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# Validation Report

**EDISON S.p.A.**

**SICHUAN SHIMIAN XIELUO WANBA RIVER HYDRO-  
POWER STATION**

**REPORT NO. 1054139**

**2008, July 18**

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> TÜV Italia Srl Via Carducci, 125 20099 Sesto San Giovanni (MI) Italy	
<b>Client:</b> EDISON Spa Foro Buonaparte, 31 20121 Milano Italy		<b>Project Site(s):</b> Xieluo Tibetan Town, Shimian County, Ya'an City, Sichuan Province P.R. of China Power plant geographical coordinates: - Longitude: 102°10'05"E, Latitude: 29°09'18"N. Dam geographical coordinates: - Longitude: 102°08'24"E, Latitude: 23°52'58" N.	
<b>Project Title:</b> Sichuan Shimian Xieluo Wanba River Hydropower Station			
<b>Applied Methodology / Version:</b> ACM0002 version 6		<b>Scope(s):</b> 1	
<b>First PDD Version:</b> Date of issuance: 2007-07-13 Version No.: 2.0 Starting Date of GSP 2007-07-20		<b>Final PDD version:</b> Date of issuance: 2008-06-26 Version No.: 3.0	
<b>Estimated Annual Emission Reduction:</b>		233,792 tons CO <sub>2e</sub>	
<b>Assessment Team Leader:</b> Dr. Sven Kolmetz		<b>Further Assessment Team Members:</b> Luciano Grugni Xiong Rencheng	
<b>Summary of the Validation Opinion:</b> <div style="margin-left: 20px;"> <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 in case letters of approval of all Parties involved will be available before the expiring date of the applied methodology(ies) or the applied methodology version respectively. </div> <div style="margin-left: 20px;"> <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. </div>			



## 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:  
Sichuan Shimian Xieluo Wanba River Hydropower Station.

### 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:

- The Kyoto Protocol, in particular § 12
- Decision 2/CMP1 and Decision 3/CMP.1 (Marrakech Accords)
- Further COP/MOP decisions with reference to the CDM (e.g. decisions 4 – 8/CMP.1)
- Decisions by the EB published under <http://cdm.unfccc.int>
- Specific guidance by the EB published under <http://cdm.unfccc.int>
- Guidelines for Completing the Project Design Document (CDM-PDD), and the Proposed New Baseline and Monitoring Methodology (CDM-NM)
- The applied approved methodology
- The technical environment of the project (technical scope)
- Internal and national standards on monitoring and QA/QC
- 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, 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>
The checklist is organised in sections following the arrangement of the applied PDD version. Each section is then further subdivided. The lowest level constitutes a checklist question / criterion.	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.	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	Conclusions are presented based on the assessment of the first PDD version. This is either acceptable based on evidence provided (✓), 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.	Conclusions are presented in the same manner based on the assessment of the final PDD version.

<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:

- Assessment Team Leader (ATL)
- Greenhouse Gas Auditor (GHG-A)
- Greenhouse Gas Auditor Trainee (T)
- 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 is written in bold letters):

Name	Qualification	Coverage of technical scope	Coverage of sectoral expertise	Host country experience
<b>Dr. Sven Kolmetz</b>	ATL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Mr. Luciano Grugni	GHG - A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Mr. Xiong Rencheng	GHG - A		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**Dr. Sven Kolmetz** is physicist and ATL at the department “TÜV Carbon Management Service” located in the head office of TÜV SÜD 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.

**Mr. Luciano Grugni** is an auditor for environmental management systems and JI/CDM at the department “Climate, Energy and Environment” of the Italian branch of TÜV SÜD Group. He has been involved in the topic of environmental auditing, monitoring and verification due to the requirements of the Kyoto Protocol. His main focus lies on emissions trading audits and renewable energies.

**Mr. Xiong Rencheng** is an auditor for environmental management systems and JI/CDM at TÜV SÜD China. He is based in Shenzhen. 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 August 8, 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. Dai Hai	Sichuan Liyuan Electricity Development Co. Ltd.
Mr. Wang Zhihui	Sichuan Liyuan Electricity Development Co. Ltd.
Mr. Zhou Zhongliang	Sichuan Liyuan Electricity Development Co. Ltd.
Ms. Guan Guihong	Beijing Tianqing Power International CDM Consulting Co. Ltd.
Ms. Jasmine Tang	Beijing Tianqing Power International CDM Consulting Co. Ltd.
Mr. Peng Liangyi	Beijing Tianqing Power International CDM Consulting 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 re-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.

#### History of the validation process

The audit team has been provided with a draft PDD in July 2007. 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 January 2008 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.

#### Project description

The proposed project “Sichuan Shimian Xieluo Wanba River Hydropower Station” is a diversion type of run-of-river hydropower station with an installed capacity of 69MW, located at Wanba River, in Xieluo Tibetan Town, Shimian County, Ya'an City, Sichuan Province, China. The construction of the power station mainly consists of barrage, water gap, diversion tunnels, plant house, and switch station etc. The total length of the diversion tunnel is 6,324m.

The average annual generation is 356,090 MWh, according to an estimated operational time of 5,058 hours per year. The net electricity supplied to the grid is 260,420 MWh. The power generated is finally connected to Central China Grid through the local sub-grid system.

The electricity generated by the project will replace the correspondent amount of coal-based electricity as supplied by Central China Grid, reducing in this way GHG emissions for an amount of 233,792 tCO<sub>2</sub>e annually.

#### Findings

In total the assessment team expressed 6 Corrective Action Requests. Some of the CAR regard missing information and evidences as lack of implementation schedule of the project (CAR 1) or lack of reference documents to support statements and assumptions (CAR 3).

IRR calculation had to be adjusted and revised by project developers according to CAR 2; the use of values for significant parameters (tariff, investment cost etc.) had to be justified and relative evidences consequently provided to DOE.

Use of the last available data for emission reduction parameters calculation was the object of CAR 4 and the monitoring section had to be revised adding more details on meters and providing a more transparent description (CAR 5). The environmental impacts, weakly analysed in draft PDD, had to be revised with a more deep discussion, according to CAR 6.

#### Baseline calculation

According to methodology ACM0002, baseline emission are equal to the power supplied to grid, multiplied by baseline emission factor  $EF_y$ . The baseline emission factor is calculated as a combined margin (CM): a weighted average of the Operating Margin Emission Factor ( $EF_{OM,y}$ ) and the Build Margin Emission Factor ( $EF_{BM,y}$ ).

The OM Emission Factor has been calculated on the basis of the Bulletin on Baseline Emission Factors of China Grid renewed by the Director Office of National Climate Change Coordination of NDRC (Chinese DNA) on August 9, 2007, deviating at some points by using the original data published in the China Energy Statistical Yearbook, China Electric Power Yearbook and IPCC 2006.

The Build Margin Emission Factor  $EF_{BM,y}$  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 Build Margin calculations is derived from the "Bulletin on the Baseline Emission Factor of the China Grid", which was renewed by the Chinese DNA (Director Office of National Climate Change Coordination of NDRC) on August 9, 2007.

Has been verified that the ex-ante baseline emission factor calculation, leads to a conservative estimation of the value: the Combined Baseline Emission Factor of the Central China Grid used by project participants corresponds to 0.89775 tCO<sub>2</sub>e/MWh which is lower than the same indicated by the National Climate Change Coordination of NDRC which corresponds to 0.97455 tCO<sub>2</sub>e/MWh.

As greenhouse gases emission from the project can be considered to be zero and no leakage calculation is required according to ACM0002 methodology, the emission reductions are equal to baseline emissions.

### **Additionality**

The assessment team have verified the consideration for CDM before the starting of the project activities: the project owner have demonstrated to be in an early stage aware about the potential of CDM to support its activities before the deciding to proceed with the investment. In particular, has been verified that the preliminary decision to apply to Green Credit Fund, taken by the project owner on June 20<sup>th</sup>, 2003, found its basis on the low IRR for the given project. In fact, even though the Feasibility Study Report dated March 2003 states that the project IRR is quite high (11.22%) basing this result on a grid price of 0.216 Yuan/kWh, the grid price indicated (0.15 Yuan/kWh) in the Grid Connection Agreement signed three months later (June 2003), lowered the financial feasibility of the project down to an IRR of 6.67%.

The decision to implement the project is based on the potential of the revenues deriving from CDM, as further evidenced by the CDM cooperation agreement signed by the project owner on July 2003 with Ya'an Water Conservancy Association confirming the assistance to apply for CDM.

A Preliminary Design Report has been issued on April 2004 reporting some minor changes in the figures and anyway confirming the outcome of FSR.

Hence, we are very confident that CDM has been considered before the starting date of the project.

The main equipment purchase agreement was then signed on September 2004 and the construction started on February 2005; the project owner contacted the CDM developers signing a cooperation agreement on May 2005. Then, a first Letter of Interest with a buyer was signed on October 2005; due to the long time taken by the buyer to investigate the project, it was decided by PPs to look for another buyer: no progresses were recorded until the end of 2006. In early 2007 Edison was found as a possible new buyer; after the due diligence was performed, a new Letter of Intent was signed in April 2007. The ERPA was then signed on June 2007. DOE has requested the PPs to provide the relevant evidences with the purpose to support the timeline and explain the delays in starting of the validation activity. As a result of this assessment, DOE is confident that the information given is correct and in compliance with the actual situation and project history.

In step one of applying the tool for the demonstration and assessment of additionality (hereafter: additionality tool) it is concluded that there exist alternatives to the proposed project activity and the additionality criteria is fulfilled.

The investment analysis has been carried on through Option III, i.e. Benchmark analysis. This approach has been demonstrated to be the most appropriate for the project and furthermore it has been used in other PDDs of the similar projects in China. The relevant benchmark has been taken in accordance with the Economical Assessment Temporary Regulation on Electrical Technology Improvement Projects, published by China Electric Power Press in March 2003. The IRR calculated starting from the financial basic parameters as in Feasibility Study Report and on the grid price of 0.15 Yuan/kWh, is equal to 6.67% which is lower than the 8% benchmark. The Preliminary Design Report issued on April 2004 reports slightly changes in the values for the key parameters, comparing to the previous FSR, anyway confirming an IRR of more than eleven percent for the project, bas-

ing this result on a grid price of 0.212 Yuan/kWh. Anyway it's confirmed that the decision to apply for green fund and, thus, to proceed with the improvement in IRR value is based on the data from FSR and the grid connection agreement, which both comes before the PDR.

Therefore, the values from the Feasibility Study Report (FSR), approved by the Local Authority have been the basis of the decision to proceed with the investment in the project considering a grid price of 0.15 Yuan/kWh that, at the time, was the most reasonable due to the above mentioned agreement. The grid price indicated in the Grid Connection Agreement has been therefore the reason for proceeding with CDM application. The period of time between the finalization of the FSR and the investment decision is sufficiently short for the DOE to confirm that it is unlikely in the context of the underlying project activity that the input values would have materially changed. Has been furthermore identified by DOE the figure of the actual grid price finally received by the local grid company; an Electricity Purchase Agreement was signed between Sichuan Fuyuan Electricity Co., Ltd. and the project owner on December 2006, indicating a grid price of 0.1709 Yuan/kWh (without VAT). It's anyway confirmed that such a price is not reasonable to be used for the IRR assessment in the context of the decision to apply for CDM; according to the timeline described, full chronological consistency has been found within the different documents that led to the decision to apply for the CDM: the Grid Connection Agreement reporting a 0.15 Yuan/kWh grid price, was signed on June 16<sup>th</sup>, 2003, which is about three months after the completion of the Feasibility Study Report (March 2003) and four days before the decision to proceed with the CDM. Furthermore, as the grid price indicated in the Electricity Purchase Agreement dated December 18<sup>th</sup> 2006 is higher than the price used by PPs as reference for the financial assessment, DOE has found out which are, according to the available data, the financial figures as actually incurred. The PPs have demonstrated that the costs for the engineering (that account for about 80% of the total static investment) really undertaken by the project have reasonably reproduced the expected costs. Moreover the project owner had to pay an additional cost due to a new grid connection system for the transmission line required by the local government in April 2008; the expected IRR calculated using this value for the investment, the grid price of 0.1709 Yuan/kWh and the figures from the FSR (2003) for the remaining parameters, results 6.47% which is lower than the benchmark and even lower than the IRR as calculated in PDD on the basis of the project design data and the 0.15 Yuan/kWh grid price. Evidences that have been verified by DOE regarding the actual investments incurred by the PPs are the "Investment Assessment Report" issued by the Cost Consulting Centre of China Bank Sichuan Branch and dated March 2008 and the "Approval on 110kV Electricity Transmission Project from Shimian Wanba to Hanyuan Wanli" by Sichuan Development and Reform Commission dated April 2008.

It has been verified that the values used in the PDD and associated annexes are fully consistent with the Feasibility Study Report as approved by the Sichuan Development and Plan Committee.

In particular the total investment costs have been considered acceptable because within the range of other plants with comparable installed capacity located under the Central China Grid in Sichuan Province; furthermore, the assessment done on the actual investments undertaken by the PPs regarding the engineering and construction costs have confirmed the expected investment in FSR and the reliability of the assumptions done on the static total investment. Regarding the Annual operating cost, as stated in PDD, the relevant value has been calculated on the basis of the figures from the FSR; this calculation has been verified: each of the different parameters (fixing cost rate, payroll and welfare fund, material costs), influencing the estimation of the annual operating costs have been cross-checked with the same contained in Feasibility Study Report. According to this assessment and on the basis of the expertise reached by the assessment team in hydropower CDM project in China, such Operating and Margin costs as presented by PPs well represent the actual costs for the project operation. The annual utilization hours and, thus, the power generation indicated in FSR is considered consistent with the context emerged through the on-site audit and confirmed by the experience in the sector and in this region. It's expected that the power generation as in FSR, taking into account the uncertainties related to this kind of estimations, will represent in a good way the annual average production by the hydropower plant during the crediting period. The net electricity sup-

plied to the grid, which is sensibly lower than the power production, has been object of clarifications: the effective coefficient of 75%, as given by the PPs according to the FSR, is considered particularly low; has been clarified that such a low value is related to the adsorption ability of the local Shimian Grid. As the project is located in very poor areas, the local grid is effectively weak to receive the electricity generated by the project at full load.

In the validation process the main assumptions have been verified: total investment cost have been considered acceptable and consistent with the specification of the project, as well as the operating costs. The grid price of 0,15 Yuan RMB/kWh has been also checked through official documents (Grid Connection Agreement between the project owner and the Sichuan Liyuan Electricity Development Co., Ltd on June 16, 2003) and it was verified that it is the most reasonable as taken from an official agreement. According to this, we can state that the range of -10%~+10% is sufficient to run a sensitivity analysis on the project. The variations of critical assumptions including revenue of electricity sale conducted within the sensitivity analysis, has then permitted to conclude that the identified benchmark of 8% is never met.

We thus conclude the project is financially unattractive without CER revenues.

The common practice analysis has been performed considering the Sichuan Province as the relevant geographical extension. To verify the appropriateness of this choice, has been requested to project participants to demonstrate why, as written in the PDD, the projects located in different provinces cannot be included in the analysis; with this perspective, the differences of Sichuan Province in terms of investment conditions and water resources development have been demonstrated considering the amounts of the total investment in water resources projects among the different provinces in Central China Grid.

To verify the information given by PP to define the relevant common practice extension on the basis of the differences among provinces, the validation team have examined the Yearbook of China Water Resources 2006 (information on different investment) and the websites of Chinese industries operating in the hydropower sector (different development of water resources). Definitely, DOE is confident that the differences of Sichuan Province with the surrounding provinces under Southern China Grid are real and lead to consider it as the relevant extension for the common practice analysis.

Fifteen projects located in the area of Sichuan Province, within the capacity range of 50 MW to 300 MW; the choice for the capacity range has been done by project participant according to the "small scale" projects range as defined in the Almanac of China's Water Power (2005). Out of these projects, 10 started operation before 2002 under different market environment and conditions. Has effectively verified that in 2002 the first Power System Reform Blue Print has been introduced, building a competitive and open market and creating a different investment environment not comparable with the previous one.

The differences regarding the remaining five projects have been explained in PDD and verified by the DOE: Jiangsheba Station and Kehe Station have been developed by the state or state owned companies and got a higher grid price; Tianlonghu Station and Huilongqiao Station has been demonstrated that had a lower unit investment and were developed by larger companies obtaining a higher grid price.

All the information could be evidenced by the assessment team.

To conclude the additionality assessment we can state that, according to all the documents we have reviewed, the additionality of the project based on the available information is fulfilled.



#### 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://www.netinform.de/KE/Wegweiser/Guide2_1.aspx?ID=3452&amp;Ebene1_ID=26&amp;Ebene2_ID=1059&amp;mode=1">http://www.netinform.de/KE/Wegweiser/Guide2_1.aspx?ID=3452&amp;Ebene1_ID=26&amp;Ebene2_ID=1059&amp;mode=1</a>	
<b>Starting date of the global stakeholder consultation process:</b> 2007-07-20	
<b>Comment submitted by:</b> -	<b>Issues raised:</b> -
<b>Response by TÜV SÜD:</b> -	



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## 5 VALIDATION OPINION

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

Sichuan Shimian Xieluo Wanba River Hydropower Station.

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, 2008-07-18

Munich, 2008-07-18

A handwritten signature in black ink, appearing to read 'Doris Schaefer'.

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

A handwritten signature in black ink, appearing to read 'Dr. L.'.

Assessment Team Leader





## **Annex 1: Validation Protocol**

## Validation Protocol

Project Title: Sichuan Shimian Xieluo Wanba River Hydropower Station

Date of Completion: 2008-07-18

Number of Pages: 33



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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.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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 2 <sup>nd</sup> version dated July 13, 2007.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.1.3.	Is this consistent with the time line of the project's history?	1, 2, 6, 7, 8, 9, 12, 13	<p>The GSP has been started with this version.</p> <p>The project Environmental Impact Assessment (EIA) was approved on 31/12/2003 by the Environment Protection Bureau of Sichuan Province. The project Feasibility Study Report (FSR) was approved on 11/10/2005 by the Development and Reform Commission of Sichuan Province, construction started in February 2005 and completed in August 2006. The starting date of electricity generation is August 2006.</p> <p><b>Clarification Request 1:</b> Please, clarify why there has been a delay in the starting of the validation process.</p>	CR1	<input checked="" type="checkbox"/>
<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, 66	The project is described transparently. It is a run-of-river hydro power project, located in the lower reach of Wanba River, Shimian County. The total installed capacity is 69MW. On the average, the project activity is expected to operate 5,161 hours per year, which corresponds to an average power generation of 356,090 MWh and a net electricity supply to the grid of 260,420 MWh. The power generated will be connected to the local grid, then to the Sichuan Grid and finally, to the Central China Grid.	CR2	<input checked="" type="checkbox"/>

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			<b><u>Clarification Request 2:</u></b> Please, clarify why the net export is so less than the total power generation.		
A.2.2.	What proofs are available demonstrating that the project description is in compliance with the actual situation or planning?	1, 2, 6, 7, 8, 9, 10	The project activity is the displacement of electricity generated by coal fired power plants with electricity generated by hydro power. The following documents deliver evidences for the project activity: <ul style="list-style-type: none"> <li>- Feasibility study and its approval</li> <li>- EIA and EIA approval</li> <li>- Approval of Land Expropriation</li> </ul> These documents have been evidenced during the audit.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.2.3.	Is the information provided by these proofs consistent with the information provided by the PDD?	1, 2,	Yes, it is. During the on site audit, the audit team reviewed these proofs provided by the project owner. They are consistent with the information provided by the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.2.4.	Is all information presented consistent with details provided by further chapters of the PDD?	1, 2	Yes, it is.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<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. In Table A.1 and Annex 1 of the PDD the two parties involved in the project are mentioned.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.3.2.	Is the participation of the listed entities or Parties confirmed by each one of them?	1, 2	<b><u>Open Issue</u></b> The letter of approval from the Italian DNA is not yet submitted. It should be provided to the DOE before the submission for registration.	Open Issue	<input checked="" type="checkbox"/>
A.3.3.	Is all information on participants / Parties provided in consistency with details provided by further chapters of the PDD (in	1, 2	Yes, it is.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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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 proposed project activity is located in the lower reaches of Wanba River, which is the branch of Songling River, in Shiming County, Sichuan Province, China. The proposed project is located 32km from Shimian County. The project will construct one intake dam, which is 150m from the upper stream of Baishui river from the junction, with exact location being latitude 29°09'18" N and longitude 102°08'24" E; and exact location of power house is at the latitude of 29°12'16" N and longitude 102°10'05" E.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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, 6,	The project was approved by the local Development and Reformation Committee and the EIA of the proposed project was approved by the local Environmental Protection Bureau.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<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 scope 1, Energy industries (renewable/non-renewable sources) as it deals with energy generation.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<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 based on the description in the feasibility study report and the investigation on site.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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	Yes, the project activity comprises the use of water power for the substitution of grid supplied electricity mainly from coal fired plants. Therefore three units of HLD307C-LJ-145 turbines, and three units of SF23-10/3250 generators matched with turbines with the total installed capacity of 69MW are utilized. There is no	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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		doubt that this technology will reduce the GHG emissions significantly.		
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 no technology transfer from annex-I countries to China by the proposed project.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.4. Is the technology implemented by the project activity environmentally safe?	1,2	Yes. As the project is a hydro power project. It's clear that the technology implemented by the project activity is environmentally safe.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.5. Is the information provided in compliance with actual situation or planning?	1,2	Yes, it is in compliance with actual situation.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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	Because the technology of installing a new hydropower plant has been fully developed and successfully implemented over China for decades, the technology applied in the proposed project is not different compared to that of other similar hydropower plants.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.7. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1,2	We do not expect that there will be a substitution because the equipments have been installed and the starting date of electricity generation is August, 2006. The life time of the project is under normal circumstances longer than the crediting period.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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	With relevance to the CDM monitoring, a monitoring officer will receive training on the monitoring methodologies, procedures and archiving by Beijing Tianqing Power International CDM Consulting Co. Ltd. Then, the monitoring officer will train the project staff in charge for CDM monitoring.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.9. Is information available on the demand and requirements for training and maintenance?	1,2	Yes, this information is provided by project owner and verified on-site.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.10. Is a schedule available for the implementation of the project and are there any	1,2	As the project is operational since August 2006, the planning schedule in the past and for the future was clearly described by	CAR 1	<input checked="" type="checkbox"/>

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risks for delays?		the project owner during the audit, but is not included in the PDD. <b><u>Corrective Action Request 1:</u></b> The time schedule of the implementation of the project should be included in 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	The project emission reductions are shown in chapter A.4.4 according to the guidelines.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.4.2. Are the figures provided consistent with other data presented in the PDD?	1, 2, 66	Yes, they are. The yearly emission reduction is estimated to amount 233,792 tCO <sub>2</sub> e. The same figure is quoted throughout the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<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	According to the statement in A.4.5. of the PDD there is no public funding for the project activity. By reviewing the financial documents on-site this statement could be verified.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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	Yes, it is consistent with the information provided in Annex 2.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<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	Yes, it is ACM0002/Version 06 along with the <i>Tool for the Demonstration and Assessment of Additionality (version 3.)</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.1.2. Is the applied version the most recent one	1,2	Version 6 of ACM0002: "Consolidated baseline methodology for	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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and / or is this version still applicable?		grid-connected electricity generation from renewable source” and version 3 of “the Tool for the Demonstration and Assessment of Additionality” are applied, and they are the most recent ones.												
B.2. Justification of the choice of the methodology and why it is applicable to the project activity														
B.2.1. Is the applied methodology considered the most appropriate one?	1,2	Yes, the baseline and monitoring methodology ACM0002 is applicable to the proposed project, because the project meets all the applicability criteria stated in the methodology:  1. The proposed Project activity involves an electricity capacity addition from a run-of-river hydro power project; 2. The proposed Project activity does not involve fuel switching from fossil fuels to renewable energy at the site of the project activity; 3. The geographic and system boundaries for the relevant electricity grid can be clearly identified and information on the characteristic of the grid is available.	☑	☑										
B.2.2. Criterion 1: Type of capacity addition by renewable energy	1,2	<table><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	☑	☑
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><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	☑	☑
Applicability checklist	Yes / No													
Criterion discussed in the PDD?	Yes													
Compliance provable?	Yes													
Evidences provided in the PDD?	Yes													
Compliance verified?	Yes													
B.2.4. Criterion 3: Defined electricity grid boundaries	1,2	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr></table>	Applicability checklist	Yes / No	☑	☑								
Applicability checklist	Yes / No													

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		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	N.A														
B.3. Description of the sources and gases included in the project boundary																
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	1,2	<table><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> <p>The project consists in grid-connected electricity generation from a run-of-river hydropower station. As per methodology ACM0002, CO<sub>2</sub>, CH<sub>4</sub> emissions are not to be considered.</p>			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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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	1,2	<table><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> <p>The project consists in grid-connected electricity generation from a run-of-river hydropower station. As per methodology ACM0002, CO<sub>2</sub> emissions are not to be considered.</p>			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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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:	1,2				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										



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Emissions from the reservoir (new hydroelectric activities only) Gas(es): CO <sub>2</sub> , CH <sub>4</sub> Type: Project Emissions			<table><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		
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.3.4.	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	1,2	<table><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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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	1,2	<table><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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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><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> As per methodology ACM0002, only CO <sub>2</sub> emissions from electrici-		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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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															

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			ty generation in fossil fuel fired power that is displaced due to the project activity are accounted.		
B.3.7.	Do the spatial and technological boundaries as verified on-site comply with the discussion provided by the PDD?	1,2	Yes. The project boundary for the proposed project is represented by the Central China Power Grid. The Central China Grid is a larger regional grid, which consists of six sub-grids: Chongqing, Sichuang, Henan, Jiangxi, Hubei and Hunan. Furthermore the project boundary includes the project site (i.e. the physical site of the project plant as well as the reservoir area).	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<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 baseline is represented by the combined margin of the grid the activity will be connected to. It is the equivalent annually generated electricity supplied by the Central China Grid.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.4.2.	In case of any modification or retrofit of existing facilities: Is data available to determine the historic production level?	1,2	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<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.	Have realistic and credible alternatives been identified providing comparable outputs or services? (step 1a)	1,2,3	Yes, the project sponsor is a hydro project developer, then the possible alternatives to the project includes:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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			<ul style="list-style-type: none"> <li>The proposed hydropower activity, undertaken without being registered as a CDM project activity;</li> <li>Thermal power generation plant with equivalent annual power generation;</li> <li>Other renewable energy power plant with equivalent annual power generation or equivalent installed capacity;</li> <li>The equivalent annual electricity is supplied by the Grid.</li> </ul>		
B.5.2.	Is the project activity without CDM included in these alternatives? (step 1a)	1,2,3	Yes, it is included as first option.	☑	☑
B.5.3.	Is a discussion provided for all identified alternatives concerning the compliance with applicable laws and regulations? (step 1b)	1,2,3	A discussion is provided for all identified alternatives concerning the compliance with applicable laws and regulations, the conclusion is that only the second alternatives is not in compliance with Chinese relevant laws and regulation.	☑	☑
B.5.4.	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	All the laws quoted in the PDD are enforced in this project; hence, this section is not applicable.	☑	☑
B.5.5.	In case of applying step 2 / investment analysis of the additionality tool: Is the analysis method identified appropriately (step 2a)?	1,2,3	3 analysis methods are provided according to the additionality tool. Because the proposed project generates economic benefits through the sales of electricity other than CDM revenue, therefore, the Option I (simple cost analysis) can't be taken. Moreover, the Option II (investment comparison analysis) only applies to projects where alternatives should be similar investment projects, however, in this case, the baseline scenario is the Central China Grid; hence, Option II can't be adopted either. It deems that Option III (benchmark analysis) is the only applicable one.	☑	☑
B.5.6.	In case of Option I (simple cost analysis): Is it demonstrated that the activity produces no economic benefits other than CDM	1,2,3	The simple cost analysis is not applicable for the proposed project because the project activity will produce economic benefit (from electricity sale) other than CERs income.	☑	☑

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income?					
B.5.7.	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	Option III is chosen for the investment analysis. So this section is not applicable.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.8.	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 is selected as the most suitable financial indicator.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.9.	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	<b><u>Corrective Action Request 2:</u></b> <ol style="list-style-type: none"> <li>1) The IRR without CDM revenues provided by PDD is 6.95%, but it is 6.25% in IRR calculation spreadsheet, please clarify the inconsistency.</li> <li>2) Some figures provided in IRR calculation spreadsheet are not consistent with these presented in Preliminary Design Report, such as feed-in tariff, total investment etc, please highlight all difference, then clarify the inconsistency and deliver related proof to the DOE.</li> <li>3) Include the variations of revenue of electricity sale instead of power supplier to the grid as parameter into sensitivity analysis.</li> <li>4) The <i>Economic Assessment Temporary Regulation on Electrical Technology Improvement Project</i>, should be provided both in English and Chinese.</li> </ol>	CAR 2	<input checked="" type="checkbox"/>
B.5.10.	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	See B.5.9. above, CAR2	See CAR 2	<input checked="" type="checkbox"/>
B.5.11.	In case of applying step 3 (barrier analy-	1,2,3	<b><u>Clarification Request 3:</u></b>	CR3	<input checked="" type="checkbox"/>

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sis) of the additionality tool: Is a complete list of barriers developed that prevent the different alternatives to occur?		The argumentations to support these analysis are not project specific and they are valid for all projects. Please provide more detailed information on this barrier analysis.		
B.5.12. 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	See 5.11.	See CR3	<input checked="" type="checkbox"/>
B.5.13. 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	See 5.11.	See CR3	<input checked="" type="checkbox"/>
B.5.14. Have other activities in the host country / region similar to the project activity been identified and are these activities appropriately analyzed by the PDD (step 4a)?	1,2,3	Basic information about similar projects in operation since the year 2000 and with an installed capacity between 50 and 100 MW, are given in Table B.4, Chapter B.5. of the PDD. The common practice analysis is not sufficient and related proofs are not available.  <b><u>Corrective Action Request 3:</u></b> Reference documents and data sources must be delivered to DOE.	CAR 3	<input checked="" type="checkbox"/>
B.5.15. 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	In conclusion, the project faces several barriers which would prevent the implementation of the proposed project activity without CDM. CDM helps to overcome these barriers. If the project could not be implemented, the power will be supplied by the Central Grid.  See B.5.14. above, CAR 3	See CAR 3	<input checked="" type="checkbox"/>
B.5.16. 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	Not applicable.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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<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	<p>The calculation of the emission reduction is applied according to the steps described in ACM0002:</p> <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> <p>These steps are described in a transparent manner.</p>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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, every selection of options offered by the methodology is correctly justified and this justification is in line with the situation verified on-site.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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	<p>Not applicable</p> <p>The project activity is a run-of-river hydropower project. Therefore, according to the ACM0002 methodology, greenhouse gas emissions from the project activity are zero, i.e. <math>PE_y = 0</math>.</p>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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	<p>Yes, see Equation (B.11)</p> $BE_y = (EG_y - EG_{baseline}) \times EF_y$ <p><b><u>Corrective Action Request 4:</u></b></p> <p>Values from the IPCC 2006 should be used, not 1996. The parameters should be actualized.</p> <p>Where applicable the parameter should be updated using as a source of data also the "China Electric Power Yearbook 2006" and</p>	CAR 4	<input checked="" type="checkbox"/>

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		"China Energy Statistical Yearbook 2006" that has been already published.		
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, the choice of options to determine the Emission Factor is fully justified in the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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 for hydro power projects in the 6 <sup>th</sup> version of ACM0002 (OM 0.5 and BM 0.5 respectively) are used.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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. Based on ACM0002, as discussed project participants do not need to consider leakage in applying ACM0002 methodology, i.e. $L_y=0$ .	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.1.9. Are formulae required for the determination of emission reductions correctly presented?	1,2	Yes, see Equation (B.12) $ER_y = BE_y = EG_y \times EF_y$	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<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 applied methodology?	1,2	Yes. A list of parameters is presented according to ACM0002.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.2.2. Is the choice of ex-ante or ex-post vintage	1,2	For the calculation of the emission reductions the ex-ante ap-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



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of OM and BM factors clearly specified in the PDD?		proach has been used.																				
B.6.2.3. Parameter Title: Annual electricity supplied to the grid prior to retrofit (applicable only for retrofit and modification activities)	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></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>	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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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)	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></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>Yes</td></tr></table> <p>... is calculated as a combined margin: the weighted average of the operating margin emission factor ( <math>EF_{OM,y}</math> ) and the build margin emission factor ( <math>EF_{BM,y}</math> ).</p>	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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
Data Checklist	Yes / No																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					



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		<table><tr><td>Appropriate description?</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></table>	Appropriate description?	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									
Appropriate description?	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																						
		The simple OM method was chosen to calculate the OM, $EF_{OM, simple, y}$ (see Equation B.1).																					
B.6.2.6. Parameter Title: Build margin (BM) emission factor of the grid	1, 2	<table><tr><td>Data Checklist</td><td>Yes / No</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>Yes</td></tr></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		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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																						
		..., $EF_{BM, y}$ is calculated as the generation weighted average emission factor (measured in tCO <sub>2</sub> e/MWh) of a sample of $m$ power plants (see Equation B.3).																					
B.6.2.7. Parameter Title: fuel consumption of each power source	1, 2	<table><tr><td>Data Checklist</td><td>Yes / No</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></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		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
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																						

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		Choice of data correctly justified?	Yes																				
		Measurement method correctly described?	Yes																				
		Fuel consumption of thermal power plants: <i>China Energy Statistical Yearbook</i> (2001-2005).																					
B.6.2.8. Parameter Title: emission coefficient of each fuel	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></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>		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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data Checklist	Yes / No																						
Title in line with methodology?	N/A																						
Data unit correctly expressed?	N/A																						
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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.6.2.9. Parameter Title: electricity generation of each power source	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></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>Yes</td></tr></table> <p>A coal-fired power plant with a total installed capacity of 600MW is assumed to be the commercially available best practice technology in terms of efficiency. The estimated coal consumption of</p>		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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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																						

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		such a National Sub-critical Power Station with a capacity of 600MW is 336.66gce/kWh, which corresponds to an efficiency of 36.53% for electricity generation.																				
B.6.2.10. Parameter Title: surface area of full reservoir level (for new hydroelectric activities only)	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></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>	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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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.6.2.11. Parameter Title: fraction of time with low costs /must run plant at the margin (for simple adjusted OM only)	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></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>	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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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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	1,2	<table><tr><th>Data Checklist</th><th>Yes / No</th></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></table>	Data Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
Data Checklist	Yes / No																					
Title in line with methodology?	N/A																					
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		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.6.2.13. Parameter Title: CO <sub>2</sub> emission coefficient of fuels used in connected grids	1,2	<table> <tr> <th>Data Checklist</th> <th>Yes / No</th> </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>Yes</td> </tr> </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	☑	☑
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																						
COEF <sub>i,j,y</sub> , see Equation B.2.																							
B.6.3. Ex-ante calculation of emission reductions																							
B.6.3.1. Is the projection based on the same procedures as used for future monitoring?	1,2	Yes, it is.		☑	☑																		
B.6.3.2. Are the GHG calculations documented in a complete and transparent manner?	1,2	Yes, they are		☑	☑																		
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, it is.		☑	☑																		
B.6.4. Summary of the ex-ante estimation of emission reductions																							

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B.6.4.1. Will the project result in fewer GHG emissions than the baseline scenario?	1,2	Yes, depending on the project nature there are no project emis- sions.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																		
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.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																		
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	The life time of the project is expected to be 21 years and the re- newable crediting period of max 7 years with potential for 2 re- newals is chosen. The yearly emission reduction and total emis- sion reductions indicated in B.6.4. of the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																		
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, it is	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																		
B.7. Application of the monitoring methodology and description of the monitoring plan																						
B.7.1. Data and parameters monitored																						
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 applied methodology?	1,2	Because the ex-ante approach is adopted, the net electricity fed to the grid is required to be monitored. This parameter has been in- cluded in table B.7.1 in the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																		
B.7.1.2. Parameter Title: Electricity supplied to the grid	1,2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></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 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></table>	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	See CAR 5	<input checked="" type="checkbox"/>
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																					

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		Indication of accuracy provided?	No		
		QA/QC procedures described?	Yes		
		QA/QC procedures appropriate?	Yes		
B.7.1.3. Parameter Title: Quantity of steam produced (for geothermal projects only)	1,2	Monitoring Checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		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		
B.7.1.4. Parameter Title: Fraction of CO <sub>2</sub> in steam produced (for geothermal projects only)	1,2	Monitoring Checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		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		

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		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	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></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 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></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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																												
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.7.1.6. Parameter Title: Quantity of steam generated during well testing (for geothermal projects only)	1,2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></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 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></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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Monitoring Checklist	Yes / No																												
Title in line with methodology?	N/A																												
Data unit correctly expressed?	N/A																												
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Source clearly referenced?	N/A																												
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QA/QC procedures described?	N/A																												

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		QA/QC procedures appropriate? N/A																											
B.7.1.7. Parameter Title: Fraction of CO <sub>2</sub> in steam during well testing (for geothermal projects only)	1,2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></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 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></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	☑	☑
Monitoring Checklist	Yes / No																												
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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																												
B.7.1.8. Parameter Title: Fraction of CH <sub>4</sub> in steam during well testing (for geothermal projects only)	1,2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></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 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></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	☑	☑
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Indication of accuracy provided?	N/A																												
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><tr><th>Monitoring Checklist</th><th>Yes / No</th></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 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></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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																											
Title in line with methodology?	N/A																											
Data unit correctly expressed?	N/A																											
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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																											
B.7.2. Description of the monitoring plan																												
B.7.2.1. Is the operational and management structure clearly described and in compliance with the envisioned situation?	1,2	Yes, it is. See B.7.2 (Monitoring Organization, Monitoring Equipment and Program, Data Collection, Calibration, Data Management) and Annex 4 (Tasks and Responsibilities) of the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																								
B.7.2.2. Are responsibilities and institutional arrangements for data collection and archiving clearly provided?	1,2	Yes. The project owner 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. A chief monitoring officer will be appointed by the project owner. He/She supervises and verifies metering and recording, collects data (meter's data reading, sales/billing receipts), calculates emission reductions and prepares a monitoring report. See B.7.2. and Annex 4 of the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																								

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B.7.2.3. Does the monitoring plan provide current good monitoring practice?	1,2	Yes, see B.7.2. and Annex 4 of the PDD..	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.7.2.4. If applicable: Does annex 4 provide useful information enabling a better understanding of the envisioned monitoring provisions?	1,2	<b><u>Corrective Action Request 5:</u></b> 1) A diagram of the location of the power meters should be included. 2) It should be transparent that for the calculation of the emission reduction only the net electricity produced by this plant will be used (the electricity supplied from other power station in case of emergency should be deducted too). 3) The accuracy of power meters should be identified and provided, furthermore, please clarify if it is in compliance with applicable regulations. 4) Please deliver the <i>Technical Administrative Code of Electric Energy Metering (DL/T448-2000)</i> to the DOE.	CAR 5	<input checked="" type="checkbox"/>
<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, the baseline determination is dated 13/07/2007.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.8.2. Is this consistent with the time line of the PDD history?	1,2	Yes, it is. See also A.1.3.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.8.3. Is the information on the person(s) / entity(ies) responsible for the application of the baseline and monitoring methodology provided consistent with the actual situation?	1,2	Beijing Tianqing Power International CDM Consulting, Co., Ltd determined the monitoring methodology.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.8.4. Is information provided whether this per-	1,2	The above mentioned bodies are not project participants.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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son / entity is also considered a project participant?				
<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 project construction starting date is given as 08/09/2004 in the PDD. According to the timeline of the project it correctly corresponds to the data of the main equipment purchase.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<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, because the expected operational lifetime of the project activity is 30 years.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<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, 7, 9	Yes, the environmental impacts of the project activity such as noise, visual impacts, interference with communication, land use, air quality and water usage have been clearly described.  <b><u>Corrective Action Request 6:</u></b> The impact on irrigation should be analyzed and occupied land should be presented in PDD.	CAR 6	<input checked="" type="checkbox"/>
D.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, has an EIA been ap-	1,2, 7, 9	Yes, EIA is a must in the P. R. China for new hydro power projects. The EIA of the proposed project was approved by Si-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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proved?			chuang Environment Protection Bureau on December 31, 2003.		
D.1.3.	Will the project create any adverse environmental effects?	1,2, 7, 9	Referred to the EIA and the approval of EIA, the project will create no negative environmental impacts.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.1.4.	Were transboundary environmental impacts identified in the analysis?	1,2, 7, 9	There is no trans-boundary impact described in EIA report or approval of EIA.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<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, 7, 9	Refer to the EIA and the approval of EIA, there is no adverse environmental impact from the project activity.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.2.2.	Does the project comply with environmental legislation in the host country?	1,2, 7, 9	Yes, the project is in conformity with the environmental legislation of the P. R. China and the EIA has been approved by authorized organization.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<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, 29	A local stakeholder consultation meeting was organized on January 11 <sup>th</sup> , 2007, after a questionnaire had been distributed among the residents.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.1.2.	Have appropriate media been used to invite comments by local stakeholders?	1,2, 29	The meeting announcement was published on the newspaper "Ya'an Daily" on Jan. 9, 2007 with the aim to gather the largest audience. The meeting was also advertised via the website of <a href="http://www.tqcdmchina.com">www.tqcdmchina.com</a> .	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.1.3.	If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation	1,2, 29	There are no regulations/laws in China for carrying out the stakeholder consultation process for this project activity.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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process been carried out in accordance with such regulations/laws?					
E.1.4.	Is the undertaken stakeholder process that was carried out described in a complete and transparent manner?	1,2, 29	Yes. The process is described in a complete and transparent manner (questionnaire distribution, meeting announcement, stakeholder meeting).	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>E.2. Summary of the comments received</b>					
E.2.1.	Is a summary of the stakeholder comments received provided?	1,2, 29	Yes, see E.2 and E.3 of the PDD	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<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, 29	Referring to the PDD and filled questionnaires which were gathered from participants and reviewed by the auditor on site, almost all stakeholder comments are positive.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<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, it is.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.1.2.	Is the information on all private participants and directly involved Parties presented?	1,2	Yes, it is.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<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	1,2	No public funding is involved in this project activity.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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the project participants?					
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	N.A., see F.1.3.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Annex 3: Baseline information</b>					
F.1.5.	If additional background information on baseline data is provided: Is this information consistent with data presented by other sections of the PDD?	1,2	Yes, the information is consistent with data presented by other section of the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.1.6.	Is the data provided verifiable? Has sufficient evidence been provided to the validation team?	1,2	Yes, the data are verifiable and evidenced.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.1.7.	Does the additional information substantiate / support statements given in other sections of the PDD?	1,2	Yes, it does.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Annex 4: Monitoring information</b>					
F.1.8.	If additional background information on monitoring is provided: Is this information consistent with data presented in other sections of the PDD?	1,2	The monitoring plan is described in Annex 4 and its information is consistent with the data presented in section B.7 of the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.1.9.	Is the information provided verifiable? Has sufficient evidence been provided to the validation team?	1,2	Yes, the information is verifiable and evidenced.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.1.10.	Do the additional information and / or documented procedures substantiate / support statements given in other sections of the PDD?	1,2	Yes, it does.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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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>As the project is operational since August 2006, the planning schedule in the past and for the future was clearly described by the project owner during the audit, but is not included in the PDD.</p> <p><b><u>Corrective Action Request 1:</u></b></p> <p>The time schedule of the implementation of the project should be included in the PDD.</p>	A.4.3.10	We have added the time schedule of the implementation of the project in A.4.	<p><input checked="" type="checkbox"/></p> <p>The time schedule has been included in final PDD.</p>
<p><b><u>Corrective Action Request 2:</u></b></p> <ol style="list-style-type: none"> <li>1) The IRR without CDM revenues provided by PDD is 6.95%, but it is 6.25% in IRR calculation spreadsheet, please clarify the inconsistency.</li> <li>2) Some figures provided in IRR calculation spreadsheet are not consistent with these presented in Preliminary Design Report, such as feed-in tariff, total investment etc, please highlight all difference, then clarify the inconsistency and deliver related proof to the DOE.</li> <li>3) Include the variations of revenue of electricity sale instead of power supplier to the grid as parameter into sensitivity analysis.</li> <li>4) The <i>Economic Assessment Temporary Regulation on Electrical Technology Improvement Project</i>, should be provided both in English and Chinese.</li> </ol>	B.5.9	<ol style="list-style-type: none"> <li>1) We have adjusted the calculation sheet.</li> <li>2) The Grid Connection Agreement signed at the time of the CMD consideration (June 2003) has been used for the price. The project owner adjusted the total investment in July, 2004. So we use the new investment. Correspondingly, the insurance and maintenance cost will be changed, and annual operating cost is different.</li> <li>3) We have replaced the grid price with the revenue of electricity sale in B.5.</li> <li>4) We have attached it with the revised PDD.</li> </ol>	<p><input checked="" type="checkbox"/></p> <p>The calculation sheet has been corrected and the results verified by DOE.</p> <p>All the inconsistencies has been clarified in final PDD.</p> <p>This issued is considered to be resolved</p>

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<p>Basic information about similar projects in operation since the year 2000 and with an installed capacity between 50 and 100 MW, are given in Table B.4, Chapter B.5. of the PDD.</p> <p>The common practice analysis is not sufficient and related proofs are not available.</p> <p><b><u>Corrective Action Request 3:</u></b></p> <p>Reference documents and data sources must be delivered to DOE.</p>	<p>B.5.14 B.5.15</p>	<p>We have revised the common practice section and we have attached the relative evidences with PDD as PDD reference.</p>	<p><input checked="" type="checkbox"/></p> <p>The common practice has been revised in final PDD and the relative evidences verified by DOE.</p>
<p><b><u>Corrective Action Request 4:</u></b></p> <p>Values from the IPCC 2006 should be used, not 1996. The parameters should be actualized.</p> <p>Where applicable the parameter should be updated using as a source of data also the "China Electric Power Yearbook 2006" and "China Energy Statistical Yearbook 2006" that has been already published.</p>	<p>B.6.1.4</p>	<p>We have revised the calculation of EF in B.6.</p> <p>According to IPCC 2006, the emission factor of coke should be 29.2tc/TJ, instead of 25.8 in NDRC; the emission factor of refinery gas should be 15.7tc/TJ instead of 18.2 in NDRC, we revised them during the calculation.</p>	<p><input checked="" type="checkbox"/></p> <p>This issued is considered to be resolved.</p>



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<p><b><u>Corrective Action Request 5:</u></b></p> <ol style="list-style-type: none"> <li>1) A diagram of the location of the power meters should be included.</li> <li>2) It should be transparent that for the calculation of the emission reduction only the net electricity produced by this plant will be used (the electricity supplied from other power station in case of emergency should be deducted too).</li> <li>3) The accuracy of power meters should be identified and provided, furthermore, please clarify if it is in compliance with applicable regulations.</li> <li>4) Please deliver the <i>Technical Administrative Code of Electric Energy Metering (DL/T448-2000)</i> to the DOE.</li> </ol>	<p>B.7.2.4 B.7.1.2</p>	<ol style="list-style-type: none"> <li>1) We have added the diagram in B.7.</li> <li>2) We have deducted the power from the grid.</li> <li>3) We have provided the accuracy and made sure it in compliance with applicable regulation.</li> <li>4) We have attached it with PDD.</li> </ol>	<p><input checked="" type="checkbox"/></p> <p>The monitoring section has been revised and the information have been provided with final PDD.</p>
<p><b><u>Corrective Action Request 6:</u></b></p> <p>The impact on irrigation should be analyzed and occupied land should be presented in PDD.</p>	<p>D.1.1</p>	<p>We have added the impact on land requisition and provided the ecological flow in D.1.</p>	<p><input checked="" type="checkbox"/></p> <p>This issued is considered to be resolved.</p>
<p><b><u>Clarification Request 1:</u></b></p> <p>Please, clarify why there has been a delay in the starting of the validation process.</p>	<p>A.1.3</p>	<p>We have explained the reasons for such a delay in the final PDD: the buyer signed Emission Reduction Purchase Agreement after a long term investigation and due diligence to make sure they can pursue CERs from the project</p>	<p><input checked="" type="checkbox"/></p> <p>The reason for the delay has been clarified by PPs and confirmed by the buyer. Relevant evidences verified by DOE.</p>
<p><b><u>Clarification Request 2:</u></b></p> <p>Please, clarify why the net export is so less than the total power generation.</p>	<p>A.2.1</p>	<p>We have estimated the net electricity considering the adsorption ability of local grid which leads to consider an effective coefficient of 75% : as the project is located at poor mountains areas, the load of local grid is relatively lower.</p> <p>We have added the explanation in final PDD</p>	<p><input checked="" type="checkbox"/></p> <p>The issue is considered to be resolved.</p>

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<b>Clarification Request 3:</b> The argumentations to support these analysis are not project specific and they are valid for all projects. Please provide more detailed information on this barrier analysis	5.11 5.12 5.13	Investment analysis has been the basis to demonstrate the additionality of the project, hence it has been decided to withdraw the barrier analysis.	<input checked="" type="checkbox"/> The issue is considered to be resolved.
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## **Annex 2: Information Reference List**

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Reference No.	Document or Type of Information
1	Project Design Document for CDM project “Sichuan Shimian Xieluo Wanba River Hydropower Station”, version 2.0, dated 13/07/2007
2	Consolidated baseline methodology for grid-connected electricity generation from renewable sources, ACM0002, version 06.
3	Tool for the demonstration and assessment of additionality, version 03.
4	Participant list of on-site interview, signed on August 8, 2007
5	<p>Validation team:  Mr. Luciano Grugni TÜV Italia - TÜV SÜD Group  Mr. Xiong Rencheng TÜV SÜD Industrie Service GmbH – Shenzhen branch</p> <p>On-site interviews and inspection at the office conducted on August 8, 2007 by auditing team of TÜV SÜD</p> <p>Interviewed persons:  Mr. Dai Hai Sichuan Liyuan Electricity Development Co. Ltd.  Mr. Wang Zhihui Sichuan Liyuan Electricity Development Co. Ltd.  Mr. Zhou Zhongliang Sichuan Liyuan Electricity Development Co. Ltd.  Ms. Guan Guihong Beijing Tianqing Power International CDM Consulting Co. Ltd.  Ms. Jasmine Tang Beijing Tianqing Power International CDM Consulting Co. Ltd.  Mr. Peng Liangyi Beijing Tianqing Power International CDM Consulting Co. Ltd.</p>
6	Approval of Sichuan Shimian Xieluo Wanba River Hydropower Station, dated on October 11, 2005, Development and Reform Commission of Sichuan Province, file number: No.533 Chuang Fa Gai Nei Yuan [2005].
7	Feasibility Study Report, dated in March 2003.
8	EIA, dated in December 2003.
9	Approval of EIA, dated on December 31, 2003, Environmental Protection Bureau of Sichuan Province, file number: No.290 Chuan Huan Jian Han [2003].
10	Water & Soil Conservation Program, dated in August, 2003

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Reference No.	Document or Type of Information
11	Approval of Water & Soil Conservation Program, dated on August 28, 2003, Water Conservancy Department of Sichuang Province, file number: No.471, Chuang Shui Han [2003].
12	Preliminary Design Report, dated in April 2004, Development and Reform Commission of Sichuang Province, file number: No.473 Chuang Fa Gai Nei Yuan [2004].
13	Approval of Preliminary Design, dated on July 30, 2004,
14	License of Land Usage, dated on March 27, 2007, Shimian Government, file number: No.117 Shi Guo Yong [2007]
15	License of Land Usage, dated on December 7, 2006, Shimian Government, file number: No.275 Jou Guo Yong [2006]
16	License of Land Usage, dated on March 27, 2007, Shimian Government, file number: No.116 Shi Guo Yong [2007]
17	Assessment Report of Water Resource, dated in December 2003.
18	Approval of Assessment Report of Water Resource, dated on April 7, 2004, Water Conservancy Department of Sichuang, file number: No. 236 Chuang Shui Han [2004]
19	Agreement on Connection to Grid with Fuyuan Power Supply Stock Co., Ltd. on July 25, 2006.
20	Electricity Purchase Agreement with Fuyuan Power Supply Stock Co., Ltd. on December 18, 2006.
21	The Construction Permit, dated on February 23, 2005, Shimian Government.
22	The Planning of River Basin, dated in January 2002.
23	Approval of the Planning of River Basin, dated on April 3, 2002, Development and Reform Commission of Sichuang Province and Water Conservancy Department of Sichuang Province, file number: No.357 Chuang Ji Nei Yuan [2002].
24	Loan Contract, dated on March 13, 2006, signed with Yia'an Branch of Construction Bank of China.
25	Directorate decision for applying green fund, dated on June 20, 2003.
26	Business License, dated on June 5, 2003.
27	Agreement on Compensation for Land Expropriation, Crops and Trees, dated on September 22, 2003, signed with farmers in Shimian County.
28	Receipts for all deserved Compensation, dated on September 22, 2003.
29	Compensation Standard for Forestry Land Expropriation in Songling River, dated on August 11, 2003, Forestry Department of Shimian

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Reference No.	Document or Type of Information
	County.
30	Turbines and Generators Purchasing Contract, dated in September 2004, signed with Dongfang Electric Machinery Co., Ltd.
31	Transformers Purchasing Contract, dated in November 2004, signed with Xingjiang Transformer Plant of Tiebian Electrical Stock Co., Ltd.
32	CDM Emission Reductions Purchase Agreement by and between Sichuan Liyuan Electricity Development Co., Ltd and Edision Spa.
33	Total Static Investment Budgetary Table, dated in July 2004.
34	The Evidence of No Impact on Wild Animals, dated on January 23, 2003, Forestry Management Bureau of Shimian County.
35	The Evidence of No Rare Aquatic Animals, dated on January 22, 2003, Water Conservancy Bureau of Shimian County.
36	The Evidence of No Underground Cultural Relic, dated on January 14, 2003, Cultural Relic Management Station of Shimian County.
37	The Evidence of No Impact on Development of Mine Resource, dated on January 11, 2003, Land Management Bureau of Shimian County.
38	Assessment Report of Geologic Disaster Fatalness, dated in March 2003.
39	Emergency Plan for Inundation, Mud-rock flow, Landslip, dated in January, 2006.
40	Plant Operation Rules, dated in January 2006.
41	Questionnaire of local stakeholder comments, dated in December 2004.
42	Meeting Minute about Stakeholders' Comments on Project Construction, dated on January 11, 2007.
43	IRR calculation sheet
44	Economical Assessment Temporary Regulation on Electrical Technology Improvement Project, published by China Electric Power Press in Mar. 2003.
45	Notice on Strictly Prohibiting the Installation of Fuel Generators with the Capacity of 135MW or below issued by the General Office of the State Council, file number: No.6 [2002].
46	The Management Provisional Regulation on the Construction of Small Fuel-fired Generators issued in Aug. 1997.
47	China Energy Statistical Yearbook (2002/2003/2004/2005/2006)
48	China Electric Power Yearbook (2002/2003/2004/2005/2006)
49	CDM information of Ya'an Water Conservancy Association, dated on Mar.3, 2003.

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Reference No.	Document or Type of Information
50	Directorate decision for speeding up CDM process, dated on Aug.5, 2004.
51	CDM application support letter from Shimian County Government, dated on Nov.2,2004.
52	The grid price of 2004, Sichuan Fuyuan Electricity Co., Ltd, Nov. 15, 2004.
53	Chuan Ban Han [2005] 110, and the invoice for water resources cost.
54	The income tax for Sichuan Liyuan Electricity Development Co., Ltd, dated in 2007, issued by the Shimian Tax Bureau.
55	The Enterprise Income Tax Law of the People's Republic of China, dated in 2007.
56	Yearbook of China Water Resources 2006
57	Almanac of China's Water Power (2004/2005)
58	The confirmation letter of Kehe Station.
59	The Sichuan Local Electricity Statistic Yearbook 2006
60	Economist Intelligence Unit (2003), “China Hand”
61	Technical Administrative Code of Electric Energy Metering (DL/T448 - 2000)
62	LoAs
63	MOC
64	CDM Cooperation Agreement with Tianqing, dated May 30 <sup>th</sup> , 2005
65	Almanac of China's Water Power (2005), page 141
66	Project Design Document for CDM project “Sichuan Shimian Xieluo Wanba River Hydropower Station”, version 3.0, dated 17/07/2008
67	The Approval on 110kv Electricity Transmission Project from Shimian Wanba to Hanyuan Wanli by Sichuan Development and Reform Commission, dated April, 23 <sup>rd</sup> , 2004
68	Investment Assessment Report of Wanba River 1st Level Hydropower Station, issued by the Cost Consulting Centre of China Construction Bank Sichuan Branch, dated March 2008