OK
G. Stakeholder Comments <i>The validator should ensure that a stakeholder comments have been invited and that due account has been taken of any comments received.</i>					
G.1.1. Have relevant stakeholders been consulted?	/1/	DR	Yes. The government of the Zhangbei		OK

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			county in which the project is located has been invited to comment on the project. Also, nearby residents have been contacted.		
G.1.2. Have appropriate media been used to invite comments by local stakeholders?	/1/	DR	Yes. A survey has been used for collecting the comments from local people.		OK
G.1.3. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	/1/	DR	The EIA approval letter does not require conducting a special stakeholder consultation process for the project.		OK
G.1.4. Is a summary of the stakeholder comments received provided?	/1/	DR	Yes		OK
G.1.5. Has due account been taken of any stakeholder comments received?	/1/	DR	Most of comments are positive. Some issues were raised with regards to TV interference, noise and daily sewage. According to the EIA, no TV interference is expected. With regards to the noise level and waste disposal, the project is within the legal limits.		OK

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Table 3 Resolution of Corrective Action and Clarification Requests

Draft report corrective action requests and requests for clarifications	Ref. to Table 2	Summary of project participants' response	Final conclusion
<p>CAR 1</p> <p>The project has not yet obtained Letters of Approval from the DNA of China And UK.</p>		<p>LoAs both from the Chinese DNA and UK have been received.</p>	<p>OK</p> <p>This CAR is therefore closed.</p>
<p>CAR 2</p> <p>Sufficient data to calculate the OM and BM according to AM0005 is not available for the North China Power Grid:</p> <p>As an example, oil and natural gas fuel consumption, although negligible, is not available.</p> <p>Also, plant level data is not available.</p> <p>Further, the data currently available on the North China Grid does not allow to exactly determine the most recent 20% of the generating units built to recalculate the build margin.</p> <p>It needs to be clarified how the build margin will be determined <i>ex-post</i> during the project's crediting period.</p>	<p>B.2.2</p>	<p>Although the average fuel consumption includes the oil and gas fired power plants, It is demonstrated to be negligible. And average fuel consumption can be used when calculating the OM. This is accepted by EB on the answers to DNV's deviation request, published on http://cdm.unfccc.int/Projects/Deviations</p> <p>However we decide to use data derived from the China Energy Statistic year book 2004 (2003 data published recently) to calculate the OM which is fully in line with the approved methodology AM0005.</p> <p>EB on the answers to DNV's request for guidance on deviation suggest the following when calculating the BM:</p> <ul style="list-style-type: none"> - Allows to using the capacity addition from one year to another which is closest to 20% for estimating the build margin emission factor for grid electricity. - Allows to using the weights estimated using installed capacity in 	<p>OK</p> <p>The answer of the Executive Board to DNV's request for deviation from AM0005 confirms that applying:</p> <ul style="list-style-type: none"> - weights estimated using installed capacity in place of annual electricity, - the average emission factor for the grid for each fuel type - the efficiency level of the best technology commercially available in the provincial/regional or national grid of China <p>to calculate the OM, and</p> <ul style="list-style-type: none"> - Using capacity additions during the last years for estimating the build margin <p>is allowed.</p> <p>For the OM, the project uses in the revised PDD the fuel consumption and average net caloric values from the China Energy Statistical Yearbook 2004 and the IPCC default values for the emission and oxidation factors.</p>

Draft report corrective action requests and requests for clarifications	Ref. to Table 2	Summary of project participants' response	Final conclusion
		<p>place of annual electricity generation.</p> <ul style="list-style-type: none"> - Suggest to using the efficiency level of the best technology commercially available in the provincial/regional or national grid of China, as a conservative proxy, for each fuel type in estimating the fuel consumption to estimate the build margin (BM). <p>Following EB guidance and suggestion, the BM is recalculated</p>	<p>For the BM, the data from 1999 to 2003 is used as the power plants added during that time constitute 20.9 % of total installed capacity. Coal is the only fossil fuel added during that time. A local value of 320 g_{standard coal}/kWh, a local value of 29.27 TJ/1 000 t_{standard coal} and the IPCC default value of 25.8 tC/TJ are used to calculate a CO₂ coefficient of 0.868 tCO₂/MWh. This corresponds to an average plant efficiency factor of 38.4%, This CAR is therefore closed.</p>
<p>CL 1</p> <p>Please describe the connection between the Jing-Jin-Tang Power Grid and the North China Power Grid.</p>	A1	<p>The Zhangbei wind farm is physically connected to the Jing-Jin-Tang Power Grid. The Jing-Jin-Tang Power Grid is considered an integral part of the North China Power Grid. Power flows between Jing-Jin-Tang and the other parts of the North China Power Grid are very significant as compared to local demand, some 19%, while flows from the North China Power Grid to the North East China Grid are negligible, only 2%. The other grids that are part of the North China Power Grid are: Inner Mongolia Power Grid, Shanxi Power Grid and South Hebei Power Grid. Most of these power flows between these sub-grids in the North China Power</p>	<p>OK</p> <p>It is demonstrated that the North China Power Grid is the electricity system that is connected by transmission lines to the project electricity system and in which power plants can be dispatched without significant transmission constraints. The choice of the North China Power Grid as the boundary for determining the operating and build margin emission coefficient is thus appropriate.</p> <p>This CL is therefore closed.</p>

Draft report corrective action requests and requests for clarifications	Ref. to Table 2	Summary of project participants' response	Final conclusion
		Grid are directed towards Beijing. Beijing's consumption accounts for some 43% of the electricity on the Jing-Jin-Tang Power Grid. About one quarter of power is exported to Beijing from Shanxi Power Grid, and about one fifth from Inner Mongolia Power Grid. Additionally, the detailed statistics required for the baseline calculations are available for the North China Power Grid as a whole, but not for the sub-grids.	
<p>CL 2</p> <p>It is unclear why an IRR of 7.39% is not sufficient for the project to go ahead without the additional revenue from selling the CERs.</p>	B.2.7	<p>The State Economic and Trade Commission indicated in its Circular on Further Promoting Wind Power Development that deploying immature and high-cost technology wind power projects would be unlikely to achieve more than 10% IRR. Given the high economic growth in China and rapidly increasing energy demand it should be expected that returns on investment in the energy sector far exceed 10%. Additionally, the country risk for foreign investors would preclude any projects with returns below this amount. And risks related to the feed-in tariff level are also requiring high returns for investors (IRR 8.81% indicated in Zhangbei feasibility study was based on the suggested tariff of 0.65Yuan/kwh, but this tariff is difficult to gain currently for Zhangbei Wind farm from</p>	<p>OK</p> <p>It has been sufficiently demonstrated and verified that the Zhangbei project faces a investment barrier due to a relatively low IRR.</p> <p>This CL is therefore closed.</p>

Draft report corrective action requests and requests for clarifications	Ref. to Table 2	Summary of project participants' response	Final conclusion
		government Pricing Bureau).	
<p>CL 3</p> <p>The crediting period can not start before the project's registration. A different starting date for the crediting period needs to be selected.</p>	C.1.2	<p>The start of the project construction was 2004/07/28. The PDD has been updated to show this.</p>	<p>The starting date of the project activity has been verified. A starting date of the crediting period earlier than the project's registration as a CDM project is therefore acceptable.</p> <p>The CL is therefore closed.</p>
<p>CL 4</p> <p>Further details should be provided on a) the allocation of clear authority and responsibility for project management and monitoring and reporting, b) procedures for monitoring and reporting, c) procedures for calibration of monitoring equipment and d) QA/QC procedures.</p>	D.6.1	<p>Relevant requirements have been added in the revised PDD</p>	<p>OK</p> <p>Procedures have been clearly outlined and authorities assigned. These will be implemented before the start of the crediting period.</p> <p>It has been verified that the data will be kept until two years after the end of the crediting period.</p> <p>This CL is therefore closed.</p>

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