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# Validation Report

**Chishui Zhongshui Hydro Power Development Co.Ltd.**

VALIDATION OF THE CDM-PROJECT:  
YANGJIAWAN 9 MW HYDRO POWER PRO-  
JECT IN GUIZHOU PROVINCE, CHINA

REPORT No. 928078

**2007, June 13**

TÜV SÜD Industrie Service GmbH  
Carbon Management Service  
Westendstr. 199 - 80686 Munich – GERMANY

Report No.	Date of first issue	Revision No.	Date of this revision	Certificate No.
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<b>Subject:</b> Validation of a CDM Project	
<b>Accredited TÜV SÜD Unit:</b> TÜV SÜD Industrie Service GmbH Certification Body "climate and energy" Westendstr. 199 - 80686 Munich Federal Republic of Germany	<b>TÜV SÜD Contract Partner:</b> Jiangsu TÜV Product Service Shenzhen Branch Room A01, B01 & B02, 28th Floor Anlian Building No. 4018 Jintian Road, Futian District 518026 Shenzhen P.R. China
<b>Client:</b> Chishui Zhongshui Hydro Power Development Co.Ltd. No.4 Gongyuan Road, Chishui City,Guizhou Province, P.R. China	<b>Project Site(s):</b> Xishui River in Shibao Town, Chishui City in Guizhou Province
<b>Project Title:</b> Yangjiawan 9 MW Hydro Power Project in Guizhou Province, China	
<b>Applied Methodology / Version:</b> AMS I.D / version 10	<b>Scope(s):</b> 1
<b>First PDD Version:</b> Date of issuance: 2006-12-01 Version No.: 1.0 Starting Date of GSP 2006-12-12	<b>Final PDD version:</b> Date of issuance: 2007-05-31 Version No.: 3.0
<b>Estimated Annual Emission Reduction:</b> 27 958 tons CO <sub>2e</sub>	
<b>Assessment Team Leader:</b> Dr. Sven Kolmetz	<b>Further Assessment Team Members:</b> Carl Zhou
<b>Summary of the Validation Opinion:</b>	
<input checked="" type="checkbox"/> The review of the project design documentation and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM. Hence TÜV SÜD will recommend the project for registration by the CDM Executive Board.	
<input type="checkbox"/> The review of the project design documentation and the subsequent follow-up interviews have not provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. Hence TÜV SÜD will not recommend the project for registration by the CDM Executive Board and will inform the project participants and the CDM Executive Board on this decision.	

## Abbreviations

<b>ACM</b>	Approved Consolidated Methodology
<b>AM</b>	Approved Methodology
<b>CAR</b>	Corrective Action Request
<b>CDM</b>	Clean Development Mechanism
<b>CER</b>	Certified Emission Reduction
<b>CR</b>	Clarification Request
<b>DNA</b>	Designated National Authority
<b>DOE</b>	Designated Operational Entity
<b>EB</b>	Executive Board
<b>EIA / EA</b>	Environmental Impact Assessment / Environmental Assessment
<b>ER</b>	Emission reduction
<b>GHG</b>	Greenhouse gas(es)
<b>KP</b>	Kyoto Protocol
<b>MP</b>	Monitoring Plan
<b>NGO</b>	Non Governmental Organisation
<b>PDD</b>	Project Design Document
<b>PP</b>	Project Participant
<b>TÜV SÜD</b>	TÜV SÜD Industrie Service GmbH
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>VVM</b>	Validation and Verification Manual

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## 1 INTRODUCTION

### 1.1 Objective

The validation objective is an independent assessment by a Third Party (Designated Operational Entity = DOE) of a proposed project activity against all defined criteria set for the registration under the Clean Development Mechanism (CDM). Validation is part of the CDM project cycle and will finally result in a conclusion by the executing DOE whether a project activity is valid and should be submitted for registration to the CDM-EB. The ultimate decision on the registration of a proposed project activity rests at the CDM Executive Board and the Parties involved.

The project activity discussed by this validation report has been submitted under the project title:  
Yangjiawan 9 MW Hydro Power Project in Guizhou Province, China

### 1.2 Scope

The scope of any assessment is defined by the underlying legislation, regulation and guidance given by relevant entities or authorities. In the case of CDM project activities the scope is set by:

- Ø The Kyoto Protocol, in particular § 12
- Ø Decision 2/CMP1 and Decision 3/CMP.1 (Marrakech Accords)
- Ø Further COP/MOP decisions with reference to the CDM (e.g. decisions 4 – 8/CMP.1)
- Ø Decisions by the EB published under <http://cdm.unfccc.int>
- Ø Specific guidance by the EB published under <http://cdm.unfccc.int>
- Ø Guidelines for Completing the Project Design Document (CDM-PDD),
- Ø The applied approved methodology
- Ø The technical environment of the project (technical scope)
- Ø Internal and national standards on monitoring and QA/QC
- Ø Technical guideline and information on best practice

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.

Once TÜV SÜD receives a first PDD version, it is made publicly available on the internet at TÜV SÜD's webpage as well as on the UNFCCC CDM-webpages for starting a 30 day global stakeholder consultation process (GSP). In case of any request a PDD might be revised (under certain conditions the GSP will be repeated) and the final PDD will form the basis for the final evaluation as presented by this report. Information on the first and on the final PDD version is presented at page 1.

The only purpose of a validation is its use during the registration process as part of the CDM project cycle. Hence, TÜV SÜD can not be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

## 2 METHODOLOGY

The project assessment aims at being a risk based approach and is based on the methodology developed in the Validation and Verification Manual (for further information see [www.vvmanual.info](http://www.vvmanual.info)), an initiative of Designated and Applicant Entities, which aims to harmonize the approach and quality of all such assessments.

In order to ensure transparency, a validation protocol was customised for the project. TÜV SÜD developed a “cook-book” for methodology-specific checklists and protocol based on the templates presented by the Validation and Verification Manual. The protocol shows, in a transparent manner, criteria (requirements), the discussion of each criterion by the assessment team and the results from validating the identified criteria. The validation protocol serves the following purposes:

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

The validation protocol consists of three tables. The different columns in these tables are described in the figure below.

The completed validation protocol is enclosed in Annex 1 to this report.

<b>Validation Protocol Table 1: Conformity of Project Activity and PDD</b>				
<b>Checklist Topic / Question</b>	<b>Reference</b>	<b>Comments</b>	<b>PDD in GSP</b>	<b>Final PDD</b>
<i>The checklist is organised in sections following the arrangement of the applied PDD version. Each section is then further sub-divided. The lowest level constitutes a checklist question / criterion.</i>	<i>Gives reference to documents where the answer to the checklist question or item is found in case the comment refers to documents other than the PDD.</i>	<i>The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached. In some cases sub-checklist are applied indicating yes/no decisions on the compliance with the stated criterion. Any <b>Request</b> has to be substantiated within this column</i>	<i>Conclusions are presented based on the assessment of the first PDD version. This is either acceptable based on evidence provided (L), or a <b>Corrective Action Request (CAR)</b> due to non-compliance with the checklist question (See below). <b>Clarification Request (CR)</b> is used when the validation team has identified a need for further clarification.</i>	<i>Conclusions are presented in the same manner based on the assessment of the final PDD version.</i>

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

In case of a denial of the project activity more detailed information on this decision will be presented in table 3.

<b>Validation Protocol Table 3: Unresolved Corrective Action and Clarification Requests</b>		
<b>Clarifications and corrective action requests</b>	<b>Id. of CAR/CR 1</b>	<b>Explanation of the Conclusion for Denial</b>
<i>If the final conclusions from table 2 results in a denial the referenced request should be listed in this section.</i>	<i>Identifier of the Request.</i>	<i>This section should present a detail explanation, why the project is finally considered not to be in compliance with a criterion.</i>

## 2.1 Appointment of the Assessment Team

According to the technical scopes and experiences in the sectoral or national business environment TÜV SÜD has composed a project team in accordance with the appointment rules of the TÜV SÜD certification body "climate and energy". The composition of an assessment team has to be approved by the Certification Body ensuring that the required skills are covered by the team. The Certification Body TÜV SÜD operates four qualification levels for team members that are assigned by formal appointment rules:

- Ø Assessment Team Leader (ATL)
- Ø Greenhouse Gas Auditor (GHG-A)
- Ø Greenhouse Gas Auditor Trainee (T)
- Ø Experts (E)

It is required that the sectoral scope linked to the methodology has to be covered by the assessment team.

The validation team was consisting of the following experts (the responsible Assessment Team Leader in written in bold letters):



Name	Qualification	Coverage of technical scope	Coverage of sectoral expertise	Host country experience
Dr. Sven Kolmetz	ATL	L	L	
Carl Zhou	A			L

**Dr. Sven Kolmetz** is physicist and auditor at the department “TÜV Carbon Management Service” located in the head office of TÜV Süddeutschland in Munich. Furthermore he is officially authorized expert in the verification of GHG emissions in the framework of the European Emission Trading Scheme. Before entering TÜV SÜD he worked as energy consultant for industrial companies and as consultant for the German Federal Government on instruments for the reduction of GHG emissions.

**Carl Zhou** is an auditor for environmental management systems (according to ISO 14001) at Jiangsu TUV Product Service Ltd. He is based in Shenzhen. In his position he is responsible for the implementation of validation, verification and certifications audits for management systems. He has received training in the CDM validation process and participated already in several CDM project assessments.

## 2.2 Review of Documents

The first PDD version submitted by the client and additional background documents related to the project design and baseline were reviewed as initial step of the validation process. A complete list of all documents and proofs reviewed is attached as annex 2 to this report.

## 2.3 Follow-up Interviews

In the period of January 13-14, 2007 TÜV SÜD performed interviews on-site with project stakeholders to confirm selected information and to resolve issues identified in the first document review. The table below provides a list of all persons interviewed in the context of this on-site visit.

Name	Organisation
Mr. Tang Kai	Guizhou Zhongshui Hengyuan Project Consulting Management Co., Ltd
Mr. Ma Yajun	Guizhou Zhongshui Hengyuan Project Consulting Management Co., Ltd
Mr. Liu Junhui	Beijing Haohua Jianghe International Water Resources Project Consultancy Ltd.
Mr. Yang Heng	Guizhou Chishui Zhongshui Hydro Power Development Co. Ltd
Mr. Guo Diancheng	Guizhou Chishui Zhongshui Hydro Power Development Co. Ltd
Zhang	Guizhou Chishui Zhongshui Hydro Power Development Co. Ltd
Fan Decheng	Guizhou Chishui Zhongshui Hydro Power Development Co. Ltd

## 2.4 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation is to resolve the requests for corrective actions and clarifications and any other outstanding issues which needed to be clarified for TÜV SÜD's positive conclusion on the project design. The Corrective Action Requests and Clarification Requests raised by TÜV SÜD were resolved during communication between the client and TÜV SÜD. To guarantee the transparency of the validation process, the concerns raised and responses that have been given are summarised in chapter 3 below and documented in more detail in the validation protocol in annex 1.

## 2.5 Internal Quality Control

As final step of a validation the validation report and the protocol have to undergo an internal quality control procedure by the Certification Body "climate and energy", i.e. each report has to be approved either by the head of the certification body or his deputy. In case one of these two persons is part of the assessment team approval can only be given by the other one.

It rests at the decision of TÜV SÜD's Certification Body whether a project will be submitted for requesting registration by the EB or not.

## 3 SUMMARY OF FINDINGS

As informed above all findings are summarized in table 2 of the attached validation protocol.

The audit team has been provided with a draft PDD in December 2006. Based on this documentation a document review and a fact finding mission in form of an on-site audit has taken place. Afterwards the client decided to revise the PDD according to the CARs and CRs indicated in the audit process. The final PDD version submitted in May 2007 serves as the basis for the assessment presented herewith. Changes are not considered to be significant with respect to the qualification of the project as a CDM project based on the two main objectives of the CDM to achieve a reduction of anthropogenic GHG emissions by sources and to contribute to sustainable development.

Despite the version of the PDD template and the version number of the methodology have changed during the validation process no repetition of the public stakeholder process has taken place, because this is no requirement as stated in the note at the beginning of version 10 of the methodology. The project is no addition to or retrofit of an existing power plant.

The following description of the project as per the PDD could be verified during the on-site audit.

Yangjiawan 9 MW Hydro Power Project in Guizhou Province China is a run-of-river hydro power plant sited on Xishui River in Shibao Town, Chishui City in Guizhou Province with the installed capacity of 9 MW. The hinge of the power plant includes the gravity dam with the height of 14.77 m, the diversion tunnels with the length of 1,650 m and the power plant. There are 2 turbines and 2 generators with the respective type of HLA551-LJ-122 and SF4500-14/3250. The electricity generated by the proposed project will be connected to Guizhou Province Power Grid, finally to China Southern Power Grid. The annual electricity generation is 38,200 MWh, and the annual feed-in electricity to the grid is 35,920 MWh.

Electricity generated by the proposed project will displace part of the electricity generated by China Southern Power Grid which is dominated by fossil fuel-fired power plants, and thus greenhouse gas (GHG) emission reductions could be achieved. The estimated annual GHG emission reductions are 27,958 tCO<sub>2</sub>e.



In total the assessment team expressed 2 Clarification Request and 11 Corrective Action Requests.

Most of the requests addressed formal aspects and inconsistencies between the documents delivered during the audit and the PDD (CAR1, 2, 3, 4, 5, 10). Besides this the project owner had to deliver additional documents regarding the IRR calculation (CAR6), stakeholder process (CAR 11) and more detailed information regarding the monitoring of the emission reductions (CAR 7, 8).

For the BM calculation the PDD adopts modified methods agreed by the EB for the approved methodologies AM0005 and AMS I.D. because plant specific data are not available in China. The emission factor of the thermal power plants is calculated by the proportion of the emissions of coal, gas and oil times the emission factor of the best available coal, gas and oil power plant as defined and published by the Chinese DNA. The new thermal capacity installation that exceeds 20% in the last years, for which data are available, is finally assessed with this factor.

The additionality has been evidenced by investment analysis. The benchmark used (IRR) and the IRR calculation will be uploaded together with the PDD. The consideration of CDM has been evidenced by a signed meeting minute dated on 2004.

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

#### 4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

TÜV SÜD published the project documents on UNFCCC website by installing a link to TÜV SÜD's own website and invited comments by Parties, stakeholders and non-governmental organisations during a period of 30 days.

The following table presents all key information on this process:

<b>webpage:</b> <a href="http://cdm.unfccc.int/Projects/Validation/DB/49TG9Z4NK6RZKJMG8R03H0Y34GKSUS/view.html">http://cdm.unfccc.int/Projects/Validation/DB/49TG9Z4NK6RZKJMG8R03H0Y34GKSUS/view.html</a>	
<b>Starting date of the global stakeholder consultation process:</b> 2006-12-12	
<b>Comment submitted by:</b> none	<b>Issues raised:</b> -
<b>Response by TÜV SÜD:</b> -	



## 5 VALIDATION OPINION

TÜV SÜD has performed a validation of the following proposed CDM project activity:

Yangjiawan 9 MW Hydro Power Project in Guizhou Province, China.

The review of the project design documentation and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfilment of stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM. Hence TÜV SÜD will recommend the project for registration by the CDM Executive Board.

An analysis as provided by the applied methodology demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented as designed, the project is likely to achieve the estimated amount of emission reductions as specified within the final PDD version.

The validation is based on the information made available to us and the engagement conditions detailed in this report. The validation has been performed using a risk based approach as described above. The only purpose of this report is its use during the registration process as part of the CDM project cycle. Hence, TÜV SÜD can not be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

Munich, 2007 – 06 - 13

A handwritten signature in black ink, appearing to read 'Friedrich Lortz', written over a horizontal line.

Certification Body "climate and energy"  
TÜV SÜD Industrie Service GmbH

Munich, 2007 - 06 - 13

A handwritten signature in blue ink, appearing to read 'Dr. Volk', written over a horizontal line.

Assessment Team Leader

Validation of the CDM Project:

Yangjiawan 9 MW Hydro Power Project in Guizhou Province, China



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## **ANNEX 1: VALIDATION PROTOCOL**

# Validation Protocol

Project Title: Yangjiawan 9MW Hydro Power Project, Guizhou Province, China

Date of Completion: 13/06/2007

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**Table 1 Conformity of Project Activity and PDD**

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
<b>A. General description of project activity</b>				
<b>A.1. Title of the project activity</b>				
A.1.1. Does the used project title clearly enable to identify the unique CDM activity?	1, 2	The project is titled with the name of the project location and the energy source of the project. Hence, it can be clearly identified.	L	L
A.1.2. Are there any indication concerning the revision number and the date of the revision?	1, 2	The available PDD is indicated as version 1.0 dated 12/01/2006	L	L
A.1.3. Is this consistent with the time line of the project's history?	1, 2	Yes.	L	L
<b>A.2. Description of the project activity</b>				
A.2.1. Is the description delivering a transparent overview of the project activities?	1, 2	<p>The project is described transparently and the project activities described have been proven during on-site audit.</p> <p><u>Corrective Action Request 1:</u></p> <p>The description of the location of the proposed project is not consistent with the description in the chapter A.4.1.3 (Shibao Town or Guandu Town)</p> <p>Please provide additional information of the project. E.g. the name of the developer, manufacturer and constructor, the starting date and the current status of the project.</p> <p>According to the purchasing contract of devices(contract number: Guangfa2005, in April, 2005). the type of the generators should be SF4500-14/3250, not be 2150,</p> <p>According to the feasibility study, the length of the diversion tunnels should be 1650m, not be 1190m,</p>	CAR1	L

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
A.2.2. What proofs are available demonstrating that the project description is in compliance with the actual situation or planning?	1, 2 7, 8 9, 10	The planning is described in the feasibility study. The project activity is the displacement of electricity generated by coal fired power plants with electricity generated by hydro power. The following data deliver evidences for the project activity: <ul style="list-style-type: none"> <li>- Feasibility study</li> <li>- EIA and EIA approval from Guizhou province, Zunyi City Environmental Protection Bureau</li> <li>- Project approval from Zunyi City Development Reformation Committee</li> <li>- Approval of connection to Guizhou Grid</li> </ul> This data have been evidenced during the audit.	L	L
A.2.3. Is the information provided by these proofs consistent with the information provided by the PDD?	1, 2	Yes, it is.	L	L
A.2.4. Is all information presented consistent with details provided by further chapters of the PDD?	1, 2	Yes, there are no contradictions in the PDD.	L	L
<b>A.3. Project participants</b>				
A.3.1. Is the form required for the indication of project participants correctly applied?	1, 2	The form is correctly applied. Zhongshui Hydro Power Development in Chishui City Co. Ltd. is considered as project participant. <u>Clarification request 1:</u> Please to clarify if the proposed project is a unilateral CDM project.	CR1	L
A.3.2. Is the participation of the listed entities or Parties confirmed by each one of them?	1, 2	<b>Open Issue:</b> the MoC has to be delivered.	Open issue	L
A.3.3. Is all information on participants / Parties	1, 2	Yes, it is.	L	L

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
provided in consistency with details provided by further chapters of the PDD (in particular annex 1)?				
<b>A.4. Technical description of the project activity</b>				
<i>A.4.1. Location of the project activity</i>				
A.4.1.1. Does the information provided on the location of the project activity allow for a clear identification of the site(s)?	1, 2	The project location could be clearly identified according to the PDD. The project activity is located in Shibao Town, Chishui City of Xishui River Guizhou Province,	L	L
A.4.1.2. How is it ensured and/or demonstrated, that the project proponents can implement the project at this site (ownership, licenses, contracts etc.)?	1, 2 7, 9	The EIA of the proposed project was approved by Guizhou province Zunyi city Environmental Protection Bureau on Jan, 24 <sup>th</sup> , 2006 and the project got the approval from Guizhou province Zunyi city Development Reformation Committee on Jun 6 <sup>th</sup> , 2006.	L	L
<i>A.4.2. Category(ies) of project activity</i>				
A.4.2.1. To which category(ies) does the project activity belonging to? Is the category correctly identified and indicated?	1, 2	Yes, the project falls into Type 1-Renewable Energy Project, Category I.D.-Grid Connected Renewable Electricity Generation	L	L
<i>A.4.3. Technology to be employed by the project activity</i>				
A.4.3.1. Does the technical design of the project activity reflect current good practices?	1, 2	Yes, the project design reflects the current good practices to use renewable resources to generate electricity.	L	L
A.4.3.2. Does the description of the technology to be applied provide sufficient and transparent input/ information to evaluate its impact on the greenhouse gas balance?	1, 2 11	Yes, the project activity comprises the use of water power for the substitution of grid supplied electricity mainly from coal fired plants. There is no doubt that this technology will reduce the GHG emissions significantly.  <u>Corrective Action Request 2:</u> The data of the power density is unavailable.	CAR2	L

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
A.4.3.3. Does the implementation of the project activity require any technology transfer from annex-I countries to the host country(ies)?	1, 2	No, it doesn't. There is not technology transfer from annex-I countries to China by the proposed project.	L	L
A.4.3.4. Is the technology implemented by the project activity environmentally safe?	1, 2	Yes. The main possible environmental problem produced by the technology implemented is water pollution. According to the PDD, waste water from the power station will be treated well before discharged into the river, so the technology implemented by the project activity is environmentally safe.	L	L
A.4.3.5. Is the information provided in compliance with actual situation or planning?	1, 2	Yes.	L	L
A.4.3.6. Does the project use state of the art technology and / or does the technology result in a significantly better performance than any commonly used technologies in the host country?	1, 2	The common practice for electricity generation is still coal-fired power plant. Hence, the project definitely would result in a better performance than the common practice.	L	L
A.4.3.7. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1, 2	No. One generation unit (4.5MW) has been installed and has generated electricity. The other generation unit (4.5MW) is expected to generate electricity on Jan 31, 2007. The life time of the project is under normal circumstances longer than the crediting period.	L	L
A.4.3.8. Does the project require extensive initial training and maintenance efforts in order to be carried out as scheduled during the project period?	1, 2	<u>Corrective Action Request 3</u> Please specify in the PDD whether the project needs extensive initial training and maintenance efforts.	CAR3	L
A.4.3.9. Is information available on the demand and requirements for training and maintenance?	1, 2	Yes, the relevant trainings dealing with the control system and safety operations have been provided.	L	L
A.4.3.10. Is a schedule available for the implementation of the project and are there any risks for delays?	1, 2	The planning schedule in the past and for the future was clearly described by the project owner during the audit. The main contracts for the construction of the hydro power have already been	CAR4	L

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		signed and equipments have been purchased. The second generation unit will be installed completely before the end of January 31. There is no risk for delays. <u>Corrective Action Request 4</u> The time schedule of the implementation of the project should be included into the PDD.		
<b>A.4.4. Estimated amount of emission reductions over the chosen crediting period</b>				
A.4.4.1. Is the form required for the indication of projected emission reductions correctly applied?	1, 2	Yes. The form is correctly applied according to the version 02 of CDM-SSC-PDD template.	L	L
A.4.4.2. Are the figures provided consistent with other data presented in the PDD?	1, 2	<u>Corrective Action Request 5</u> The crediting period will start after the registration of this project, so the starting date of the crediting period and the estimated emission reductions of the year 2007 in Table 1 and further chapters of the PDD have to be revised.	CAR5	L
<b>A.4.5. Public funding of the project activity</b>				
A.4.5.1. Is the information provided on public funding provided in compliance with the actual situation or planning as available by the project participants?	1, 2	Yes. There is no public funding necessary; all costs are covered by bank loans and private equity.	L	L
A.4.5.2. Is all information provided consistent with the details given in remaining chapters of the PDD (in particular annex 2)?	1, 2	The statements are consistent within the PDD.	L	L

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD										
<b>B. Application of a baseline and monitoring methodology</b>														
<b>B.1. Title and reference of the approved baseline and monitoring methodology</b>														
B.1.1. Are reference number, version number, and title of the baseline and monitoring methodology clearly indicated?	1, 2	The approved methodology AMS-I.D. "Grid connected renewable electricity generation" (version 09) is used.	L	L										
B.1.2. Is the applied version the most recent one and / or is this version still applicable?	1, 2	No, this version will expire before Feb. 16 <sup>th</sup> , 2007.	L	L										
<b>B.2. Justification of the choice of the methodology and why it is applicable to the project activity</b>														
B.2.1. Is the applied methodology considered the most appropriate one?	1, 2	Yes. The approved methodology AMS-I.D. "Grid connected renewable electricity generation"(version 09) is exactly applicable to the hydro power projects, the capacity is less than 15MW.	L	L										
B.2.2. Criterion 1: Type of capacity addition by renewable energy	1, 2	<table border="1"> <thead> <tr> <th>Applicability checklist</th> <th>Yes / No</th> </tr> </thead> <tbody> <tr> <td>Criterion discussed in the PDD?</td> <td>Yes</td> </tr> <tr> <td>Compliance provable?</td> <td>Yes</td> </tr> <tr> <td>Evidences provided in the PDD?</td> <td>Yes</td> </tr> <tr> <td>Compliance verified?</td> <td>Yes</td> </tr> </tbody> </table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Evidences provided in the PDD?	Yes	Compliance verified?	Yes	L	L
Applicability checklist	Yes / No													
Criterion discussed in the PDD?	Yes													
Compliance provable?	Yes													
Evidences provided in the PDD?	Yes													
Compliance verified?	Yes													
B.2.3. Criterion 2: Exclusion of fuel switching activities	1, 2	<table border="1"> <thead> <tr> <th>Applicability checklist</th> <th>Yes / No</th> </tr> </thead> <tbody> <tr> <td>Criterion discussed in the PDD?</td> <td>Yes</td> </tr> <tr> <td>Compliance provable?</td> <td>Yes</td> </tr> <tr> <td>Evidences provided in the PDD?</td> <td>Yes</td> </tr> <tr> <td>Compliance verified?</td> <td>Yes</td> </tr> </tbody> </table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Evidences provided in the PDD?	Yes	Compliance verified?	Yes	L	L
Applicability checklist	Yes / No													
Criterion discussed in the PDD?	Yes													
Compliance provable?	Yes													
Evidences provided in the PDD?	Yes													
Compliance verified?	Yes													

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B.2.4. Criterion 3: Defined electricity grid boundaries	1, 2	<table border="1"> <tr> <td>Applicability checklist</td> <td>Yes / No</td> </tr> <tr> <td>Criterion discussed in the PDD?</td> <td>Yes</td> </tr> <tr> <td>Compliance provable?</td> <td>Yes</td> </tr> <tr> <td>Evidences provided in the PDD?</td> <td>Yes</td> </tr> <tr> <td>Compliance verified?</td> <td>Yes</td> </tr> </table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Evidences provided in the PDD?	Yes	Compliance verified?	Yes	L	L
Applicability checklist	Yes / No													
Criterion discussed in the PDD?	Yes													
Compliance provable?	Yes													
Evidences provided in the PDD?	Yes													
Compliance verified?	Yes													
B.2.5. Criterion 4: Approved inclusion in other methodologies (if applied only)	1, 2	Not applicable	L	L										
<b>B.3. Description of the sources and gases included in the project boundary</b>														
B.3.1. Source: Fugitive Emissions from non-condensable gases (geothermal activities only) Gas(es): CO <sub>2</sub> , CH <sub>4</sub> Type: Project Emissions		<table border="1"> <tr> <td>Boundary checklist</td> <td>Yes / No</td> </tr> <tr> <td>Source and gas(es) discussed by the PDD?</td> <td>N/A</td> </tr> <tr> <td>Inclusion / exclusion justified?</td> <td>N/A</td> </tr> <tr> <td>Explanation / Justification sufficient?</td> <td>N/A</td> </tr> <tr> <td>Consistency with monitoring plan?</td> <td>N/A</td> </tr> </table>	Boundary checklist	Yes / No	Source and gas(es) discussed by the PDD?	N/A	Inclusion / exclusion justified?	N/A	Explanation / Justification sufficient?	N/A	Consistency with monitoring plan?	N/A	L	L
Boundary checklist	Yes / No													
Source and gas(es) discussed by the PDD?	N/A													
Inclusion / exclusion justified?	N/A													
Explanation / Justification sufficient?	N/A													
Consistency with monitoring plan?	N/A													
B.3.2. Source: Emissions from combustion of fossil fuels (geothermal activities only) Gas(es): CO <sub>2</sub> Type: Project Emissions		<table border="1"> <tr> <td>Boundary checklist</td> <td>Yes / No</td> </tr> <tr> <td>Source and gas(es) discussed by the PDD?</td> <td>N/A</td> </tr> <tr> <td>Inclusion / exclusion justified?</td> <td>N/A</td> </tr> <tr> <td>Explanation / Justification sufficient?</td> <td>N/A</td> </tr> <tr> <td>Consistency with monitoring plan?</td> <td>N/A</td> </tr> </table>	Boundary checklist	Yes / No	Source and gas(es) discussed by the PDD?	N/A	Inclusion / exclusion justified?	N/A	Explanation / Justification sufficient?	N/A	Consistency with monitoring plan?	N/A	L	L
Boundary checklist	Yes / No													
Source and gas(es) discussed by the PDD?	N/A													
Inclusion / exclusion justified?	N/A													
Explanation / Justification sufficient?	N/A													
Consistency with monitoring plan?	N/A													
B.3.3. Source: Emissions from the reservoir (new hydroe-		<table border="1"> <tr> <td>Boundary checklist</td> <td>Yes / No</td> </tr> </table>	Boundary checklist	Yes / No	L	L								
Boundary checklist	Yes / No													

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lectric activities only) Gas(es): CO <sub>2</sub> , CH <sub>4</sub> Type: Project Emissions		<table border="1"> <tr> <td>Source and gas(es) discussed by the PDD?</td> <td>N/A</td> </tr> <tr> <td>Inclusion / exclusion justified?</td> <td>N/A</td> </tr> <tr> <td>Explanation / Justification sufficient?</td> <td>N/A</td> </tr> <tr> <td>Consistency with monitoring plan?</td> <td>N/A</td> </tr> </table>	Source and gas(es) discussed by the PDD?	N/A	Inclusion / exclusion justified?	N/A	Explanation / Justification sufficient?	N/A	Consistency with monitoring plan?	N/A				
Source and gas(es) discussed by the PDD?	N/A													
Inclusion / exclusion justified?	N/A													
Explanation / Justification sufficient?	N/A													
Consistency with monitoring plan?	N/A													
B.3.4. Source: Emissions from electricity generation in fossil fuel fired power plants of the project electricity system Gas(es): CO <sub>2</sub> Type: Baseline Emissions		<table border="1"> <tr> <td>Boundary checklist</td> <td>Yes / No</td> </tr> <tr> <td>Source and gas(es) discussed by the PDD?</td> <td>N/A</td> </tr> <tr> <td>Inclusion / exclusion justified?</td> <td>N/A</td> </tr> <tr> <td>Explanation / Justification sufficient?</td> <td>N/A</td> </tr> <tr> <td>Consistency with monitoring plan?</td> <td>N/A</td> </tr> </table>	Boundary checklist	Yes / No	Source and gas(es) discussed by the PDD?	N/A	Inclusion / exclusion justified?	N/A	Explanation / Justification sufficient?	N/A	Consistency with monitoring plan?	N/A	L	L
Boundary checklist	Yes / No													
Source and gas(es) discussed by the PDD?	N/A													
Inclusion / exclusion justified?	N/A													
Explanation / Justification sufficient?	N/A													
Consistency with monitoring plan?	N/A													
B.3.5. Source: Emissions from electricity generation in fossil fuel fired power plants of any connected electricity system Gas(es): CO <sub>2</sub> Type: Baseline Emissions		<table border="1"> <tr> <td>Boundary checklist</td> <td>Yes / No</td> </tr> <tr> <td>Source and gas(es) discussed by the PDD?</td> <td>Yes</td> </tr> <tr> <td>Inclusion / exclusion justified?</td> <td>Yes</td> </tr> <tr> <td>Explanation / Justification sufficient?</td> <td>Yes</td> </tr> <tr> <td>Consistency with monitoring plan?</td> <td>Yes</td> </tr> </table>	Boundary checklist	Yes / No	Source and gas(es) discussed by the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	L	L
Boundary checklist	Yes / No													
Source and gas(es) discussed by the PDD?	Yes													
Inclusion / exclusion justified?	Yes													
Explanation / Justification sufficient?	Yes													
Consistency with monitoring plan?	Yes													
B.3.6. Source: Emissions from electricity generation in fossil fuel fired power plants of imported electricity Gas(es): CO <sub>2</sub> Type: Baseline Emissions	1, 2	<table border="1"> <tr> <td>Boundary checklist</td> <td>Yes / No</td> </tr> <tr> <td>Source and gas(es) discussed by the PDD?</td> <td>Yes</td> </tr> <tr> <td>Inclusion / exclusion justified?</td> <td>Yes</td> </tr> <tr> <td>Explanation / Justification sufficient?</td> <td>Yes</td> </tr> <tr> <td>Consistency with monitoring plan?</td> <td>Yes</td> </tr> </table>	Boundary checklist	Yes / No	Source and gas(es) discussed by the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	L	L
Boundary checklist	Yes / No													
Source and gas(es) discussed by the PDD?	Yes													
Inclusion / exclusion justified?	Yes													
Explanation / Justification sufficient?	Yes													
Consistency with monitoring plan?	Yes													
B.3.7. Do the spatial and technological boundaries as verified on-site comply with the	1, 2	Yes. The project boundary for the proposed project is represented by the South China Power Grid.	L	L										

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discussion provided by the PDD?					
<b>B.4. Description of how the baseline scenario is identified and description of the identified baseline scenario</b>					
B.4.1.	Is it clearly described that the baseline is represented by the combined margin of the grid the activity will be connected to?	1, 2	Yes. The project boundary for the proposed project is represented by the South China Power Grid.	L	L
B.4.2.	In case of any modification or retrofit of existing facilities: Is data available to determine the historic production level?	1, 2	Not applicable.	L	L
B.4.3.	In case of any modification or retrofit of existing facilities: Have conservative assumptions been applied in order to estimate the point in time when the existing equipment needs to be replaced?	1, 2	Not applicable.	L	L
<b>B.5. Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the registered CDM project activity (assessment and demonstration of additionality):</b>					
B.5.1.	In case of applying step 0 of the additionality tool: Is evidence provided, that the project's starting date is after Jan 01, 2000 and before Nov 18, 2004?	1, 2 3, 19	The project participants will not claim emission reductions resulting from power generation dating from before the date of registration of the CDM activity, so this question is not applicable. An evidence for the consideration of CDM before construction has been delivered.	L	L
B.5.2.	In case of applying step 0 of the additionality tool: Is evidence provided, that CDM has been considered seriously in the decision to proceed with the project activity?	1, 2 3	See B.5.1.	L	L

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B.5.3. Have realistic and credible alternatives been identified providing comparable outputs or services? (step 1a)	1, 2 3	As the proposed project is a small scale CDM project activity, the additionality of the proposed project is demonstrated from investment analysis. B.5.3 is not applicable.	L	L
B.5.4. Is the project activity without CDM included in these alternatives? (step 1a)	1, 2 3	Yes.	L	L
B.5.5. Is a discussion provided for all identified alternatives concerning the compliance with applicable laws and regulations? (step 1b)	1, 2 3	Not applicable.	L	L
B.5.6. In case the PDD argues that specific laws are not enforced in the country or region: Is evidence available concerning that statement? (step 1b)	1, 2 3	Not applicable.	L	L
B.5.7. In case of applying step 2 / investment analysis of the additionality tool: Is the analysis method identified appropriately (step 2a)?	1, 2 3	Not applicable.	L	L
B.5.8. In case of Option I (simple cost analysis): Is it demonstrated that the activity produces no economic benefits other than CDM income?	1, 2 3	Not applicable.	L	L
B.5.9. In case of Option II (investment comparison analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?	1, 2 3	Not applicable.	L	L
B.5.10. In case of Option III (benchmark analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?	1, 2 3	Yes, the IRR and NPV indicators are selected. <u>Clarification request 2</u> The document that evidences the IRR benchmark of 10%,%,	CR2	L

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		"Economic evaluation code for small hydropower projects (SL-16-95)" in English has to be delivered to the DOE.		
B.5.11. In case of Option II or Option III: Is the calculation of financial figures for this indicator correctly done for all alternatives and the project activity?	1, 2 3	The calculation of financial figures for IRR is done for the project activity without the revenues from the sale of CERs and with the revenues from the sale of CERs.	L	L
B.5.12. In case of Option II or Option III: Is the analysis presented in a transparent manner including publicly available proofs for the utilized data?	1, 2 3	<u>Corrective Action Request 6</u> <ul style="list-style-type: none"> <li>The evidence of feed-in tariff and loan has to be delivered to the DOE.</li> <li>Evidence (documents) for the claimed barriers have to be delivered that can be published finally together with the PDD!!!</li> </ul>	CAR6	L
B.5.13. In case of applying step 3 (barrier analysis) of the additionality tool: Is a complete list of barriers developed that prevent the different alternatives to occur?	1, 2 3	Yes, The investment barrier has been claimed in the PDD	L	L
B.5.14. In case of applying step 3 (barrier analysis): Is transparent and documented evidence provided on the existence and significance of these barriers?	1, 2 3	Yes, it is.	L	L
B.5.15. In case of applying step 3 (barrier analysis): Is it transparently shown that the execution of at least one of the alternatives is not prevented by the identified barriers?	1, 2 3	Barriers analyzed above don't prevent the baseline alternative (Provision of equivalent amount of annual power output by the grid where the proposed project is connected with) from implementation.	L	L
B.5.16. Have other activities in the host country / region similar to the project activity been identified and are these activities appro-	1, 2 3	n.a.	L	L

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priately analyzed by the PDD (step 4a)?				
B.5.17. If similar activities are occurring: Is it demonstrated that in spite of these similarities the project activity would not be implemented without the CDM component (step 4b)?	1, 2 3	n.a.	L	L
B.5.18. Is it appropriately explained how the approval of the project activity will help to overcome the economic and financial hurdles or other identified barriers (step 5)?	1, 2 3	The CDM registration will make the project more financial attractive.	L	L
<b>B.6. Emissions reductions</b>				
<i>B.6.1. Explanation of methodological choices</i>				
B.6.1.1. Is it explained how the procedures provided in the methodology are applied by the proposed project activity?	1, 2	The calculation of the emission reduction is applied according to the steps described in ACM0002: <ul style="list-style-type: none"> <li>- Calculation of the Operating Margin Emission Factor</li> <li>- Calculation of the Build Margin Emission Factor</li> <li>- Calculation of the Combined Margin Emission Factor</li> </ul> These steps are described in a transparent manner.	L	L
B.6.1.2. Is every selection of options offered by the methodology correctly justified and is this justification in line with the situation verified on-site?	1, 2	Yes, it is.	L	L
B.6.1.3. Are the formulae required for the determination of project emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1, 2	Not applicable	L	L

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B.6.1.4. Are the formulae required for the determination of baseline emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1, 2	Yes, formulae to calculate the baseline emissions are correctly presented.	L	L
B.6.1.5. Is the choice of options to determine the emissions factor (OM, BM) justified in a suitable and transparent manner?	1, 2	Yes. They are justified in suitable and transparent manner.	L	L
B.6.1.6. In case of alternative weighing factors for the Combined Margin: Is the quantification of the alternative weighing factor justified in a suitable and transparent manner?	1, 2	Not applicable. The default weights in the 6 <sup>th</sup> version of ACM0002 (OM 0.5 and BM 0.5 respectively) are used.	L	L
B.6.1.7. In case of alternative weighing factors for the Combined Margin: Is the guidance for the PDD concerning the acceptability of alternative weights considered in the discussion?	1, 2	See B.6.1.6.	L	L
B.6.1.8. Are the formulae required for the determination of leakage emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1, 2	No leakage is considered according to the methodology.	L	L
B.6.1.9. Are formulae required for the determination of emission reductions correctly presented?	1, 2	Yes.	L	L
<b>B.6.2. Data and parameters that are available at validation</b>				
B.6.2.1. Is the list of parameters presented in chapter B.6.2 considered to be complete with regard to the requirements of the ap-	1, 2	Yes. A list of parameters is clearly presented according to AMS-I.D..	L	L

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plied methodology?																						
B.6.2.2. Is the choice of ex-ante or ex-post vintage of OM and BM factors clearly specified in the PDD?	1, 2	Yes, the ex-ante calculation of emission factors is chosen.	L	L																		
B.6.2.3. Parameter Title: Annual electricity supplied to the grid prior to retrofit (applicable only for retrofit and modification activities)		<table border="1"> <thead> <tr> <th>Data Checklist</th> <th>Yes / No</th> </tr> </thead> <tbody> <tr> <td>Title in line with methodology?</td> <td>N/A</td> </tr> <tr> <td>Data unit correctly expressed?</td> <td>N/A</td> </tr> <tr> <td>Appropriate description of parameter?</td> <td>N/A</td> </tr> <tr> <td>Source clearly referenced?</td> <td>N/A</td> </tr> <tr> <td>Correct value provided?</td> <td>N/A</td> </tr> <tr> <td>Has this value been verified?</td> <td>N/A</td> </tr> <tr> <td>Choice of data correctly justified?</td> <td>N/A</td> </tr> <tr> <td>Measurement method correctly described?</td> <td>N/A</td> </tr> </tbody> </table>	Data Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided?	N/A	Has this value been verified?	N/A	Choice of data correctly justified?	N/A	Measurement method correctly described?	N/A	L	L
Data Checklist	Yes / No																					
Title in line with methodology?	N/A																					
Data unit correctly expressed?	N/A																					
Appropriate description of parameter?	N/A																					
Source clearly referenced?	N/A																					
Correct value provided?	N/A																					
Has this value been verified?	N/A																					
Choice of data correctly justified?	N/A																					
Measurement method correctly described?	N/A																					
B.6.2.4. Parameter Title: Emission factor of the grid (CM)		<table border="1"> <thead> <tr> <th>Data Checklist</th> <th>Yes / No</th> </tr> </thead> <tbody> <tr> <td>Title in line with methodology?</td> <td>Yes</td> </tr> <tr> <td>Data unit correctly expressed?</td> <td>Yes</td> </tr> <tr> <td>Appropriate description of parameter?</td> <td>Yes</td> </tr> <tr> <td>Source clearly referenced?</td> <td>Yes</td> </tr> <tr> <td>Correct value provided?</td> <td>Yes</td> </tr> <tr> <td>Has this value been verified?</td> <td>Yes</td> </tr> <tr> <td>Choice of data correctly justified?</td> <td>Yes</td> </tr> <tr> <td>Measurement method correctly described?</td> <td>Yes</td> </tr> </tbody> </table>	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	L	L
Data Checklist	Yes / No																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	Yes																					
Correct value provided?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	Yes																					
B.6.2.5. Parameter Title: Operating margin (OM) emission factor of the grid		<table border="1"> <thead> <tr> <th>Data Checklist</th> <th>Yes / No</th> </tr> </thead> <tbody> <tr> <td>Title in line with methodology?</td> <td>Yes</td> </tr> <tr> <td>Data unit correctly expressed?</td> <td>Yes</td> </tr> <tr> <td>Appropriate description?</td> <td>Yes</td> </tr> </tbody> </table>	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description?	Yes	L	L										
Data Checklist	Yes / No																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description?	Yes																					

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		Source clearly referenced?	Yes		
		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	Yes		
B.6.2.6. Parameter Title: Build margin (BM) emission factor of the grid		Data Checklist	Yes / No	L	L
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	Yes		
B.6.2.7. Parameter Title: fuel consumption of each power source		Data Checklist	Yes / No	L	L
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	Yes		
B.6.2.8. Parameter Title: emission coefficient of each fuel		Data Checklist	Yes / No	L	L
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		

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Source clearly referenced?	Yes																					
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Choice of data correctly justified?	Yes																					
Measurement method correctly described?	Yes																					
B.6.2.9. Parameter Title: electricity generation of each power source		<table border="1"> <tr> <td><b>Data Checklist</b></td> <td><b>Yes / No</b></td> </tr> <tr> <td>Title in line with methodology?</td> <td>Yes</td> </tr> <tr> <td>Data unit correctly expressed?</td> <td>Yes</td> </tr> <tr> <td>Appropriate description of parameter?</td> <td>Yes</td> </tr> <tr> <td>Source clearly referenced?</td> <td>Yes</td> </tr> <tr> <td>Correct value provided?</td> <td>Yes</td> </tr> <tr> <td>Has this value been verified?</td> <td>Yes</td> </tr> <tr> <td>Choice of data correctly justified?</td> <td>Yes</td> </tr> <tr> <td>Measurement method correctly described?</td> <td>N/A</td> </tr> </table>	<b>Data Checklist</b>	<b>Yes / No</b>	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	N/A	L	L
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Title in line with methodology?	Yes																					
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Source clearly referenced?	Yes																					
Correct value provided?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	N/A																					
B.6.2.10. Parameter Title: surface area of full reservoir level (for new hydroelectric activities only)		<table border="1"> <tr> <td><b>Data Checklist</b></td> <td><b>Yes / No</b></td> </tr> <tr> <td>Title in line with methodology?</td> <td>N/A</td> </tr> <tr> <td>Data unit correctly expressed?</td> <td>N/A</td> </tr> <tr> <td>Appropriate description of parameter?</td> <td>N/A</td> </tr> <tr> <td>Source clearly referenced?</td> <td>N/A</td> </tr> <tr> <td>Correct value provided?</td> <td>N/A</td> </tr> <tr> <td>Has this value been verified?</td> <td>N/A</td> </tr> <tr> <td>Choice of data correctly justified?</td> <td>N/A</td> </tr> <tr> <td>Measurement method correctly described?</td> <td>N/A</td> </tr> </table>	<b>Data Checklist</b>	<b>Yes / No</b>	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided?	N/A	Has this value been verified?	N/A	Choice of data correctly justified?	N/A	Measurement method correctly described?	N/A	L	L
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Has this value been verified?	N/A																					
Choice of data correctly justified?	N/A																					
Measurement method correctly described?	N/A																					
B.6.2.11. Parameter Title: fraction of time with low costs /must run		<table border="1"> <tr> <td><b>Data Checklist</b></td> <td><b>Yes / No</b></td> </tr> </table>	<b>Data Checklist</b>	<b>Yes / No</b>	L	L																
<b>Data Checklist</b>	<b>Yes / No</b>																					

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plant at the margin (for simple adjusted OM only)		Title in line with methodology?	N/A	
		Data unit correctly expressed?	N/A	
		Appropriate description of parameter?	N/A	
		Source clearly referenced?	N/A	
		Correct value provided?	N/A	
		Has this value been verified?	N/A	
		Choice of data correctly justified?	N/A	
		Measurement method correctly described?	N/A	
B.6.2.12. Parameter Title: electricity imports		Data Checklist	Yes / No	L
		Title in line with methodology?	Yes	
		Data unit correctly expressed?	Yes	
		Appropriate description of parameter?	Yes	
		Source clearly referenced?	Yes	
		Correct value provided?	Yes	
		Has this value been verified?	Yes	
		Choice of data correctly justified?	Yes	
Measurement method correctly described?	Yes			
B.6.2.13. Parameter Title: CO <sub>2</sub> emission coefficient of fuels used in connected grids	1, 2	Data Checklist	Yes / No	L
		Title in line with methodology?	Yes	
		Data unit correctly expressed?	Yes	
		Appropriate description of parameter?	Yes	
		Source clearly referenced?	Yes	
		Correct value provided?	Yes	
		Has this value been verified?	Yes	
		Choice of data correctly justified?	Yes	
Measurement method correctly described?	Yes			

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<b>B.6.3. Ex-ante calculation of emission reductions</b>				
B.6.3.1. Is the projection based on the same procedures as used for future monitoring?	1, 2	Yes.	L	L
B.6.3.2. Are the GHG calculations documented in a complete and transparent manner?	1, 2	Yes	L	L
B.6.3.3. Is the data provided in this section consistent with data as presented in other chapters of the PDD?	1, 2	Yes.	L	L
<b>B.6.4. Summary of the ex-ante estimation of emission reductions</b>				
B.6.4.1. Will the project result in fewer GHG emissions than the baseline scenario?	1, 2	Yes, there are no project emissions.	L	L
B.6.4.2. Is the form/table required for the indication of projected emission reductions correctly applied?	1, 2	Yes, the form is correctly applied according to the PDD template.	L	L
B.6.4.3. Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period?	1, 2	See CAR5	See CAR5	L
B.6.4.4. Is the data provided in this section in consistency with data as presented in other chapters of the PDD?	1, 2	Yes.	L	L
<b>B.7. Application of the monitoring methodology and description of the monitoring plan</b>				
<b>B.7.1. Data and parameters monitored</b>				
B.7.1.1. Is the list of parameters presented by chapter B.7.1 considered to be complete with regard to the requirements of the	1, 2	Yes. The E <sub>Gy</sub> is the parameter that shall be monitored and recorded. The electricity connected to the grid is automatically measured and recorded by the computers. The measurement	CAR7	L

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applied methodology?		<p>data for the electricity will be recorded electronically. To ensure the accuracy of data, electricity sales invoices by the local grid company will also be obtained as an additional check.</p> <p>During on-site audit, there was no evidence indicated that detailed monitoring procedures and calibration and measurement plan of the instruments and equipments were available.</p> <p>The organization chart and the function description and WI for the monitoring were unavailable.</p> <p><u>Corrective Action Request 7:</u></p> <p>The above mentioned documents should be supplied to DOE. Especially please describe how to deal with meter failures.</p> <p>The accuracy of the meter should be determined. It should be clarified that the net electricity will be metered and how the captive power will be metered. Is there a back-up line?</p>																										
B.7.1.2. Parameter Title: Electricity supplied to the grid	1, 2	<table border="1"> <thead> <tr> <th>Monitoring Checklist</th> <th>Yes / No</th> </tr> </thead> <tbody> <tr> <td>Title in line with methodology?</td> <td>Yes</td> </tr> <tr> <td>Data unit correctly expressed?</td> <td>Yes</td> </tr> <tr> <td>Appropriate description of parameter?</td> <td>Yes</td> </tr> <tr> <td>Source clearly referenced?</td> <td>Yes</td> </tr> <tr> <td>Correct value provided for estimation?</td> <td>Yes</td> </tr> <tr> <td>Has this value been verified?</td> <td>Yes</td> </tr> <tr> <td>Measurement method correctly described?</td> <td>Yes</td> </tr> <tr> <td>Correct reference to standards?</td> <td>Yes</td> </tr> <tr> <td>Indication of accuracy provided?</td> <td>No</td> </tr> <tr> <td>QA/QC procedures described?</td> <td>No</td> </tr> <tr> <td>QA/QC procedures appropriate?</td> <td>No</td> </tr> </tbody> </table> <p>See CAR 7</p>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	Yes	Correct reference to standards?	Yes	Indication of accuracy provided?	No	QA/QC procedures described?	No	QA/QC procedures appropriate?	No	See CAR7	L
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B.7.1.3. Parameter Title:	1, 2	<table border="1"> <thead> <tr> <th>Monitoring Checklist</th> <th>Yes / No</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> </tr> </tbody> </table>	Monitoring Checklist	Yes / No			L	L																				
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(for geothermal projects only)		Title in line with methodology?	N/A		
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		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.4. Parameter Title: Fraction of CO <sub>2</sub> in steam produced (for geothermal projects only)	1, 2	<b>Monitoring Checklist</b>	Yes / No	L	L
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
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		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.5. Parameter Title: Fraction of CH <sub>4</sub> in steam produced (for geothermal projects only)	1, 2	<b>Monitoring Checklist</b>	Yes / No		
		Title in line with methodology?	N/A		

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QA/QC procedures described?	N/A																											
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<p>B.7.1.6. Parameter Title: Quantity of steam generated during well testing (for geothermal projects only)</p>	1, 2	<table border="1"> <thead> <tr> <th>Monitoring Checklist</th> <th>Yes / No</th> </tr> </thead> <tbody> <tr><td>Title in line with methodology?</td><td>N/A</td></tr> <tr><td>Data unit correctly expressed?</td><td>N/A</td></tr> <tr><td>Appropriate description of parameter?</td><td>N/A</td></tr> <tr><td>Source clearly referenced?</td><td>N/A</td></tr> <tr><td>Correct value provided for estimation?</td><td>N/A</td></tr> <tr><td>Has this value been verified?</td><td>N/A</td></tr> <tr><td>Measurement method correctly described?</td><td>N/A</td></tr> <tr><td>Correct reference to standards?</td><td>N/A</td></tr> <tr><td>Indication of accuracy provided?</td><td>N/A</td></tr> <tr><td>QA/QC procedures described?</td><td>N/A</td></tr> <tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr> </tbody> </table>	Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	L	L
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<p>B.7.1.7. Parameter Title: Fraction of CO<sub>2</sub> in steam during well testing (for geothermal projects only)</p>	1, 2	<table border="1"> <thead> <tr> <th>Monitoring Checklist</th> <th>Yes / No</th> </tr> </thead> <tbody> <tr><td>Title in line with methodology?</td><td>N/A</td></tr> <tr><td>Data unit correctly expressed?</td><td>N/A</td></tr> </tbody> </table>	Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	L	L																		
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B.7.1.8. Parameter Title: Fraction of CH <sub>4</sub> in steam during well testing (for geothermal projects only)	1, 2	<table border="1"> <thead> <tr> <th>Monitoring Checklist</th> <th>Yes / No</th> </tr> </thead> <tbody> <tr><td>Title in line with methodology?</td><td>N/A</td></tr> <tr><td>Data unit correctly expressed?</td><td>N/A</td></tr> <tr><td>Appropriate description of parameter?</td><td>N/A</td></tr> <tr><td>Source clearly referenced?</td><td>N/A</td></tr> <tr><td>Correct value provided for estimation?</td><td>N/A</td></tr> <tr><td>Has this value been verified?</td><td>N/A</td></tr> <tr><td>Measurement method correctly described?</td><td>N/A</td></tr> <tr><td>Correct reference to standards?</td><td>N/A</td></tr> <tr><td>Indication of accuracy provided?</td><td>N/A</td></tr> <tr><td>QA/QC procedures described?</td><td>N/A</td></tr> <tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr> </tbody> </table>	Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	L	L
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QA/QC procedures described?	N/A																											
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B.7.1.9. Parameter Title: CO <sub>2</sub> emission coefficient of fuel used by the geothermal plant (for geothermal projects only)	1, 2	<table border="1"> <thead> <tr> <th>Monitoring Checklist</th> <th>Yes / No</th> </tr> </thead> <tbody> <tr><td>Title in line with methodology?</td><td>N/A</td></tr> <tr><td>Data unit correctly expressed?</td><td>N/A</td></tr> <tr><td>Appropriate description of parameter?</td><td>N/A</td></tr> </tbody> </table>	Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	L	L																
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<b>B.7.2. Description of the monitoring plan</b>																				
B.7.2.1. Is the operational and management structure clearly described and in compliance with the envisioned situation?	1, 2	<p><u>Corrective Action Request 8:</u></p> <p>The following procedures have to be described in the PDD or delivered to the DOE.</p> <ul style="list-style-type: none"> <li>- Operational and management structure, including the authority and responsibility for project management, registration, monitoring and reporting</li> <li>- Training of monitoring personnel</li> <li>- The installment, calibration and maintenance of the monitoring equipment, including equipment detailed information, e.g. general location, type and accuracy classes etc.</li> <li>- Dealing with Possible monitoring data adjustments &amp; uncertainties</li> <li>- Troubleshooting allowing redundant reconstruction of data in case of monitoring problems?</li> <li>- Emergency preparedness for cases where emergencies can cause unintended emissions</li> <li>- Review of reported results/data?</li> </ul>	CAR8	L																

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		<ul style="list-style-type: none"> <li>- Internal audits of GHG project compliance with operational requirements where applicable</li> <li>- Project performance review before submission for verification, internally or externally</li> <li>- Corrective actions in order to provide for more accurate future monitoring and reporting</li> </ul>		
B.7.2.2. Are responsibilities and institutional arrangements for data collection and archiving clearly provided?	1, 2	Yes. According to the PDD, the annual output from the power plant will be monitored and recorded at the substation. The project operator is responsible for recording this set of data. Electricity sales invoices will also be obtained as an additional check. Data records will be archived for 2 years following the end of the crediting period	L	L
B.7.2.3. Does the monitoring plan provide current good monitoring practice?	1, 2	Yes.	L	L
B.7.2.4. If applicable: Does annex 4 provide useful information enabling a better understanding of the envisioned monitoring provisions?	1, 2	Not applicable	L	L
<b>B.8. Date of completion of the application of the baseline study and monitoring methodology an the name of the responsible person(s)/entity(ies)</b>				
B.8.1. Is there any indication of a date when the baseline was determined?	1, 2	Yes, on 01/12/2006.	L	L
B.8.2. Is this consistent with the time line of the PDD history?	1, 2	Yes	L	L
B.8.3. Is the information on the person(s) / en-	1, 2	Mr. Chunmin Li, Mr. Junhui Liu and Mr. Lanren Su from Haohua	L	L

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tity(ies) responsible for the application of the baseline and monitoring methodology provided consistent with the actual situation?		Rivers International Water Engineering Consulting Co.Ltd determined the monitoring methodology.		
B.8.4. Is information provided whether this person / entity is also considered a project participant?	1, 2	The above mentioned persons are no project participants.	L	L
<b>C. Duration of the project activity / crediting period</b>				
<b>C.1. Duration of the project activity</b>				
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	1, 2	The operational lifetime is expected to be 25 years. <u>Corrective Action Request 9:</u> The project starting date should be revised.	CAR9	L
<b>C.2. Choice of the crediting period and related information</b>				
C.2.1. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2 renewals or fixed crediting period of max. 10 years)?	1, 2	7 years with potential for 2 renewals is chosen as the crediting period. The starting date has to be revised. See CAR5.	See CAR5	L
<b>D. Environmental impacts</b>				
<b>D.1. Documentation on the analysis of the environmental impacts, including transboundary impacts</b>				
D.1.1. Has the analysis of the environmental impacts of the project activity been sufficiently described?	1, 2	Yes, the environmental impacts of the project activity during construction and operation period have been clearly described.	L	L

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
D.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, has an EIA been approved?	1, 2 9	Yes, EIA is a must in P. R. China for new hydro power projects. The EIA of the proposed project was approved by Guizhou Zunyi Environmental Protection Bureau in Dec. 2006. The documents have been reviewed by the DOE.	L	L
D.1.3. Will the project create any adverse environmental effects?	1, 2 9	Referred to the EIA and the approval of EIA, the project will create no negative environmental impacts. <u>Corrective Action Request 10:</u> The required standard for the wastewater discharge is “the quality standard of farmland flooding water” – GB5084-92, not the discharge effluent standards 1 <sup>st</sup> level in GB8978-1996 according to the approval of EIA. The lowest ecological flux is 2.31m <sup>3</sup> /s. The related guarantee actions should be defined.	CAR10	L
D.1.4. Were transboundary environmental impacts identified in the analysis?	1, 2 9	There is no trans-boundary impact described in EIA report or approval of EIA.	L	L
<b>D.2. If environmental impacts are considered significant by the project participants or the host Party, please provide conclusions and all references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party</b>				
D.2.1. Have the identified environmental impacts been addressed in the project design sufficiently?	1, 2 9	Refer to the EIA and the approval of EIA, there is no adverse environmental impact from the project activity.	L	L
D.2.2. Does the project comply with environmental legislation in the host country?	1, 2 9	Yes, the project is in conformity with the environmental legislation of P. R. China and the EIA has been approved by authorized organization.	L	L

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CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
<b>E. Stakeholders' comments</b>					
<b>E.1. Brief description how comments by local stakeholders have been invited and compiled</b>					
E.1.1.	Have relevant stakeholders been consulted?	1, 2	Yes, the relevant stakeholders have been consulted via questionnaires. No negative comments were given from the participants.	L	L
E.1.2.	Have appropriate media been used to invite comments by local stakeholders?	1, 2	Questionnaires were used to invite comments by local stakeholders on May 16, 2005 during the environmental impact assessment period.  <u>Corrective Action Request 11:</u>  The comments on the project as a CDM project have been collected by the appropriate media. The original data should be provided to DOE. (the questionnaires and the letter to collect the opinions about the proposed project)	CAR11	L
E.1.3.	If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	1, 2	According to EIA regulation the stakeholder consultation should be carried out during EIA. And the stakeholder consultation has been carried out on May 16, 2005.	L	L
E.1.4.	Is the undertaken stakeholder process that was carried out described in a complete and transparent manner?	1, 2	Yes. The process is described in a complete and transparent manner.	L	L
<b>E.2. Summary of the comments received</b>					
E.2.1.	Is a summary of the stakeholder comments received provided?	1, 2	Yes, G.2. and G.3. of the PDD give a summary of stakeholder comments received by questionnaires, but see CAR11.	See CAR11	L

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
<b>E.3. Report on how due account was taken of any comments received</b>				
E.3.1. Has due account been taken of any stakeholder comments received?	1, 2	All stakeholder comments are positive, no action has been taken.	L	L
<b>F. Annexes 1 – 4</b>				
<b>Annex 1: Contact Information</b>				
F.1.1. Is the information provided consistent with the one given under section A.3?	1, 2	Yes.	L	L
F.1.2. Is the information on all private participants and directly involved Parties presented?	1, 2	The information about Zhongshui Hydro Power Development in Chishui Co.Ltd. is presented. See CR1	See CR1	L
<b>Annex 2: Information regarding public funding</b>				
F.1.3. Is the information provided on the inclusion of public funding (if any) in consistency with the actual situation presented by the project participants?	1, 2	Yes. There is no public funding necessary; all costs are covered by bank loans and private equity.	L	L
F.1.4. If necessary: Is an affirmation available that any such funding from Annex-I-countries does not result in a diversion of ODA?	1, 2	See F.1.3	L	L

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**Table 2 Resolution of Corrective Action and Clarification Requests**

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
<p><u>Corrective Action Request 1:</u></p> <p>The description of the location of the proposed project is not consistent with the description in the chapter A.4.1.3 (Shibao Town or Guandu Town)</p> <p>Please to provide the construction information of the project. E.g. the development party, construction party, the starting date, the planning finished date, and the current status of the project.</p> <p>According to the purchasing contract of devices(contract number: Guangfa2005, in April, 2005). the type of the generators should be SF4500-14/3250, not be 2150,</p> <p>According to the report of feasibility study, the length of the diversion tunnels should be 1650m, not be 1190m,</p>	<p>A.2.1</p>	<p>It has been revised to Shibao Town. And Shibao Town has been added in page 3 section A.2 and in page 4 in section A.4.1.4.</p> <p>“The main contracts for the construction of the proposed project have already been signed and equipments have been purchased. The first generator has been started to generate electricity. The second generator will be installed completely before the end of January 31 year 2007.” has been added in page 6 in section A.4.2.</p> <p>The type of the generator of SF4500-14/3250 has been revised in page 3 and page 6.</p> <p>The length of the diversion tunnels has been revised in page 5.</p>	<p>L</p>

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<p><u>Corrective Action Request 2:</u> The data of the power density is unavailable.</p>	<p>A.4.3.2</p>	<p>Because the proposed project is a small scale run-of-river hydro power project of 9 MW: Type I: Renewable energy projects Category I.D.: Renewable Energy Generation for a Grid Sub-category: Hydro The AMS-I.D doesn't need to calculate power density. So the power density needn't to be provided.</p>	<p>L</p>
<p><u>Corrective Action Request 3:</u> Please specify whether the project needs extensive initial training and maintenance efforts in the PDD</p>	<p>A.4.3.8</p>	<p>"Before the formal operation of the proposed project, the personal in charge of CDM will organize the relevant personals to participate the CDM training. The period of the training will at least last 3 working days." Is added in section B.7.2.</p>	<p>L</p>
<p>The planning schedule in the past and for the future was clearly described by the project owner during the audit. The main contracts for the construction of the hydro power have already been signed and equipments have been purchased. The second generation unit will be installed completely before the end of January 31. There is no risk for delays. <u>Corrective Action Request 4</u> The time schedule of the implementation of the project should be included into the PDD..</p>	<p>A.4.3.10</p>	<p>"The main contracts for the construction of the proposed project have already been signed and equipments have been purchased. The first generator has been started to generate electricity. The second generator will be installed completely before the end of January 31 year 2007." has been added in page 6 in section A.4.2.</p>	<p>L</p>

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<p><u>Corrective Action Request 5:</u></p> <p>The crediting period will start after the registration of this project, so the starting date of the crediting period and the estimated emission reductions of the year of 2007 in Table 1 and further chapters of the PDD have to be revised.</p>	<p>A.4.4.2</p>	<p>The starting date of the first crediting period has been revised to be 01/09/2007 in section C and related part.</p>	<p>L</p>
<p><u>Corrective Action Request 6</u></p> <ul style="list-style-type: none"> <li>• The evidence of feed-in tariff and loan has to be delivered to the DOE.</li> <li>• Evidence (documents) for the claimed barriers have to be delivered that can be published finally together with the PDD!!!</li> </ul>	<p>B.5.12</p>	<p>The 0.213yuan/kWh of the bus-bar tariff of the proposed project is from P14-3 in the Primary Design Report of the proposed project.</p> <p>The additionality of the proposed project is emphasized from investment and economic analysis, not including other barriers. So there is no evidence for the claimed barriers.</p>	<p>L</p> <p>The further barriers (cash flow risks, low bus-bar tariff, unstable electricity generation - as mentioned on page 10 of the PDD) are related to the investment barrier and therefore the answer can be accepted.</p>

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<p>Yes. The EGY is the parameter that shall be monitored and recorded. The electricity connected to the grid is automatically measured and recorded by the computers. The measurement data for the electricity will be recorded electronically. To ensure the accuracy of data, electricity sales invoices by the local grid company will also be obtained as an additional check. During on-site audit, there was no evidence indicated that detailed monitoring procedures and calibration and measurement plan of the instruments and equipments were unavailable.</p> <p>The organization chart and the function description and WI for the monitoring were unavailable.</p> <p><u>Corrective Action Request 7:</u></p> <p>The above mentioned documents should be supplied to DOE. Especially please describe how to deal with meter failures.</p> <p>The accuracy of the meter should be determined. It should be clarified that the net electricity will be metered and how the captive power will be metered. Is there a back-up line?</p>	<p>B.7.1.1</p>	<p>The organization of Monitoring Structure, and the responsibility of each department is changed in section B.7.2.</p> <p>“The project site will install two series of measurement and monitoring equipments, one as the main equipment and the other as standby.” Has been added in section B.7.2 to deal with meter failures.</p> <p>“The pass meter should meet the standard of national I type measurement reaching 0.2S of the precision.” Has been added in section B.7.2.</p> <p>“Several ammeters are installed by the proposed project owner at the following locations: low-pressure outline end of each generator, the former end of the main transformer and the circuit of captive electricity; and the pass meter will be installed at the terminal to the grid. Through these ammeters and the pass meter, the electricity generation by each generator, the electricity because of line loss, the captive electricity and the back-up electricity can be all monitored. The net feed-in electricity to the grid can be checked with the pass meter.” Has been added in section B.7.2</p>	<p>L</p>
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<p>Referred to the EIA and the approval of EIA, the project will create no negative environmental impacts.</p> <p><u>Corrective Action Request 10:</u></p> <p>The required standard for the wastewater discharge is “the quality standard of farmland flooding water” – GB5084-92, not the discharge effluent standards 1<sup>st</sup> level in GB8978-1996 according to the approval of EIA.</p> <p>The lowest ecological flux is 2.31m<sup>3</sup>/s. The related guarantee actions should be defined.</p>	D.1.3	<p>It has been revised to “the quality standard of farmland flooding water” GB5084-92 in section D.1.</p> <p>The proposed project has draining holes to make sure the water flux reaches 2.31m<sup>3</sup>/s.</p>	L
<p>Questionnaires were used to invite comments by local stakeholders on May 16, 2005 during the environmental impact assessment period.</p> <p><u>Corrective Action Request 11:</u></p> <p>The comments on the project as a CDM project have been collected by the appropriate media. The original data should be provided to DOE. (the questionnaires and the letter to collect the opinions about the proposed project)</p>	E.1.2	The original data has been provided to the DOE	L
<p>The form is correctly applied. Zhongshui Hydro Power Development in Chishui City Co. Ltd. is considered as project participant.</p> <p><u>Clarification request 1:</u></p> <p>Please to clarify if the proposed project is a single side CDM project.</p>	A3.1	At present, the proposed project is a double side CDM project. The CERs buyer is ICECAP Carbon Portfolio Limited. This information has been added in section A.4.3	L

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<p><u>Clarification request 2</u></p> <p>The document that evidences the IRR benchmark of 10%, "<i>Economic evaluation code for small hydropower projects (SL-16-95)</i>" in English has to be delivered to the DOE.</p>	<p>B.5.10</p>	<p>The document has been faxed to the DOE.</p>	<p>L</p>
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## **ANNEX 2: INFORMATION REFERENCE LIST**

Final Report 2007-06-13	Validation of the “Yangjiawan 9MW Hydro Power CDM Project“ Information Reference List	Page 1 of 2	 Industrie Service
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Reference No.	Document or Type of Information																					
1	Final Project Design Document for CDM project “Yangjiawan 9MW Hydro Power CDM Project”, finalized on Dec. 1 , 2006, submitted in Dec.5, 2006																					
2	Consolidated baseline methodology for AMS-I.D. “Grid-connected renewable electricity generation”, version 09																					
3	Tool for Appendix B of the simplified modalities and procedures for small-scale CDM project activities, version 06																					
4	Participant list of on-site interview, signed on Jan. 13, 2007																					
5	<p>On-site interviews and inspection at the office conducted on Jan. 13, 2007 by validators of TÜV SÜD.</p> <p>Validation team:  Carl Zhou                      Jiangsu TUV Product Service Ltd.</p> <p>Interviewed persons:</p> <table border="0"> <tr> <td>Ma Yajun</td> <td>Guizhou Zhongshui Hengyuan project consulting and management CO. Ltd.</td> <td>Engineer</td> </tr> <tr> <td>Tang Kai</td> <td>Guizhou Zhongshui Hengyuan project consulting and management CO. Ltd.</td> <td>Engineer</td> </tr> <tr> <td>Yang Heng</td> <td>Guizhou Zhongshui Hydro Power Development in Chishui Co. Ltd.</td> <td>Manager</td> </tr> <tr> <td>Guo Diancheng</td> <td>Guizhou Zhongshui Hydro Power Development in Chishui Co. Ltd</td> <td>Leader of finance department</td> </tr> <tr> <td>Zhang</td> <td>Guizhou Zhongshui Hydro Power Development in Chishui Co. Ltd.</td> <td>Engineer</td> </tr> <tr> <td>Liu Junhui</td> <td>Beijing Haohua Rivers international water Engineering consulting CO. Ltd.</td> <td>General Engineer</td> </tr> <tr> <td>Fan Decheng</td> <td>Guizhou Zhongshui Hydro Power Development in Chishui Co. Ltd</td> <td>Engineer</td> </tr> </table>	Ma Yajun	Guizhou Zhongshui Hengyuan project consulting and management CO. Ltd.	Engineer	Tang Kai	Guizhou Zhongshui Hengyuan project consulting and management CO. Ltd.	Engineer	Yang Heng	Guizhou Zhongshui Hydro Power Development in Chishui Co. Ltd.	Manager	Guo Diancheng	Guizhou Zhongshui Hydro Power Development in Chishui Co. Ltd	Leader of finance department	Zhang	Guizhou Zhongshui Hydro Power Development in Chishui Co. Ltd.	Engineer	Liu Junhui	Beijing Haohua Rivers international water Engineering consulting CO. Ltd.	General Engineer	Fan Decheng	Guizhou Zhongshui Hydro Power Development in Chishui Co. Ltd	Engineer
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Liu Junhui	Beijing Haohua Rivers international water Engineering consulting CO. Ltd.	General Engineer																				
Fan Decheng	Guizhou Zhongshui Hydro Power Development in Chishui Co. Ltd	Engineer																				
6	Feasibility report of Yangjiawan 9MW hydro power project, dated in April 2003, Guizhou province Zunyi City survey design and research institute for water source and hydro power, submitted on Jan. 13, 2007																					
	The meeting summary of review for hydro power connected to Grid for the project Yangjiawan hydro power station., dated on Nov. 6, the electricity supply bureau in Zhunyi, Zhuanyiji(2006)22, submitted on Jan. 13, 2007																					
7	The approval of EIA for the Yangjiawan hydro power station, dated in Jan, 24, the environment protection bureau in Zhunyi, Zhunshihuanhan(2006)6, submitted on Jan. 13, 2007																					
8	The notice of the ground compensation program fro the Yangjiawan hydro power, dated on Feb. 1, 2005, the government in Chishui																					

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Reference No.	Document or Type of Information
	city, submitted on Jan. 13, 2007
9	The purchasing contract for the devices of transformer, dated in Oct. 2005, No. YJW-ZB-200507, with Guangxi Niuzhou special transformer Co. Ltd, submitted on Jan. 13, 2007
10	The purchasing contract for the devices of generator unit and side chapel devices, dated in April, 2005, No. Guangfa 2005, with Nanjing generator devices factory, submitted on Jan. 13, 2007
11	Supplement contract for the devices of generator unit and side chapel devices, dated in April, 2005, No. Guangfa 2005, with Nanjing generator devices factory, submitted on Jan. 13, 2007
12	The approval of the application report of the Yangjiawan hydro power station, dated on Jun. 6, 2006, the committee of development and reformation in Zhunyi, Zhunshifagainong(2006)13, submitted on Jan. 13, 2007
13	The approval of application construction for the Yangjiawan hydro power station, dated on Sep. 29, 2004, the committee of development and reformation in Zhunyi, Zhunshijinong(2004)25, submitted on Jan. 13, 2007
14	The report of initial design for the Yangjiawan hydro power station, dated in Jan. 2005, Guizhou province survey design and research institute for water source and hydro power, submitted on Jan. 13, 2007
15	EIA for the Yangjiawan hydro power station, dated in Dec. 2005, Guizhou province survey design and research institute for water source and hydro power, submitted on Jan. 13, 2007
16	Revised Final Project Design Document for CDM project “Yangjiawan 9MW Hydro Power CDM Project”, finalized on May. 31 , 2007,
17	Investment analysis of Yangjiawan, Excel sheet of the IRR calculation
18	Economic Evaluation Code for Small Hydropower Projects SL16-95
19	Meeting summary of Guizhou Zongshui Corporation, dated on 03/06/2004