



VALIDATION REPORT
HEISHUI SANLIAN
HYDROPOWER DEVELOPMENT
Co., LTD.

VALIDATION OF THE
SICHUAN HEISHUI
ZHAWO NO.1
HYDROPOWER PROJECT

REPORT No. BVC/CHINA-VAL/0040/2008

REVISION No. 01

BUREAU VERITAS CERTIFICATION

VALIDATION REPORT

Date of first issue:		Organizational unit:	
22/08/2009		Bureau Veritas Certification Holding SAS	
Client:		Client ref.:	
Heishui Sanlian Hydropower Development Co., Ltd.		Mr. Kun Chen	
Summary:			
<p>Bureau Veritas Certification has made the validation of the Sichuan Heishui Zhawo No.1 Hydropower Project of Heishui Sanlian Hydropower Development Co., Ltd. The Project is a newly built hydro power project located in Aba Tibetan and Qiang Autonomous Prefecture, Heishui County, Sichuan 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.</p> <p>The validation scope is defined as an independent and objective review of the project design document, the project's baseline study, monitoring plan and other relevant documents, and consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final validation report and opinion. The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.</p> <p>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.</p> <p>In summary, it is Bureau Veritas Certification's opinion that the project correctly applies the baseline and monitoring methodology AMS.I.D. Version 13 and meets all the relevant UNFCCC requirements for the CDM and the relevant host country criteria.</p>			
Report No.:	Subject Group:		
BVC/CHINA-val/0040/2008	CDM	Indexing terms	
Project title:			
Sichuan Heishui Zhawo No.1 Hydropower Project			
Work carried out by:			
Jasmine Tang Xuemei –Team Leader Liao Ling – Team Member		<input checked="" type="checkbox"/> No distribution without permission from the Client or responsible organizational unit	
Work verified by:			
Robin Wang (Reviewer)		<input type="checkbox"/> Limited distribution	
Date of this revision:	Rev. No.:	Number of pages:	
03/09/2009	01	60	<input type="checkbox"/> Unrestricted distribution



Abbreviations change / add to the list as necessary

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



Table of Contents	Page
1. INTRODUCTION	5
1.1. OBJECTIVE	5
1.2. SCOPE	5
1.3. VALIDATION TEAM	5
2. METHODOLOGY	5
2.1. REVIEW OF DOCUMENTS	7
2.2. FOLLOW-UP INTERVIEWS	7
2.3. RESOLUTION OF CLARIFICATION AND CORRECTIVE ACTION REQUESTS.....	8
3. VALIDATION FINDINGS.....	8
3.1 Approval	9
3.2 Participation	9
3.3 Project Design Document	10
3.4 Project Description	10
3.5 Baseline and monitoring methodology	10
3.6 Additionality of a project activity	12
3.7 Calculation of GHG Emissions	17
3.8 Monitoring Plan	19
3.9 Environmental Impacts	20
3.10 Local Stakeholders Consultation	20
4. COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS	21
5. VALIDATION OPINION	21
6. REFERENCES.....	22
7. CURRICULA VITAE OF THE DOE'S VERIFICATION TEAM MEMBERS	24
APPENDIX A: CDM PROJECT VALIDATION PROTOCOL	25

VALIDATION REPORT

1. INTRODUCTION

Heishui Sanlian Hydropower Development Co., Ltd. (hereafter called “the PP”) has commissioned Bureau Veritas Certification to validate its CDM project Sichuan Heishui Zhawo No.1 Hydropower Project (hereafter called “the Project”) at Sichuan Province, P. R. China.

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

1.1. OBJECTIVE

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

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

1.2. SCOPE

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

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

1.3. VALIDATION TEAM

The validation team consists of the following personnel:

Jasmine Tang Xuemei Team Leader,
Bureau Veritas Certification, Climate Change Lead Verifier
Liao Ling Team Member,
Bureau Veritas Certification, Climate Change Verifier

2. METHODOLOGY

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

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

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

VALIDATION REPORT

It ensures a transparent validation process where BVC 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 **Figure 1**. The completed validation protocol is enclosed in **Appendix A** to this report.

Validation Protocol Table 1: Requirements checklist

Checklist Question	Reference	Means of verification(MoV)	Comment	Draft and/or Final Conclusion
The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organized in several sections. Each section is then further subdivided. 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 BVC has identified a need for further clarification.

Validation Protocol Table 2: specific validation activities for small scale project activities

Checklist Question	Reference	Means of verification(MoV)	Comment	Draft and/or Final Conclusion
The various requirements in Table 2 are linked to checklist questions the small scale project should meet.	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 BVC has identified a need for further clarification.

VALIDATION REPORT

Validation Protocol Table 3: Resolution of Corrective Action and Clarification Requests			
Report clarifications and corrective action requests	Ref. to checklist question in table 1/2	Summary of project owner response	Validation conclusion
If the conclusions from the Validation are either a Corrective Action Request or a Clarification Request, these should be listed in this section.	Reference to the checklist question number in table 1/2 where the Corrective Action Request or Clarification Request is explained.	The responses given by the Client or other project participants during the communications with BVC should be summarized in this section.	This section should summarize BVC's responses and final conclusions. The conclusions should also be included in table 1/2, under "Final Conclusion".

Figure 1 Validation protocol tables

2.1. REVIEW OF DOCUMENTS

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

To address Bureau Veritas Certification (BVC) corrective action and clarification requests Easy Carbon Consultancy Co. Ltd. revised the PDD and resubmitted it on 04/06/2009, and the validation findings presented in this report relate to the project as described in the PDD version 2 dated 04/06/2009.

2.2. FOLLOW-UP INTERVIEWS

On 09/06/2008, BVC performed an interview with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of Heishui Sanlian Hydropower Development Co., Ltd. (The PP), CDM consultant and local stakeholders were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

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

2.3. RESOLUTION OF CLARIFICATION AND CORRECTIVE ACTION REQUESTS

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

Corrective Action Requests (CAR) is issued, where:

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

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

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

3. VALIDATION FINDINGS

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

The findings from the desk review of the original project design documents and the findings from interviews during the follow up visit are summarized. A more detailed record of these findings can be found in the Validation Protocol in **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 **10** Corrective Action Requests and **10** Clarification Requests.

VALIDATION REPORT

3.1 Approval

Letters of approval have been received and following support documentation:

- Letter of Approval issued by DNA of China in June 2008 /3/ authorized Heishui Sanlian Hydropower Development Co., Ltd. as project participant and confirmed that Sichuan Heishui Zhawo No.1 Hydropower Project contributes to China's Sustainable development. No additional specification of the Project was contained in the LoA.
- Letter of Approval issued by DNA of Netherlands on 26/08/2008 /4/ authorized Rabobank International as project participant for Sichuan Heishui Zhawo No.1 Hydropower Project in China.

BVC received Letters of Approval provided by the PP and does not doubt its authenticity. Both parties (China and the Netherlands) are Party to the Kyoto Protocol, and BVC considers the letters are in accordance with **Para. 45 – 48/ VVM**.

☺ Complying with **Para. 49, 50 and 125/VVM**, BVC recognizes that Sichuan Heishui Zhawo No.1 Hydropower Project of Heishui Sanlian Hydropower Development Co., Ltd. is helping country fulfill its goals of promoting sustainable development. The project is expected to be in line with host-country specific CDM requirements because it –

- Reduce the GHG emissions;
- Reduce pollutants emissions through replacing fossil fuel consumption;
- Create job opportunities;
- Promote the local development.

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

- Feasibility Study Report (FSR) approved by Development and Reform Committee of Aba Tibetan and Qiang Autonomous Region on 08/08/2005. /6/ /7/
- Environment Impact Assessment (EIA) approved by Environment Protect Bureau of Aba Tibetan and Qiang Autonomous Region on 30/03/2006. /9/ /10/

The Project scenario is considered additional in comparison to the baseline scenario, and therefore eligible to receive Certified Emissions Reductions (CERs) under the CDM, based on an analysis, presented by the PDD, of investment barriers.

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

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

3.2 Participation

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

☺ Complying with **Para. 54/VVM**, BVC concluded this by reviewing the letters of approval provided by PP and the information on UNFCCC website i.e.

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

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

3.3 Project Design Document

☞ Complying with **Para. 57/VVM**, BVC hereby confirms that the PDD complies with the latest forms Project Design Document Form for small-scale project activities (CDM-SSC-PDD) version 03 and guidance documents for completion of CDM-SSC-PDD version 05.

3.4 Project Description

The Project “Sichuan Heishui Zhawo No.1 Hydropower Project” (hereafter referred to as “the Project”) is sited in Aba Tibetan and Qiang Autonomous Prefecture, Heishui City, Sichuan Province, P. R. China. The Project has geographical coordinates with east longitude of 103°08’30” and north latitude of 32°09’57”.

The project is a run-of-river hydropower with total installed capacity of 6.4MW (2*3.2MW), which can generate electricity 34,247MWh and supply net electricity of 29,725MWh to the Central China Power Grid (CCPG) based on the information of FSR conducted by a third party and approved by local DRC, which comply with the “Guidelines for the Reporting and Validation of Plant Load Factors ver.1” (EB48, annex 11). The proposed project activity will result in annual emission reductions of 28,968tCO₂e during the first crediting period.

The main buildings consist of a low rolling dam, diversion structures and a powerhouse. The domestic-made of CJA475-W-115/2×11.5 type hydro turbine and SFW3200-10/1730 type generator will be installed in the power house, and the signed hydro turbine and generator purchase contract /11/ had been provided and checked satisfactory.

According to Appendix C of the Simplified Modalities and Procedures for Small-Scale CDM project activities, “Compendium of guidance on the de-bundling for SSC project activities” (EB 36 Annex 27), the FSR and relevant water resource evaluation made by the local authorities, BVC was able to verify that there is neither a registered small-scale CDM project activity nor an application to register another small-scale CDM project activity with the same project participant, in the same project category and technology/measure, registered within the previous 2 years and whose project boundary is within 1km of the project boundary of the Project. The Project is therefore is not a debundled component of a large scale project activity.

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

☞ Complying with **Para. 64/VVM**, BVC hereby confirms that the project description in PDD is accurate and complete in all respects.

3.5 Baseline and monitoring methodology

3.5.1 Baseline and monitoring methodology

The Project uses the approved simplified baseline and monitoring methodology AMS I.D. (version 13) – “Grid connected renewable electricity generation” under Type I Category I.D of Appendix B of the simplified Modality and Procedure for the small scale CDM project activity.

By on-site visit and interview with the PP, BVC has confirmed that the information given in the PDD complied with the criteria of methodology AMS. I.D. (Version 13):

- The capacity of the project is 6.4MW, not exceed 15MW, and will remain under the limits of small-scale project activity type during every year of the crediting period via reviewing the signed hydro-turbine purchase contract /11/ and interviewing with PP;
- The hydro power generation used by the Project concerns renewable energy;
- The generated electricity from the Project will be supplied to a grid (CCPG) (confirmed by signed PPA /23/), which is dominated by fossil fuel generation.

BVC hereby confirms that the selected baseline and monitoring methodology AMS I.D. (version 13) is previously approved by the CDM Executive Board, and is applicable to the project activity, which, complies with all the applicability conditions therein.

BVC hereby confirms that, as a result of the implementation of the proposed CDM project activity, there are no greenhouse gas emissions occurring within the proposed CDM project activity boundary, which are expected to contribute more than 1% of the overall expected average annual emissions reductions, which are not addressed by the applied methodology AMS I.D. (version 13).

3.5.2 Project Boundary

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

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

☞ 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 by the DNA of China. (Refer to the *China's Regional Grid Baseline Emission Factors* updated by DNA of China and publicly available on the website of China's DNA.

3.5.1 Baseline identification

The Project is the installation of a new grid-connected renewable power plant that connects with and delivers electricity to the Central China Power Grid. Plausible and credible baseline scenarios available to the Project that provide outputs or services comparable to the proposed CDM project activity include:

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

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

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

Alternative IV: Supply of equivalent annual power output by the Central China Power Grid to which the proposed project is connected.

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

Of these identified alternatives, alternative II was excluded based on the evidence that in China the thermal power plant with a capacity less than 135MW are prohibited to be built. /26/ the Alternative III was excluded because of the lack of usable wind resources /6/, technical barriers and market risks of biomass power generation, solar PV and geothermal /28/. In addition, the Project not undertaken as a CDM project activity is

financially unattractive based on investment analysis, therefore, alternative I was correctly excluded.

BVC has verified the all relevant evidence and found satisfactory to exclude Alternatives (I), (II) and (III). And the possible baseline scenario is alternative IV, i.e. supply of equivalent annual power output by the Central China Power Grid to which the proposed project is connected, which is in accordance with methodology AMS I.D. (version 13).

According to methodology AMS I.D. (version 13), the baseline scenario is the following:

The kWh produced by the renewable generating unit multiplied by an emission coefficient (measured in kg CO₂e/kWh) calculated in a transparent and conservative manner as: a combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the "Tool to calculate the emission factor for an electricity system (Version 01.1).

☞ 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 of a project activity

According to the simplified baseline methodology AMS-I.D, it is applied in compliance with the simplified monitoring methodology AMS-I.D. The additionality of the Project is demonstrated and assessed through the existence of investment barrier according to *Attachment A to Appendix B of the simplified modalities and procedures for small-scale CDM project activities, Non-binding best practice examples to demonstrate additionality for SSC project activities* together with the *Guidance on the assessment of investment analysis* (Annex of *Tool for Demonstration and Assessment of Additionality* version 5.2). The additionality of the project has been carefully checked, in doing so BVC has put the main focus on the following issues:

3.6.1 Prior consideration of the clean development mechanism

During the on-site visit and interview with PP, BVC found that CDM was considered after the construction had to cease in Nov. 2006 due to the significantly increased total investment and shortage of funds. The cessation of project implementation has been demonstrated by credible evidence including, board meeting held on 26/10/2006 to decide to stop construction of the Project /12/ and, the notice of stopping the construction of the Project issued by the Supervision Company of the Project on 07/11/2006 /13/. A few months later, viz. on 28/02/2007, as it was always difficult to raise money for reconstruction of the Project, a board meeting was held to decide to transfer the ownership of the Project /14/. Hearing this news, Beijing Energy Corporation, Ltd., the holding company of PP /35/, wanted to grasp this chance. To evaluate the investment

 VALIDATION REPORT

return of the Project, an *Assessment on Increased Total Investment Cost* (including an investment analysis, hereafter referred as “adjusted FSR”) /8/ was carried out by the same designer of the approved FSR in March 2007, and the conclusion shows that the Project is financially unattractive. Based on the conclusion, Beijing Energy Corporation, Ltd. held a meeting on 19/04/2007 to develop the Project as a CDM project after it was transferred /15/. Before the transfer, a Property Evaluation Report was carried out by a qualified third party in June 2007 to reflect the recoverable value of the assets /16/. On 27/06/2007, an agreement was signed to transfer 100% share of the project company /17/. In June 2007 /20/, the Project was restarted. It has been demonstrated by the timeline of events of the Project that the CDM revenues was seriously considered in the decision to proceed with the project activity prior to recommence of the Project and the continuing and real action were taken to secure CDM status for the project in parallel with its implementation:

Date	Milestone
Oct. 2004	FSR finalized <u>/6/</u>
08/08/2005	FSR approved <u>/7/</u>
12/08/2005	Construction started
26/10/2006	A board meeting was held to decide to stop construction of the Project due to the evident increase total investment and shortage of funds <u>/12/</u>
07/11/2006	Notice of stopping the construction of the Project issued by the Supervision Company of the Project <u>/13/</u>
28/02/2007	A board meeting was held to decide to transfer the ownership of the Project <u>/14/</u>
Mar. 2007	An adjusted FSR was carried out by the same designer of the approved FSR to evaluate the investment return of the Project, which showed that the project IRR is lower than the benchmark, and CDM was suggested in the adjusted FSR <u>/8/</u>
19/04/2007	Based on the conclusion of adjusted FSR, Beijing Energy Corporation, Ltd. held a meeting to develop the Project as a CDM project after it was transferred <u>/15/</u>
19/05/2007	Hydro turbines purchase agreement was signed <u>/11/</u>
June 2007	A Property Evaluation Report was carried out to reflect the recoverable value of the assets <u>/16/</u>
20/06/2007	A Meeting was held by local Government to discuss transfer issue of the Project, in the meeting, CDM was recommended <u>/21/</u>
27/06/2007	An agreement was signed to transfer 100% share of the project company to Beijing Energy Corporation, Ltd. <u>/17/</u>
Jun. 2007	the Project was restarted <u>/20/</u>
18/09/2007	The PP signed the CDM consultant contract with Easy Carbon Consultancy Co. Ltd. <u>/18/</u>
23/01/2008	The PP signed the Term Sheet with Rabobank. <u>/19/</u>
01/04/2008	PDD was webhosted for GSP

VALIDATION REPORT

From above table, BVC was able to verify that the restart date of the project activity determined as 19/05/2007 is appropriate (the signed date of Hydro Turbine Purchase Agreement), which is the earliest of the dates at which the implementation or construction or real action of the project activity recommenced. This is in accordance with the latest CDM glossary. The Project with a restart date before 02/08/2008 and prior to the date of publication of the PDD for Global stakeholder consultation, and PP demonstrated that the CDM was seriously considered in the decision to restart implement of the project activity.

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

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

For assessing the additionality of small scale CDM project activities, "*Attachment A to Appendix B of the simplified modalities and procedures for small-scale CDM project activities*", "*Non-binding best practice examples to demonstrate additionality for SSC project activities*" (EB 35 Annex 34) and "Tool for the demonstration and assessment of additionality" (Version 05.2) are used to demonstrate the additionality of the Project in the PDD.

Project participant had provided an explanation to show that the project activity would not have occurred anyway due to investment barrier, as follows:

3.6.2 Investment Barrier

Benchmark analysis is applied for conducting the investment analysis in the PDD. Project IRR of 10% was employed by the project as benchmark. BVC has reviewed the source of 10%, i.e. "*Economic Evaluation Code for Small Hydropower Projects (SL16-95)*" [\[29\]](#), which is widely applied in China for small hydro power project and still valid according to the public confirmation in 2009 [\[30\]](#); therefore, BVC concludes that the benchmark is suitable for the project.

As discussed above, the Project implementation was ceased after the commencement and restarted due to the consideration of the CDM. According to Para. 7 of the "Guidance on the Assessment of Investment Analysis" (version 2), "the investment analysis should reflect the economic decision making context at point of the decision to recommence the project", therefore, data from the *Assessment on Increased Total Investment Cost* (including an investment analysis, hereafter referred as "adjusted FSR") carried out in March 2007 was used to calculate the project IRR of the Project, which can reflect the economic decision making context at point of the decision to recommence the project. According to the data of the adjusted FSR, the project IRR of the Project without CERs revenue is 8.12%, much lower than the benchmark, which shows that the project is not financially attractive compared to the benchmark in the absence of CDM benefits.

Both, FSR [/6/](#) and adjusted FSR [/8/](#) have been provided to BVC. BVC has compared the

VALIDATION REPORT

key parameters used to conduct investment analysis between FSR and adjusted FSR and found that all key parameters except the total investment are same. As discussed above, data from the adjusted FSR used to calculate the project IRR of the Project is appropriate, since it can reflect the economic decision making context at point of the decision to recommence the project.

BVC has verified that the IRR calculation is correct and the data input are relied on values from the adjusted FSR which was carried out by an authorized third party viz. *Aba Prefecture Institute for Design and Research in Water Conservancy and Hydropower Reconnaissance*, which is the same designer of the approved FSR. Therefore, BVC confirms that the input values from adjusted FSR were valid and applicable at the time of the recommence investment decision.

According to the relevant evidences provided, BVC confirms that: the PP's final decision to restart implementation of the Project was made based on the adjusted FSR /8/ finalized in **March 2007**. The PP decided to restart implementation of the project soon on **19/04/2007/15/** with consideration of CDM revenues. The period of time between them is so short that BVC was therefore confident that it is unlikely in the context of the underlying project activity that the input values would have materially changed.

At the same time, BVC compared the input values for the financial analysis in the PDD and adjusted FSR, and confirmed that all input parameters used in the financial analysis are taken from the adjusted FSR.

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

➤ The **operating period** of 20 years were selected reasonably following the requirements of "*Economic Evaluation Code for Small Hydropower Projects (SL16-95)*".

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

Besides, the input values from the *Assessment on Increased Total Investment Cost* have been crosschecked by BVC as follows:

➤ The **total investment** in the adjusted FSR had been crosschecked by BVC with the Property Evaluation Report /16/ carried out by a qualified third party in June 2007 and Accounts Settlement for the Project /31/ after putting into operation, and found consistent with each other, therefore, the assumptions for the total investment is suitable;

➤ The **tariff** employed in the adjusted FSR has been crosschecked with the signed PPA /23/ of the Project and found consistent. Therefore, the tariff used in the PDD for investment analysis is suitable.

➤ The **annual net electricity generation** of the Project was carried out by monitored data of the local hydro resources and BVC confirms the procedure for determining annual net electricity generation is common practice in China. Besides, the annual operation hours of registered small scale hydro power projects located in Sichuan province had been used to cross-check.

Project information	Annual operation hours
Sichuan Banzigou Small Hydropower Project, P.R. China (UNFCCC reg. No. 1322)	5,006/4,622
Shanshuping 12 MW Small Hydropower Project in Sichuan Province, China(UNFCCC reg. No. 1810)	4,776
Sichuan Miyaluo Hydroelectric Station (UNFCCC reg. No. 1966)	4,452
Sichuan Cong'en 8MW Hydropower Project (UNFCCC reg. No. 2046)	4,375
Sichuan provincial Longchi & Caoyuan 9 MW Small-scale Hydro Power Bundle Project (UNFCCC reg. No. 2071)	5,749/5,894
The Project	5,351

From above table, it can be found that the annual operation hours of the Project is within the range of registered small scale projects, BVC is therefore confirms that the annual net electricity generation used in the PDD is valid and appropriate.

- BVC has confirmed that the **annual O&M cost** is the sum of salary and welfare of employees, materials fee, maintenance fee and miscellaneous cost, which was studied based on the “*Economic Evaluation Code for Small Hydropower Projects (SL16-95)*” /29/. The original value for calculating annual O&M expense has been cross-checked with relevant criteria for hydro power project design and found reasonable.
- 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 conclude that the input values from the adjusted FSR are valid and applicable at the time of making the investment decision.

BVC has reviewed the IRR calculation /22/ and confirmed that the IRR processing is consistent with the “*Guidance on the assessment of investment analysis*” (Annex of “*Tool for Demonstration and Assessment of Additionality version 5.2*”). Since the Project implementation was ceased after the commencement and restarted due to the consideration of the CDM. According to Para. 7 of the “*Guidance on the Assessment of Investment Analysis*” (version 2), “the investment analysis should reflect the economic decision making context at point of the decision to recommence the project”, therefore, data from the adjusted FSR carried out in March 2007 was used to calculate the project IRR of the Project, which is reliable. The analysis approaches are reliable and based on the adjusted FSR linking directive to the actual situation of the host country. As it shows, without CDM income, the project IRR of the Project is 8.12%, which is lower than the benchmark (10%).

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

- Total investment
- Annual O&M cost
- Annual net electricity generation

 VALIDATION REPORT

➤ **Tariff**

The sensitivity analysis showed that the variation range of uncertain factors could not increase the project IRR of the Project to reach the benchmark. Furthermore, BVC is confident that the variation range of uncertainty factors is impossible to be achieved, since:

- With a decrease in **total static investment** of 13%, the Project IRR has been put into operation, and the Accounts Settlement for the Project after putting into operation shows that the actual total investment of the Project is higher than the one estimated in adjusted FSR, therefore, BVC can confirm that the total investment would not be decreased over 13%.
- The decrease of **annual O&M cost** can not make the Project IRR reach 10% even if annual O&M are zero. Furthermore, the annual O&M is the sum of salary and welfare of employees, materials fee, maintenance fee and miscellaneous account, and a number of indicators suggesting that O&M costs are rising as time go by. Therefore, BVC can confirm that the annual O&M cost would not be decreased to zero.
- With an increase in **annual net electricity generation** by 15%, the Project IRR may reach 10%. However, according to the FSR, the annual net electricity generation is estimated based on a long term hydrological data of the local area, therefore it is unlikely that the net electricity generation increases continually over 15%.
- With an increase in **tariff** by 15%, the Project IRR may reach 10%. However, the tariff of 0.22RMB/kWh (incl.VAT)/24/ regulated by the Heishui Power Company is same as the signed PPA after the project put into operation /23/, and is even higher than the local electricity tariff of 0.193RMB/kWh (incl.VAT) in Aba Tibetan and Qiang Autonomous Region, /25/ so the electricity used in the PDD is conservative and unlikely increase over 15%.

Considering of the CERs sales revenues (calculated with Euro9/tCO₂e), the project IRR of the Project can reach the benchmark by 14.37%.

According to the Investment Analysis above, it is the opinion of BVC that without CDM incentives the investment barrier the Project faced is insurmountable. Considering of the CERs sales revenues the project IRR of the Project will be significantly improved.

3.7 Calculation of GHG Emissions

According to the baseline methodology AMS.I.D version 13, the emission reductions from the Project shall be calculated based on the *Tool to calculate the emission factor for an electricity system (version 1.1)*.

As per *Tool to calculate the emission factor for an electricity system (version 1.1)*, six steps are applied to calculate the emission factor:

Step 1.-Identify the relevant electric power system.

The Central China Power Grid is selected as the electric power system of the Project and, there are no net electricity imports to the CCPG. *China's Regional Grid Baseline Emission Factors* published by DNA of China on 09/08/2007 /34/ has been verified, and BVC confirms that the identified electric power system is correct.

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

VALIDATION REPORT

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.

The calculation for low cost/ must-run constitute of the total grid generation has been checked by BVC and confirmed the calculation is correct, therefore, simple OM emission factor calculation method is selected reasonable. Data from China Electric Power Yearbook 2001-2005 has been applied correctly.

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

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

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

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

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

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

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

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

Step 5.-Calculate the build margin emission factor.

The BM emission factor of the power grid is calculated by multiplying the emission factor of the thermal power with the share of the thermal power in the most recently added 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 DNA of China.

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

According to the “*Tool to calculate the emission factor for an electricity system*” the default weights: $\omega_{OM} = 0.5$ for Operating Margin and $\omega_{BM} = 0.5$ for build Margin in the first crediting period of Hydro Power Projects are adopted.

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

- 1) Baseline emissions: baseline emissions (BE_y in tCO_2) are equal to baseline emissions factor ($EF_{grid,CM,y}$ in tCO_2/MWh) times the net electricity supplied to the grid (EG_y in MWh).
- 2) Project Emissions: the project emissions are regarded as zero as per the AMS.I.D. version 13.
- 3) Leakage: no leakage has to be considered for the proposed project activity as per methodology AMS.I.D version 13.
- 4) Emission reduction: $ER_y = BE_y - PE_y - L_y = BE_y = EF_{grid,CM,y} * EG_y$

With reference to the *China's Regional Grid Baseline Emission Factors* published by DNA of China on 09/08/2007 ^[34], the Simple OM emission factor ($EF_{grid,OM,y}$) of the Central China Power Grid is calculated as $1.2899tCO_2e/MWh$. Similarly, the build margin emission factor ($EF_{grid,BM,y}$) of the Central China Power Grid is calculated ex-ante as $0.6592tCO_2e/MWh$.

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

$$EF_{grid,CM,y} = 0.5 \times 1.2899 + 0.5 \times 0.6592 = 0.97455 tCO_2e/MWh$$

According to the estimated annual electricity delivered to the grid 29,725MWh as stated in the FSR, the estimated annual emission reductions of the Project is 28,968 tCO_2e during the first crediting period represents a reasonable estimation using the assumptions given by the Project.

As assessed the equation and parameters in the PDD, AMS.I.D. version 13 and *Tool to calculate the emission factor for an electricity system (version 1.1)*, BVC confirmed that the baseline methodology has been applied correctly to calculate the emission reductions, all assumptions and data used by PP have been listed in the PDD and all values used in the PDD are considered reasonable.

BVC has confirms that the calculation approach is in accordance with the AMS.I.D. version 13 and the "*Tool to calculate the emission factor for an electricity system*" based on data from an official source and made publicly available.

3.8 Monitoring Plan

The Project uses the approved simplified monitoring methodology AMS.I.D. version 13 for "Grid connected renewable electricity generation".

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

According to methodology AMS.I.D version 13, the parameter required to be monitored for the proposed CDM project activity is *electricity supplied by the project activity to the grid*. As interviewed with PP, the Project will jointly use gateway meter(s) with another hydropower project. Accordingly the monitoring plan, three bidirectional meters with accuracy of 0.2S will be installed, of which, the first meter will be installed at the substation to measure the total electricity supplied to the grid by the Project and another hydropower project, and the left two meters will be installed on site to measure the separately electricity supplied by the Project and another hydropower project respectively. And electricity sales receipt will be used for double check. BVC confirms that the

VALIDATION REPORT

parameters are clearly described in the PDD and the means of monitoring described in the plan comply with the requirements of the methodology AMS.I.D.

According to AMS.I.D version 13 no leakage has to be considered for the proposed project activity, viz. $LE_y=0$.

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

By reviewing the provided training record /32/ and on-site interview with the PP, BVC confirms that the monitoring arrangements described in the monitoring plan are feasible within the project design, and the means of implementation of the monitoring plan are sufficient to ensure the emission reductions achieved by the proposed CDM project activity can be reported ex post and verified.

☞ Complying with **Para. 122/VVM**, BVC hereby confirms that the project participants are able to implement the monitoring plan.

3.9 Environmental Impacts

BVC has confirmed that Environment Impact Assessment (EIA) Report has been carried out by a qualified third party, Environmental Protection Technology Research Institute of Chengdu Science & Technology University, and approved by Environment Protection Bureau of Aba Tibetan and Qiang Autonomous Region on 30/03/2006 /10/

The environmental impact results from the Project have been identified and analyzed in the PDD. By checking the EIA report, BVC is able to ensure that the environment impacts occurs in the construction period and operation period due to waste water and sewage, land use, dust and air quality, noise 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.

BVC therefore concludes 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.

Furthermore, Letter of Approval issued by DNA of China in June 2008 /3/ confirmed that Sichuan Heishui Zhawo No.1 Hydropower Project contributes to China's Sustainable development.

☞ 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 Stakeholders Consultation

Prior to the publication of the PDD on the UNFCCC website, viz, in June 2007, the Project owner conducted surveys to local stakeholders of the project including local residents and local government via a stakeholders' symposium and distributing questionnaires.

There were 30 representatives of stakeholders attending the symposium, including residents, workers and cadres. According to the meeting minutes and questionnaires, the outcome shows that the interested stakeholder have a very good understanding of the Project, and they agreed that the project can improve their livelihoods with increase of job opportunities, increase of income and others.

VALIDATION REPORT

The meeting minute with registration table and questionnaires are maintained by the project owner and was presented to DOE for assessment during the site visit of the validation activity. /33/

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

During the on-site visit, DOE has conducted an interview with local stakeholders and confirms that the stakeholders impacted had been invited transparency, the interview with stakeholders and review of returned questionnaires shows that the summary of the comments received has been completely provided in the PDD and due account of the comments has been described in the PDD. BVC is therefore of its opinion that the local stakeholder consultation is adequate.

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

4. COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

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

☞ Complying with **Para. 166/VVM**, BVC published the project documents on the UNFCCC CDM website (<http://cdm.unfccc.int>) on 01/04/2008 and invited comments within 30/04/2008 by Parties, stakeholders and non-governmental organizations.

No Comments were received from any persons.

5. VALIDATION OPINION

Bureau Veritas Certification has performed a validation of the Sichuan Heishui Zhawo No.1 Hydropower Project in P.R.China. The validation was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

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

Project participant/s used *Attachment A to Appendix B of the simplified modalities and procedures for small-scale CDM project activities*, the latest *Tool for demonstration and assessment of additionality* (version 05.2), *Paragraph 54 of EB 38* and the *Guidance-Prior consideration* - *Guidance on the demonstration and assessment of prior consideration of the CDM (version02)* to demonstrate the additionality of the Project. In line with this tool, the PDD provides analysis of investment barrier to determine that the project activity itself is additional. The latest *Tool to calculate the emission factor for an electricity system* (version 01.1) is also applied to determine the emission factor of Central China Power Grid.

By synthetic description of the project, the project is likely to result in reductions of GHG emissions partially. An investment analysis demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project

VALIDATION REPORT

are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented and maintained as designed, the project is likely to achieve the annual emission reductions of 28,968tCO₂e.

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

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

6. REFERENCES

Category 1 Documents:

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

/1/	PDD Version 01 dated 31/12/2007
/2/	PDD Version 02 dated 04/06/2009
/3/	Letter of Approval from DNA of the host country dated June 2008.
/4/	Letter of Approval from DNA of Netherlands dated 26/08/2008
/5/	Statement of Modalities of Communication signed between Heishui Sanlian Hydropower Development Co., Ltd. and Rabobank International dated 26/08/2009
/6/	Feasibility Study Report (FSR) finalized by Aba Prefecture Institute for Design and Research in Water Conservancy and Hydropower Reconnaissance
/7/	FSR Approval issued by Aba Tibetan and Qiang Autonomous Region on 08/08/2005 (Document no. A Zhou Ji Gong Jiao Neng [2005]427)
/8/	Adjusted FSR (Assessment on Increased Total Investment Cost)
/9/	Environment Impact Assessment Report finalized in Dec. 2005
/10/	EIA approval issued by Environment Protect Bureau of Aba Tibetan and Qiang Autonomous Region on 30/03/2006
/11/	Hydro Turbine Generator Purchase Contract signed between PP and manufacturer on 19/05/2007
/12/	Board meeting minutes which decide to stop construction of the Project due to the evident increase total investment and shortage of funds on 26/10/2006
/13/	Notice of stopping the construction of the Project issued by the Supervision Company of the Project on 07/11/2006
/14/	Board meeting to decide to transfer the ownership of the Project on 28/02/2007
/15/	Investment decision with CDM consideration by Beijing Energy Corporation, Ltd. on 19/04/2007
/16/	Property Evaluation Report in June 2007
/17/	Transfer agreement on 27/06/2007

VALIDATION REPORT

/18/	CDM consultant contract on 18/09/2007
/19/	Term Sheet signed between the PP and Rabobank on 23/01/2008
/20/	Project restart construction evidence
/21/	Meeting minutes of local Government regarding the transfer of the proposed project came out on 20/06/2007
/22/	IRR spreadsheets of the project
/23/	PPA
/24/	Letter upon the on-grid electricity tariff of the proposed project issued by Heishui Power Company on 15/01/2007.
/25/	The local electricity tariff regulated by the Price Bureau of Aba Tibetan and Qiang Autonomous Region (Document No. A Zhou Jia Diao [200433]).
/26/	Notice on Strictly Prohibiting the Installation of Fuel-fired Generation with the Capacity of 135MW or below issued by the General Office of the State Council, decree no. 2002-6
/27/	Emission reduction calculation sheet
/28/	http://finance.21cn.com/news/cydt/2007/06/28/3319602.shtml .
/29/	Economic Evaluation Code for Small Hydropower Projects (SL16-95)
/30/	http://www.mwr.gov.cn/tzgg/hdxw/2009030609363977a322.aspx
/31/	Accounts Settlement for the Project
/32/	Training records
/33/	Evidence of Local stakeholders' comments viz. meeting minute with registration table and questionnaires
/34/	China's Regional Grid Baseline Emission Factors published by DNA of China on 09/08/2007
/35/	Evidence to prove that Beijing Energy Corporation, Ltd. is the holding company of the PP

Category 2 Documents:

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

/1/	AMS.I.D. version 13 dated 14/12/2007
/2/	Tool to calculate the emission factor for an electricity system version 1.1 dated 29/07/2008
/3/	Appendix C of the Simplified Modalities and Procedures for Small-Scale CDM project activities
/4/	Annex 27 of EB 36 report "Compendium of guidance on the de-bundling for SSC project activities
/5/	Attachment A to Appendix B of the simplified modalities and procedures for small-scale CDM project activities
/6/	Non-binding best practice examples to demonstrate additionality for SSC project activities
/7/	Tool for demonstration and assessment of additionality Version 5.2 dated 26/08/2008
/8/	Paragraph 54 of EB 38 th Report dated 14/03/2008.
/9/	Guidance on the Demonstration and Assessment of Prior Consideration of the CDM ver. 2 dated 17/07/2009 (EB48 Annex 61)
/10/	Guidelines For The Reporting And Validation Of Plant Load Factor

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. Jia Fa Bin, Heishui Sanlian Hydropower Development Co., Ltd.
/2/	Mr. Niu Muchen, Easy Carbon Consultancy Co. Ltd., PDD in details
/3/	Mr. Yu Haijun, Local resident
/4/	Mr. Lan Ka Mei, Local resident

VALIDATION REPORT

7. CURRICULA VITAE OF THE DOE'S VERIFICATION TEAM MEMBERS

Mr. Robin Wang	Bureau Veritas Certification, China	<p>Internal Reviewer</p> <p>Climate Change Lead Verifier, He holds a Bachelor Degree in Gas & Heating Engineering. He was a Gas Engineer with over 10 years' experiences in petrochemical sector in P.R. China. He obtained the certificate of CDM Lead Verifier and Lead Auditor for ISO 14000. He has been involved in above 30 CDM validation / verification or voluntary GHG projects in P.R. China.</p>
Ms. Jasmine Tang	Bureau Veritas Certification, China	<p>Team leader</p> <p>Climate Change Lead Verifier, She holds a Master Degree in Environment Engineering. She has 2 years of CDM consulting experience in energy sector in P.R China and involved in approximate 20 CDM projects in P.R China. She obtained the certificate of CDM Lead Verifier and Lead Auditor for ISO 14001.</p>
Mr. Liao Ling	Bureau Veritas Certification, China	<p>Team member</p> <p>Team Member, CDM Verifier. He holds a Bachelor Degree in Atmosphere Science. He has total experience of 2 years of CDM consulting experience in P.R China and involved in several CDM projects in P.R China. He obtained the certificate of CDM Lead Verifier.</p>

VALIDATION REPORT

VALIDATION PROTOCOL

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

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
1. Approval			<i>COUNTRY A (China)</i>	<i>COUNTRY B (Netherlands)</i>		
A. Have all Parties involved approved the project activity?	VVM	44	Not yet been presented CAR-1	Not yet been presented CAR-2	CAR-1 CAR-2	OK
B. Has the DNA of each Party indicated as being involved in the proposed CDM project activity in section A.3 of the PDD provided a written letter of approval? (If yes, provide the reference of the letter of approval, any supporting documentation, and specify if the letter was received from the project participant or directly from the DNA)	VVM	45	CAR-1	CAR-2	-	OK
C. Does the letter of approval from DNA of each Party involved: - The Party is a Party of the Kyoto Protocol - The participation is voluntary - In the case of the host Party, the proposed CDM project activity contributes to the sustainable development of the country - Refers to the precise proposed CDM project activity title in the PDD being submitted for registration	VVM	45	P. R. China has ratified the Kyoto Protocol on 30/08/2002 China's DNA is NDRC Pending on CAR-1	Netherlands has ratified the Kyoto Protocol on 31/05/2002 Netherlands's DNA is Ministry of Housing, Spatial Planning and the Environment Pending on CAR-2	OK	OK
D. Is(are) the letter(s) of approval unconditional with respect to (i) to (iv) above?	VVM	46	No. It is conditional in China	No. It is conditional in Netherlands.	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
E. Has(ve) the letter(s) of approval been issued by the respective Party's designated national authority (DNA)?	VVM	47	Pending close CAR-1	Pending close CAR-2	-	OK
F. -If there is doubt with respect to (e) above, was verified with the DNA that the letter of approval is valid for the proposed CDM project activity under validation?	VVM	47	Pending close CAR-1	Pending close CAR-2	-	OK
G. Is there doubt with respect to the authenticity of the letter of approval?	VVM	48	Pending close CAR-1	Pending close CAR-2	-	OK
2. Participation			PP1 (Heishui Sanlian Hydropower Development Co., Ltd.)	PP2 (Rabobank International)		
A. Have all project participants been listed in a consistent manner in the project documentation?	VVM	51	Pending close CAR-1	Pending close CAR-2	-	OK
B. Has the participation of the project participants in the project activity been approved by a Party to the Kyoto Protocol?	VVM	51	Yes. Refer to http://maindb.unfccc.int/public/country.pl?country=CN	Yes. Refer to http://maindb.unfccc.int/public/country.pl?country=NL	OK	OK
C. Are the project participants listed in tabular form in section A.3 of the PDD?	VVM	52	Yes.	Yes.	OK	OK
D. Is the information in section A.3 consistent with the contact details provided in annex 1 of the PDD?	VVM	52	Yes.	Yes.	OK	OK
E. Has the participation of each of the project participants been approved by at least one Party involved, either in a letter of approval or in a separate letter specifically to approve participation? (Provide reference of the approval document for each of the project participants)	VVM	52	Pending close CAR-1	Pending close CAR-2	-	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
F. Are any entities other than those approved as project participants included in these sections of the PDD?	VVM	52	No.	OK	OK
G. Has the approval of participation issued from the relevant DNA?	VVM	53	Pending close CAR-1 Pending close CAR-2	-	OK
3. Project desing document					
A. Is the PDD used as a basis for validation prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website?	VVM	55	Yes, Latest Version 05 per the GUIDELINES FOR COMPLETING CDM-SSC-PDD and CDM-SSC-NM – Version 05 – 14/09/2007.	OK	OK
B. Is the PDD in accordance with the applicable CDM requirements for completing the PDD?	VVM	56	Not yet, the table form in section A.4.3 and B.7.1 is inconsistent with the GUIDELINES FOR COMPLETING CDM-SSC-PDD and CDM-SSC-NM version 5.	GL-4	OK
4. Project description					
A. Does the PDD contain a clear description of the project activity that provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation?	VVM	58	The project is a hydro power project with total installed capacity of 6.4MW. As per provided FSR, the annual utilization hours of the Project is 5,351h other than 4,700 in the PDD.	GL-2	OK
B. Is the description of the proposed CDM project activity as contained in the PDD:	VVM	59	Yes.	OK	OK
i. sufficiently covering all relevant elements?	VVM	59	Yes. The specification of hydro turbine and generator are included in section A.4.2 of PDD.	OK	OK
ii. acurate?	VVM	59	Yes.	OK	OK
iii. providing the reader with a clear understanding of the nature of the proposed CDM project activity?	VVM	59	Yes.	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
C. Is the proposed CDM project activity in existing facilities or or utilizing existing equipments?	VVM	60	No, the proposed CDM project activity is a new project.	OK	OK
D. Is the CDM project activity one of the following types: - Large scale? - Non-bundled small scale projects with emission reductions exceeding 15,000 tonnes per year? - Bundled small scale projects, each with emission reductions not exceeding 15,000 tonnes?	VVM	60	The project is Non-bundled small scale projects with emission reductions exceeding 15,000 tonnes per year;	OK	OK
E. If yes to (C) and (D) above, was a physical site inspection conducted to confirm that the description in the PDD reflects the proposed CDM project activity, unless other means are specified in the methodology?	VVM	60	Yes.	OK	OK
F. If yes to (D.iii) above, was the number of physical site visits base on samping?	VVM	60	Not applicable	OK	OK
G. If yes is the sampling size appropriately justified through statistical analysis?	VVM	60	Not applicable	OK	OK
H. For all other proposed CDM project activities not referred to in paragraphs 59 – 60, and for other individual proposed small scale CDM project activities with emission reductions not exceeding 15,000 tonnes per year, was a physical site inspection conducted?	VVM	62	Not applicable	OK	OK
I. If no:	VVM	62			
i. Was the validation undertaken by reviewing available designs and feasibility studies, conducting comparison analysis to equivalent	VVM	62	Not applicable	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
projects, as appropriate?					
ii. Was it appropriately justified?	VVM	62	Not applicable	OK	OK
J. Does the proposed CDM project activity involve the alteration of an existing installation or process?	VVM	63	No.	OK	OK
K. If yes, does the project description clearly state the differences resulting from the project activity compared to the pre-project situation?	VVM	63	Not applicable	OK	OK
5. Baseline and monitoring methodology					
A. General requirement					
a. Do the the baseline and monitoring methodologies selected by the project participants comply with the methodologies previously approved by the CDM Executive Board?	VVM	65	Yes, AMS-I.D.-Grid connected renewable electricity generation (Version 13), valid from 14/12/2007 was selected, which complies with the methodologies previously approved by the CDM EB.	OK	OK
b. Is the selected methodology applicable to the project activity?	VVM	66	Yes. a. The project makes use of renewable water resources to generate electricity to CCPG, which is dominated by fossil fuel-fired power plants; b. The installed capacity of the project is 6.4MW, which is not greater than the maximum qualifying capacity of 15MW for a small scale CDM project.	-	OK
c. Had the selected methodology been correctly applied?	VVM	66	Yes. Refer to (5.B) below	-	OK
d. Had the selected methodology been correctly applied with respect to project boundary?	VVM	67	Refer to (5.C) below	-	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
e. Had the selected methodology been correctly applied with respect to baseline identification?	VVM	67	Refer to (5.D) below	-	OK
f. Had the selected methodology been correctly applied with respect to Algorithms and/or formulae used to determine emission reductions?	VVM	67	Refer to (5.E) below	-	OK
g. Had the selected methodology been correctly applied with respect to additionality?	VVM	67	The approach for demonstration of the additionality of the Project should be clearly indicated in section B.5 of PDD.	CL-3	OK
h. Had the selected methodology been correctly applied with respect to monitoring methodology?	VVM	67	Yes.	OK	OK
<i>B. Applicability of the selected methodology to the project activity</i>					
a. Is the selected baseline and monitoring methodology, previously approved by the CDM Executive Board, applicable to the project activity?	VVM	68	Yes. AMS I.D. Version 13 Valid from 14/12/2007.	OK	OK
b. Is the methodology correctly quoted?	VVM	69	Yes.	OK	OK
c. Are the applicability conditions of the methodology met?	VVM	70	Yes, refer to 5.A.b above.	OK	OK
d. Is the proeject activity expected to result in emissions other than those allowed by the methodology?	VVM	70	No other emissions other than CO ₂ are identified.	OK	OK
e. Is the choice of the methodology justified?	VVM	70	Yes.	OK	OK
f. Have the project participants shown that the project activity meets each of the applicability conditions or the approved methodology?	VVM	70	Yes.	OK	OK
g. Have the project participants shown that the project activity meets each of the applicability conditions of any tool or other methodology	VVM	70	Yes.	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
component referred to the methodology?					
h. Is the DOE, based on local and sectoral knowledge, aware that comparable information is available from sources other than that used in the PDD?	VVM	70	N.A.	OK	OK
i. If yes, was the PDD cross checked against the other sources to confirm that the project activity meets the applicability conditions of the methodology? (provide the reference to these choices)	VVM	70	N.A.	OK	OK
j. Can a determination regarding the applicability of the selected methodology to the proposed CDM project activity be made?	VVM	71	No proposed deviation or revision for the project	OK	OK
k. If no, clarification of the methodology was requested, in accordance with the guidance provided by the CDM Executive Board?	VVM	71	N.A.	OK	OK
l. If answer to (5.B.c) above is "no", revision or deviation from the methodology was requested, in accordance with the guidance provided by the CDM Executive Board?	VVM	72	N.A.	OK	OK
m. If yes to (5.B.k) and (5.B.l) above, a request for registration was submitted before the CDM Executive Board has approved the proposed deviation or revision?	VVM	73	N.A.	OK	OK
C. Project boundary					
a. Does the PDD correctly describe the project boundary, including the physical delineation of the proposed CDM project activity included within the project boundary for the purpose of	VVM	77	Yes. The project boundary of the project encompasses the physical, geographical site of the renewable generation source.	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
calculating project and baseline emissions for the proposed CDM project activity?					
b. Is the delineation in the PDD of the project boundary correct?	VVM	78	Yes.	OK	OK
c. Does the delineation in the PDD of the project boundary meet the requirements of the selected baseline?	VVM	78	Yes.	OK	OK
d. Have all sources and GHGs required by the methodology been included within the project boundary?	VVM	78	Yes. For small hydro power projects only CO ₂ emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity.	OK	OK
e. Does the methodology allow project participant to choose whether a source or gas is to be included within the project boundary?	VVM	78	Not applicable	OK	OK
f. If yes, have the project participants justified that choice?	VVM	78	Not applicable	OK	OK
g. If yes, is the justification provided reasonable? (provide reference to the supporting documented evidence provided by the project participants)	VVM	78	Not applicable	OK	OK
D. Baseline identification					
a. Does the PDD identify the baseline for the proposed CDM project activity, defined as the scenario that reasonably represents the anthropogenic emissions by sources of GHGs that would occur in the absence of the proposed CDM project activity?	VVM	80	Yes, following baseline alternatives are discussed: <ul style="list-style-type: none"> - The proposed project not undertaken as CDM project; - Construction of a fossil fuel power plant with equivalent amount of annual electricity output; - Construction of a power plant using other source of renewable energy with equivalent amount of annual electricity output; - Supply of equivalent annual power output by 		OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			<p>the Central China Power Grid where the project activity is connected to.</p> <p>Alternative IV, Supply of equivalent annual power output by the Central China Power Grid where the project activity is connected to, is the practical and feasible baseline scenario of the project.</p> <p>PDD is silent about excluding wind power from the feasible baseline scenario when excluding alternative III. And evidence used to exclude alternative III should be provided.</p>	CL-4	
b. Has any procedure contained in the methodology to identify the most reasonable baseline scenario, been correctly applied?	VVM	81	Not applicable, as methodology AMS-I.D. prescribes the baseline scenario and no further analysis required, therefore, there is no need to take steps to identify the baseline scenarios.	OK	OK
c. Does the selected methodology require use of tools (such as the "Tool for the demonstration and assessment of additionality" and the "Combined tool to identify the baseline scenario and demonstrate additionality") to establish the baseline scenario?	VVM	81	No. Refer to (5.D.b) above	OK	OK
d. If yes, was the methodology consulted on the application of these tools? (In such cases, the guidance in the methodology shall supersede the tool.)	VVM	81	No. Refer to (5.D.b) above	OK	OK
e. Does the methodology require several alternative scenarios to be considered in the identification of the most reasonable baseline scenario?	VVM	82	No. Refer to (5.D.b) above	OK	OK
f. If yes, are all scenarios that are considered by the project participants and are supplementary to	VVM	82	N.A.	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
those required by the methodology reasonable in the context of the proposed CDM project activity?					
g. Has any reasonable alternative scenario been excluded?	VVM	82	N.A.	OK	OK
h. Is the baseline scenario identified reasonably supported by:	VVM	83	N.A. Refer to (5.D.b) above	OK	OK
i. Assumptions?	VVM	83	Not used.	OK	OK
ii. Calculations?	VVM	83	Not used.	OK	OK
iii. Rationales?	VVM	83	Not used.	OK	OK
i. Are the documents and sources referred to in the PDD correctly quoted and interpreted?	VVM	83	N.A.	OK	OK
j. Was the information provided in the PDD cross checked with other verifiable and credible sources, such as local expert opinion, if available? (identify the sources)	VVM	83	As methodology AMS-I.D. prescribes the baseline scenario and no further analysis required, therefore, there is no need to take steps to identify the baseline scenarios.	OK	OK
k. Have all applicable CDM requirements been taken into account in the identification of the baseline scenario for the proposed CDM project activity?	VVM	84	N.A.	OK	OK
l. Have all relevant policies and circumstances been identified and correctly considered in the PDD, in accordance with the guidance by the CDM Executive Board?	VVM	84	N.A.	OK	OK
m. 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	No. The description of baseline should be revised following the methodology AMS-I.D. Version 13.	CAR-3	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
<i>E. Algorithms and/or formulae used to determine emission reductions</i>					
a. Do the steps taken and equations applied to calculate project emissions, baseline emissions, leakage and emission reductions comply with the requirements of the selected baseline and monitoring?	VVM	88	Yes. Tool to calculate the emission factor for an electricity system are required to be used by AMS-I.D.	OK	OK
b. Have the equations and parameters in the PDD been correctly applied with respect those in the select approved methodology?	VVM	89	The steps and equations applied are consistent with the Tool.	OK	OK
c. Does the methodology provide for selection between different options for equations or parameters?	VVM	89	Yes. Options in Step 1, 2 and 3 are used for OM factor determination.	OK	OK
d. If yes, has adequate justification been provided (based on the choice of the baseline scenario, context of the proposed CDM project activity and other evidence provided)?	VVM	89	Yes. The relevant justifications in Step 1, 2 and 3. However, PDD is silent about Whether CCPG involves electricity imports in step 1. As per "Tool to calculate the emission factor for an electricity system", option C in step 3 can only be used if only nuclear and renewable power generation are considered as low-cost / must-run power sources, however, PDD is silent about that. PDD is silent about the simple OM and BM data vintages, i.e. ex-ante or ex post.	CL-5	OK
e. If yes, have correct equations and parameters been used, in accordance with the methodology selected?	VVM	89	Yes.	OK	OK
f. Will data and parameters be monitored throughout the crediting period of the proposed	VVM	90	Not applicable as the emission factor is determined ex ante for the Project.	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
CDM project activity?					
g. If no, and these data and parameters will remain fixed throughout the crediting period, are all data sources and assumptions:	VVM	90		OK	OK
i. Appropriate and correct?	VVM	90	The data issued by China's DNA was used; however, 0.97455tCO ₂ /kWh instead of 0.9746tCO ₂ /kWh should be used to calculate emission reductions which is conservative.	CAR-4	OK
ii. Applicable to the proposed CDM project activity?	VVM	90	Yes.	OK	OK
iii. Resulting in a conservative estimate of the emission reductions?	VVM	90	Yes.	OK	OK
h. Will data and parameters be monitored on implementation and hence become available only after validation of the project activity?	VVM	90	Not applicable	OK	OK
i. If yes, are the estimates provided in the PDD for these data and parameters reasonable?	VVM	90	Not applicable	OK	OK
6. Additionality of a project activity					
a. Does the PDD describe how a proposed CDM project activity is additional?	VVM	93	Pending close out all Findings in this section.	-	OK
b. Does the CDM-PDD state the latest version of the additionality tool being used?	VVM	94	Refer to 5.A.g.	-	OK
c. Has the PP demonstrated additionality by explaining Investment barrier, Access-to-finance barrier, Technological barrier, Barrier due to prevailing practice or other barriers?	EB 35	Ann 34	Yes, investment barrier was used to demonstrate the additionality of the Project.	OK	OK
d. If Investment barrier has been explained, is it demonstraed that financilly more viable	EB 35	Ann 34	Yes, a benchmark analysis was used, which is China's common practice for small hydro power projects.	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
alternative to the project activity would have led to higher emissions? Please explain.					
e. If Access-to-finance has been explained, is it demonstraed that the project activity could not access appropriate capital without consideration of the CDM revenues? Please explain.	EB 35	Ann 34	N.A.	OK	OK
f. If Technological barrier has been explained, is it demonstraed that a less technologically advanced alternative to the project activity involves lower risks due to the performance uncertainty or low market share of the new technology adopted for the project activity and so would have led to higher emissions? Please explain.	EB 35	Ann 34	N.A.	OK	OK
g. If prevailing practise barrier has been explained, is it demonstrated that the prevailing practice or existing regulatory or policy requirements would have led to implementation of a technology with higher emissions? Please explain.	EB 35	Ann 34	N.A.	OK	OK
h. If other barrier has been explained, is it demonstrated that Other barriers such as institutional barriers or limited information, managerial resources, organizational capacity, or capacity to absorb new technologies would prevent the project activity any way?	EB 35	Ann 34	N.A.	OK	OK
i. Have the project participants identified the most relevant barrier?	EB 35	Ann 34	Yes, investment barrier is the most relevant barrier.	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
j. Have the project participants provided transparent and documented third party evidence such as national/international statistics, national/provincial policy and legislation, studies/surveys by independent agencies etc. to demonstrate the most relevant barrier? Please explain.	EB 35	Ann 34	Yes.	OK	OK
A.Prior consideration of the clean development mechanism					
a. Is the project activity start date prior to the date of publication of the PDD for stakeholder comments?	VVM	96	Yes, the starting date of the project is prior to 01/04/2008 of validation commissioned.	OK	OK
b. If yes, were the CDM benefits considered necessary in the decision to undertake the project as a proposed CDM project activity?	VVM	96	Yes, as interviewed with PP, CDM benefits were considered necessary in the decision to undertake the project as a proposed CDM project activity. However, the description that CDM was seriously considered in the decision to implement the project activity was not indicated in the initial PDD submitted to DOE for validation. It is required to be demonstrated in the PDD with reliable evidences.	CL-6	OK
c. Is the start date of the project activity, reported in the PDD, in accordance with the "Glossary of CDM terms", which states that "The starting date of a CDM project activity is the earliest date at which either the implementation or construction or real action of a project activity begins."?	VVM	97	No, as interviewed with PP, the Project was ceased after the commensment and restarted due to the consideration of the CDM, the starting date of the Project should be re-identified and the documents to show the starting date of the project activity should be provided.	CAR-5	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
d. Does the project activity require construction, retrofit or other modifications?	VVM	97	No.	OK	OK
e. If yes, is it ensured that the date of commissioning cannot be considered as the project activity start date?	VVM	97	N.A.	OK	OK
f. Is it a new project activity (project activities with starting date on or after 02 August 2008) or an existing project activity (project activities with a start date before 02 August 2008)?	VVM	98	It is an existing project activity	OK	OK
g. For a new project, for which PDD has not been published for global stakeholder consultation or a new methodology proposed to the Executive Board before the project activity start date, had the PP informed the Host Party DNA and the UNFCCC secretariat in writing of the commencement of the project activity and of their intention to seek CDM status?	VVM	99	N.A.	OK	OK
h. For an existing project activity, for which the start date is prior to the date of publication of the PDD for global stakeholder consultation, are the following evidences provided:	VVM	100			
i. evidence that must indicate that awareness of the CDM prior to the project activity start date, and that the benefits of the CDM were a decisive factor in the decision to proceed with the project, including, inter alia:	VVM	100	Pending, refer to 6.A.b.	-	OK
(a). minutes and/or notes related to the consideration of the decision by the Board of Directors, or equivalent, of the project participant, to undertake the project as a	VVM	100	See above.	-	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
proposed CDM project activity?					
ii. reliable evidence from project participants that must indicate that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation, including, inter alia:	VVM	100	PDD is silent about the continuing and real actions were taken to secure CDM status for the project in parallel with its implementation.	CAR-6	OK
(a). contract with consultants for CDM/PDD/methodology services?	VVM	100	Yes. Contract with Easy Carbon Consultancy Co. Ltd. is presented.	OK	OK
(b). Emission Reduction Purchase Agreements or other documentation related to the sale of the potential CERs (including correspondence with multilateral financial institutions or carbon funds)?	VVM	100	Yes. Term sheet signed with Rabobank International on 23/01/2008 is presented.	OK	OK
(c). evidence of agreements or negotiations with a DOE for validation services?	VVM	100	Yes, kept by BVC.	OK	OK
(d). submission of a new methodology to the CDM Executive Board?	VVM	100	N.A.	OK	OK
(e). publication in newspaper?	VVM	100	N.A.	OK	OK
(f). interviews with DNA?	VVM	100	Yes, the information of the project can be found from DNA website: http://cdm.ccchina.gov.cn/website/CDM/pdf/Item_new/Item_new2031.pdf	OK	OK
(g). earlier correspondence on the project with the DNA or the UNFCCC secretariat?	VVM	100	N.A.	OK	OK
B. Identification of alternatives					
a. Does the approved methodology that is selected by the proposed CDM project activity prescribe	VVM	103	Yes. AMS I.D. has prescribed the baseline scenario i.e.	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
the baseline scenario and hence no further analysis is required?			the kWh produced by the renewable generating unit multiplied by an emission coefficient (measured in kg CO ₂ e/kWh) calculated in a transparent and conservative manner as: a combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the "Tool to calculate the emission factor for an electricity system".		
b. If no, does the PDD identify credible alternatives to the project activity in order to determine the most realistic baseline scenario?	VVM	103	N.A.	OK	OK
c. Does the list of alternatives given in the PDD ensure that:	VVM	104	N.A. As the approved methodology AMS I.D. selected by the proposed CDM project activity prescribes the baseline scenario and no further analysis is required.	OK	OK
i. the list of alternatives includes as one of the options that the project activity is undertaken without being registered as a proposed CDM project activity?	VVM	104	N.A.	OK	OK
ii. the list contains all plausible alternatives that the DOE, on the basis of its local and sectoral knowledge, considers to be viable means of supplying the outputs or services that are to be supplied by the proposed CDM project activity?	VVM	104	N.A.	OK	OK
iii. the alternatives comply with all applicable and enforced legislation?	VVM	104	N.A.	OK	OK
C. Investment analysis					

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
a. Has investment analysis been used to demonstrate the additionality of the proposed CDM project activity?	VVM	106	Yes.	OK	OK
b. If yes, does the PDD provide evidence that the proposed CDM project activity would not be:	VVM	106			
i. the most economically or financially attractive alternative?	VVM	106	Not used.	OK	OK
ii. economically or financially feasible, without the revenue from the sale of certified emission reductions (CERs)?	VVM	106	Concluded based on the IRR calculation of 8.12%, which is less than the benchmark of 10%.	OK	OK
c. Was this shown by one of the following approaches?	VVM	107	Yes.	OK	OK
i. Demonstrate that the proposed CDM project activity would produce no financial or economic benefits other than CDM-related income. Document the costs associated with the proposed CDM project activity and the alternatives identified and demonstrate that there is at least one alternative which is less costly than the proposed CDM project activity.	VVM	107	N.A.	OK	OK
ii. The proposed CDM project activity is less economically or financially attractive than at least one other credible and realistic alternative.	VVM	107	N.A.	OK	OK
iii. The financial returns of the proposed CDM project activity would be insufficient to justify the required investment.	VVM	107	Yes.	OK	OK
d. Is the period of assessment limited to the proposed crediting period of the CDM project	EB 41	Ann 45	No, the period of assessment was not limited to the proposed crediting period of the CDM project	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
activity?			activity. 20years taken from FSR is chosen as the period of assessment, which is longer than that of EB41 Annex 45, which is more conservative.		
e. 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
f. Was depreciation, and other non-cash items related to the project activity, which have been deducted in estimating gross profits on which tax is calculated, added back to net profits for the purpose of calculating the financial indicator (e.g. IRR, NPV)?	EB 41	Ann 45	The depreciation and amortization related to the project activity are considered.	OK	OK
g. Has taxation been included as an expense in the IRR/NPV calculation in cases where the benchmark or other comparator is intended for post-tax comparisons?	EB 41	Ann 45	Yes, post-tax is used.	OK	OK
h. Are the input values used in all investment analysis valid and applicable at the time of the investment decision taken by the project participant?	EB 41	Ann 45	No, PDD is silent about the data source of parameters used to investment analysis. As interviewed with PP, the Project is a restarted implementation project, as per "Guidance on the Assessment of Investment Analysis" version 2, the investment analysis should reflect the economic decision making context at point of the decision to recommence the Project with clearly evidence.	CL-7 CAR-7	OK
i. Are all the listed input values been consistently applied in all calculations?	EB 41	Ann 45	Yes.	OK	OK
j. Was the cost of financing expenditures (i.e. loan repayments and interest) included in the	EB 41	Ann 45	No.	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
calculation of project IRR?					
k. In cases where a benchmark approach is used is the applied benchmark appropriate to the type of IRR calculated?	EB 41	Ann 45	Yes. It is widely used in power sector in China.	OK	OK
l. Was a thorough assessment of all parameters and assumptions used in calculating the relevant financial indicator, and determine the accuracy and suitability of these parameters using the available evidence and expertise in relevant accounting practices conducted?	VVM	109	Yes. All parameters and assumptions used in calculating the relevant financial indicator are accurate and suitable.	OK	OK
m. Were the parameters cross-checked against third-party or publicly available sources, such as invoices or price indices?	VVM	109	Yes.	OK	OK
n. Were feasibility reports, public announcements and annual financial reports related to the proposed CDM project activity and the project participants reviewed?	VVM	109	The adjusted FSR provided has been reviewed.	OK	OK
o. Was the correctness of computations carried out and documented by the project participants assessed?	VVM	109	Yes.	OK	OK
p. 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	Besides total investment, net electricity generation and O&M cost, tariff should also be considered as a variable to do sensitivity analysis, because tariff has a material impact on the analysis. Furthermore, a further elaboration in the PDD to show whether the variables will exceed -10% or +10% so as to the IRR of the project could reach the benchmark is required.	CAR-8 CL-8	OK
q. Is the type of benchmark applied is suitable for	VVM	110	Yes, benchmark of 10% is widely used for small	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
the type of financial indicator presented?			hydro power project in China.		
r. Do any risk premiums applied determining the benchmark reflect the risks associated with the project type or activity?	VVM	110	No.	OK	OK
s. 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:					OK
i. assessing previous investment decisions by the project participants involved?	VVM	110	Yes.	OK	OK
ii. determining whether the same benchmark has been applied?	VVM	110	The benchmark of 10% is widely used for small hydro power projects in China.	OK	OK
iii. determining if there are verifiable circumstances that have led to a change in the benchmark?	VVM	110	The same benchmark had been applied for other similar projects in China.	OK	OK
t. Did the project participants rely on values from Feasibility Study Reports (FSR) that are approved by national authorities for proposed project activities?	VVM	111	During interview, it was found that the Project was ceased after the commencement due to increase of total investment and shortage of funds, and the implementation was recommenced due to consideration of the CDM. And the investment decision was based on adjusted FSR. However, PDD is silent about it. Pending on close CL-7.	-	OK
u. If yes:	VVM	111			
i. 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	VVM	111	Pending on close CL-7.	-	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
the input values would have materially changed?					
ii. Are the values used in the PDD and associated annexes fully consistent with the FSR?	VVM	111	Pending on close CL-7.	-	OK
iii. If not, was the appropriateness of the values validated?	VVM	111	Pending on close CL-7.	-	OK
iv. On the basis of its specific local and sectoral expertise, is confirmation provided, by cross-checking or other appropriate manner, that the input values from the FSR are valid and applicable at the time of the investment decision?	VVM	111	Pending on close CL-7.	-	OK
D.Barrier analysis					
a. Has barrier analysis been used to demonstrated the additionality of the proposed CDM project activity?	VVM	113	Not applied in the PDD.	OK	OK
b. If yes, does the PDD demonstrate that the proposed CDM project activity faces barriers that:	VVM	113	N.A.	OK	OK
i. prevent the implementation of this type of proposed CMD project activity?	VVM	113	N.A.	OK	OK
ii. do not prevent the implementation of at least one of the alternatives?	VVM	113	N.A.	OK	OK
c. Are there any issues that have a clear direct impact on the financial returns of the project activity, other than: risk related barriers, for example risk of technical failure, that could have negative effects on the financial performance; or barriers related to the unavailability of sources of	VVM	114	N.A.	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
finance for the project activity? {If yes, these issues cannot be considered barriers and shall be assessed by investment analysis. [Refer to (6.c) above]}					
d. Were the barriers determined as real by:	VVM	115	N.A.	OK	OK
i. assessing the available evidence and/or undertaking interviews with relevant individuals (including members of industry associations, government officials or local experts if necessary) to determine whether the barriers listed in the PDD exist?	VVM	115	N.A.	OK	OK
ii. ensuring that existence of barriers is substantiated by independent sources of data such as relevant national legislation, surveys of local conditions and national or international statistics?	VVM	115	N.A.	OK	OK
iii. Is existence of a barrier substantiated only by the opinions of the project participants? (If yes, this barrier cannot be considered as adequately substantiated)	VVM	115	N.A.	OK	OK
e. Were the barriers determined as preventing the implementation of the project activity but not the implementation of at least one of the possible alternatives by applying local and sectoral expertise to judge whether a barrier or set of barriers would prevent the implementation of the proposed CDM project activity and would not equally prevent implementation of <i>at least one of</i> the possible alternatives, in particular the identified baseline scenario?	VVM	115		OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
<i>E. Common practice analysis</i>					
a. Is this a large-scale, or first-of-its kind small-scale project activity?	VVM	117	N.A. the project is a small scale project activity.	OK	OK
b. If yes, was common practice analysis carried out as a credibility check of the other available evidence used by the project participants to demonstrate additionality?	VVM	117	N.A.	OK	OK
c. Was it assessed whether the geographical scope (e.g. defined region) of the common practice analysis is appropriate for the assessment of common practice related to the project activity's technology or industry type? (For certain technologies the relevant region for assessment will be local and for others it may be transnational/global.	VVM	118	N.A.	OK	OK
d. Was a region other than the entire host country chosen?	VVM	118	N.A.	OK	OK
e. If yes, was the explanation why this region is more appropriate assessed?	VVM	118	N.A.	OK	OK
f. Using official sources and local and industry expertise, was it determined to what extent similar and operational projects (e.g., using similar technology or practice), other than CDM project activities, have been undertaken in the defined region?	VVM	118	N.A.	OK	OK
g. Are similar and operational projects, other than CDM project activities, already "widely observed and commonly carried out" in the defined region?	VVM	118	N.A.	OK	OK
h. If yes, was it assessed whether there are	VVM	118	N.A.	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
essential distinctions between the proposed CDM project activity and the other similar activities?					
7. Monitoring plan					
a. Does the PDD include a monitoring plan?	VVM	120	Yes.	OK	OK
b. Is this monitoring plan based on the approved monitoring methodology applied to the proposed CDM project activity?	VVM	120	Yes.	OK	OK
c. Were the list of parameters required by the the selected methodology identified?	VVM	121	Yes, net electricity generated should be monitored.	OK	OK
d. Does the monitoring plan contains all necessary parameters?	VVM	121	Yes, electricity supplied to the Grid and electricity consumed by the project from the Grid will be monitored.	OK	OK
e. Are the parameters clearly described?	VVM	121	No, the monitoring plan should be revised as the actual situation.	CL-9	OK
f. Does the means of monitoring described in the plan comply with the requirements of the methodology?	VVM	121	Yes.	OK	OK
g. Are the monitoring arrangements described in the monitoring plan feasible within the project design?	VVM	121	Yes, in line with local practices in power sector.	OK	OK
h. Are the following means of implementation of the monitoring plan sufficient to ensure that the emission reductions achieved by/resulting from the proposed CDM project activity can be reported ex post and verified:	VVM	121	No, it should be explained where was the figure of electricity purchased from the grid had been taken.	CL-9	OK
i. data management procedures?	VVM	121	Yes.	OK	OK
ii. quality assurance procedures?	VVM	121	Yes.	OK	OK
iii. quality control procedures?	VVM	121	Yes.	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
8. Sustainable development					
a. Does the CDM project activity assists Parties not included in Annex I to the Convention in achieving sustainable development?	VVM	123	Pending close out above CAR-1.	-	OK
b. Does the letter of approval by the DNA of the host Party confirm the contribution of the proposed CDM project activity to the sustainable development of the host Party?	VVM	124	Pending close out above CAR-1.	-	OK
9. Local stakeholder consultation					
a. Were local stakeholders (public, including individuals, groups or communities affected, of likely to be affected, by the proposed CDM project activity or actions leading to the implementation of such an activity) invited by the PPs to comment on the proposed CDM project activity prior to the publication of the PDD on the UNFCCC website?	VVM	126	Stakeholders' consultation was conducted in June 2007, which is prior to the publication of the PDD on the UNFCCC website .	OK	OK
b. Have comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity been invited?	VVM	127	Yes.	OK	OK
c. Is the summary of the comments received as provided in the PDD complete?	VVM	127	No, E.1 and E.2 just concluded the comments from questionnaires. A stakeholders meeting was held according to the provided evidence, however, PDD is silent about it.	CL-10	OK
d. Have the project participants taken due account of any comments received and described this process in the PDD?	VVM	127	Yes.	OK	OK
10. Environmental impacts					

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
a. Have the project participants submitted documentation on the analysis of the environmental impacts of the project activity?	VVM	129	Yes. EIA and its approval made by local EPA have been presented.	OK	OK
b. Have the project participants undertaken an analysis of environmental impacts?	VVM	130	Yes.	OK	OK
c. Does the host Party require an environmental impact assessment?	VVM	130	Yes.	OK	OK
d. If yes, have the project participants undertaken an environmental impact assessment?	VVM	130	Yes. EIA report was approved by Environmental Protection Bureau of Aba Tibetan and Qiang Autonomous Prefecture on 30/03/2006.	OK	OK

VALIDATION REPORT

Table 2 Specific validation activities

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
1. Project design of small-scale clean development mechanism project activities					
a. Does the proposed small-scale project activity meet the requirements of the simplified modalities and procedures for small-scale CDM project activities?	VVM	133	Yes.	OK	OK
b. Does the project activity qualify within the thresholds of the three possible types of small scale project activities? [Type (i) project activities: renewable energy project activities with a maximum output capacity equivalent to up to 15 megawatts; Type (ii) project activities: energy efficiency improvement project activities which reduce energy consumption, on the supply and/or demand side, by up to the equivalent of 60 gigawatt hours per year; Type (iii) project activities: other project activities that both reduce anthropogenic emissions by sources and directly emit less than 60 kilotonnes of carbon dioxide equivalent annually.]	VVM	134	Yes, the project is renewable energy project activity (hydropower project) with a maximum output capacity of 6.4MW.	OK	OK
c. Does the project activity conform to one of the approved small-scale categories?	VVM	134	Yes, AMS I.D. was used.	OK	OK
d. Does the project activity apply the relevant tool and methodology?	VVM	134	Yes, Tool to calculate the emission factor for an electricity system (Version 01.1) was employed.	OK	OK
e. Are the small-scale methodologies applied in conjunction with the general guidance to the methodologies, which provides guidance on equipment capacity, equipment performance,	VVM	134	Yes.	OK	OK

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
sampling and other monitoring-related issues?					
f. Is the project activity a debundled component of a large-scale project, i.e., is there a registered small-scale CDM project activity or an application to register another CDM project activity: (a) with the same project participants; (b) in the same project category and technology/measure; and (c) registered within the previous 2 years; and (d) whose project boundary is within 1 km of the proposed boundary of the proposed small-scale activity at the closest point?	VVM	134	Since EB 36 meeting has issued a consolidated guidance regarding the determination of the occurrence of debundling "Compendium of guidance on the debundling for SSC project activities", please use this new guidance to re-justify whether the project activity is a debundled component of a large scale project activity.	CAR- 10	OK
g. Is and assessment of the environmental impacts of the proposed CDM project activity required by the host Party?	VVM	134	Refer to 6.C above.	OK	OK
h. Is the project additional?	VVM	135	Refer to 6.C above.	OK	OK

VM-CLEAN DEVELOPMENT MECHANISM VALIDATION AND VERIFICATION MANUAL-Version 01-EB 44, Annex 03- dated 28/11/2008
 EB 35 Annex 34- NON BINDING BEST EXAMPLES TO DEMONSTRATE ADDITIONALITY OF SSC PROJECTS
 TOOL FOR THE DEMONSTRATION AND ASSESSMENT OF ADDITIONALITY-Version 5-dated 26/08/2008
 EB 41 ANNEX 45- GUIDANCE ON THE ASSESSMENT OF INVESTMENT ANALYSIS-VERSION 02-DATED 26/08/2008

VALIDATION REPORT

Table 3 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in tables 1 and 2	Summary of project owner response	Validation team conclusion
CAR-1: Please provide LoA from China's DNA.	Table 1 1.A	The LoA from China was issued in June 2008. It was provided to the DOE.	The provided LOA was checked and found authentic. CAR-1 was hence closed.
CAR-2: Please provide LoA from DNA of Netherlands.	Table 1 1.A	The LoA from Netherlands was issued on 26 August 2008. It was provided to the DOE.	The provided LOA was checked and found authentic. CAR-2 was hence closed.
CAR-3: The description of baseline should be revised following the methodology AMS-I.D. Version 13.	Table 1 5.D.m	Description of the baseline was revised based on the definition stated in the methodology AMS-I.D., and option (a) is chosen to calculate the emission coefficient. Please refer to Section B.4 of the PDD.	The revised PDD has been checked and found satisfactory. CAR-3 was hence closed.
CAR-4: According to data issued by China's DNA, 0.97455tCO ₂ /kWh instead of 0.9746tCO ₂ /kWh should be used to calculate emission reductions, which is conservative.	Table 1 5.E.g.i	0.97455tCO ₂ /kWh has been used in PDD to calculate emission reductions.	The revised PDD has been checked and found satisfactory. CAR-4 was hence closed.

VALIDATION REPORT

CAR-5: As interviewed with PP, the Project was ceased after the commensment due to the increase total investment and lack of funds, and restarted due to the consideration of the CDM, the starting date of the Project should be re-identified and the documents to show the starting date of the project activity should be provided.	Table 1 6.A.c	The starting date of the project is identified as 19/05/2007, when the hydro turbines purchase agreement signed. And the documents to show the starting date of the project activity have been provided to DOE.	The restarting date has been checked with the provided evidence and found satisfactory. CAR-5 was hence closed.
CAR-6: PDD is silent about the continuing and real actions were taken to secure CDM status for the project in parallel with its implementation.	Table 1 6.A.h.ii	Due to the increase of the total investment of the proposed project, the project owner had to seek for additional support from CDM revenue. Related description was added. Please refer to Section B.5 of the PDD. The continuing and real actions taken to secure CDM were added in the timeline table and related evidence has been provided to DOE.	The revised PDD and relevant evidence have been checked and found satisfactory. CAR-6 was hence closed.
CAR-7: As interviewed with PP, the Project is a restarted implementation project, as per "Guidance on the Assessment of Investment Analysis" version 2, the investment analysis should reflect the economic decision making context at point of the decision to recommence the Project with clearly evidence.	Table 1 6.C.h	In the Agreement of Transferring Zhawo No.1 Hydropower Project And Shares of Heishui Sanlian Hydropower Development Co., Ltd. signed before the construction of the proposed project restarted, it was clearly indicated that the investment had reflected the economic decision. The evidence was provided to the DOE.	The revised PDD and relevant evidence have been checked and found satisfactory. CAR-7 was hence closed.

VALIDATION REPORT

CAR-8: As tariff has a material impact on the investment analysis, it should be considered as a variable when do sensitivity analysis.	Table 1 6.C.p	The tariff is used to do the sensitivity analysis in the revised PDD.	The revised PDD and IRR calculation sheet have been checked and found satisfactory. CAR-8 was hence closed.
CAR-9: The monitoring plan should be revised as the information confirmed by PP during on-site visit.	Table 1 7.e	The monitoring has been revised according to the actual situation on site.	The revised PDD has been checked and found satisfactory. CAR-9 was hence closed.
CAR-10: Since EB 36 meeting has issued a consolidated guidance regarding the determination of the occurrence of debundling "Compendium of guidance on the debundling for SSC project activities", please use this new guidance to re-justify whether the project activity is a debundled component of a large scale project activity.	Table 2 1.f	Related justification was revised according to the new guidance issued in EB 36 th meeting. Please refer to Section A.4.5 of the PDD.	The revised PDD has been checked and found satisfactory. CAR-10 was hence closed.
CL-1: The table form in section A.4.3 and B.7.1 of PDD is inconsistent with the GUIDELINES FOR COMPLETING CDM-SSC-PDD and CDM-SSC-NM version 5. Please correct.	Table 1 3.B	Three tables were revised according to the Guideline.	The revised PDD has been checked and found satisfactory. CL-1 was hence closed.
CL-2: As per provided FSR, the annual utilization hours of the Project are 5,351h other than 4,700h in the PDD. Please correct.	Table 1 4.A	It has been revised in PDD.	The revised PDD has been checked and found consistent with the FSR. CL-2 was hence closed.

VALIDATION REPORT

CL-3: The approach for demonstration of the additionality of the Project should be clearly indicated in section B.5 of PDD.	Table 1 5.A.g	The demonstration of the additionality of the project was based on the Attachment A to Appendix B of the simplified modalities and procedures for the small-scale CDM project activities. Related description was added. Please refer to Section B.5 of the PDD.	The revised PDD has been checked and found satisfactory. CL-3 was hence closed.
CL-4: PDD is silent about excluding wind power from the feasible baseline scenario when excluding alternative III. Furthermore, please provide evidence used to exclude alternative III.	Table 1 5.D.a	Related demonstration of excluding wind power from the feasible baseline scenario was added. Please refer to Section B.4 of the PDD. And the evidences used to exclude alternative III have been provided to DOE.	The revised PDD and relevant evidence have been checked and found satisfactory. CL-4 was hence closed.
CL-5: PDD is silent about whether CCPG involves electricity imports in step 1 of "Tool to calculate the emission factor for an electricity system". As per "Tool to calculate the emission factor for an electricity system", option C in step 3 can only be used if only nuclear and renewable power generation are considered as low-cost /must-run power sources, however, PDD is silent about that. PDD is silent about the simple OM and BM data vintages, i.e. ex-ante or ex post.	Table 1 5.E.d	The CCPG electricity imports are insignificant and it has been revised in PDD. The Simple OM emission factor is calculated as the generation-weighted average CO2 emissions per unit net electricity generation (tCO2/MWh) of all generating power plants serving the system, not including low-operating / must-run power plants /units. It has been revised in PDD. It is adopt ex-ante about the data vintages and has been revised in PDD.	The revised PDD has been checked and found satisfactory. CL-5 was hence closed.

VALIDATION REPORT

<p>CL-6: Please clearly describe that CDM was seriously considered in the decision to implement the project activity which was not indicated in the initial PDD.</p>	<p>Table 1 6.A.b</p>	<p>The construction of the Project had to cease in Nov. 2006 due to the significantly increased total investment and shortage of funds; On 26/10/2006, a board meeting was held to decide to stop construction of the Project and, the Project stopped construction on 07/11/2006. On 28/02/2007, as it was difficult to raise money for reconstruction of the Project, a board meeting was held to decide to transfer the ownership of the Project. To evaluate the investment return of the Project, an <i>Assessment on Increased Total Investment Cost</i> was carried out in March 2007, and the conclusion shows that the Project is financially unattractive. Based on the conclusion, Beijing Energy Corporation, Ltd. held a meeting on 19/04/2007 to develop the Project as a CDM project after it was transferred. The detailed timeline and description have been revised in PDD. Please refer to Section B.5.</p>	<p>The detailed timeline in the revised PDD and relevant evidence have been checked and found CDM was seriously considered in the decision to restart of the project activity.</p> <p>CL-6 was hence closed.</p>
---	--------------------------	--	--

VALIDATION REPORT

CL-7: PDD is silent about the data source of parameters used to investment analysis.	Table 1 6.C.h	The data source of the parameters was described in the PDD. Please refer to Section B.5 of the PDD. The related evidences were provided to the DOE. The input value of O&M cost has been corrected (from 1020 down to 732.1 KRMB/year) to be consistent with the same used in the <i>Assessment on Increased Total Investment Cost</i> .	The revised PDD has been checked and found satisfactory. CL-7 was hence closed.
CL-8: A further elaboration in the PDD to show whether the variables will exceed -10% or +10% so as to the IRR of the project could reach the benchmark is required.	Table 1 6.C.p	The variables exceed -10% or +10% so as to the IRR of the project could reach the benchmark has been revised in PDD.	The revised PDD has been checked and found satisfactory. CL-8 was hence closed.
CL-9: In the monitoring plan, electricity purchased from the grid will be measured and the estimated figure was 4,522MWh, please explain where the figure of electricity purchased from the grid had been taken.	Table 1 7.h	4,522MWh is equal to power generation (34,247MWh) minus electricity supplied to the grid (29,725MWh), which is supposed to all electricity consumed by the Project will import from the grid. The electricity purchased from the grid will be measured during the monitoring period, and deducted from the electricity supplied to the grid while calculate the emission reductions.	The explanation has been checked and found satisfactory. CL-9 was hence closed.
CL-10: According to the evidence provided, a stakeholders meeting was hold and questionnaires had been distributed. However, E.1 and E.2 of PDD is silent about the stakeholders meeting.	Table 1 9.a	It has been revised in PDD.	The revised PDD has been checked and found satisfactory. CL-10 was hence closed.