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# **CDM Validation Report**

**GUODIAN DIQING SHANGRI LA ELECTRICITY  
GENERATION CO. LTD**

**VALIDATION OF THE CDM-PROJECT:**

**YUNNAN DIQING JISHA HYDROPOWER PROJECT**

**REPORT NO. 1133653**

**DECEMBER 03, 2009**

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

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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" Westendstrasse 199 80686 Munich Germany		<b>TÜV SÜD Contract Partner:</b> Jiangsu TUV Product Service Ltd., Beijing Branch Unit 0918, Landmark Tower 2 100004 Beijing P.R China		
<b>Project Participant(s):</b> Guodian Diqing Shangri La Electricity Generation Co. Ltd; Hutiaoxia Town, Shangri La County; Diqing Tibetan autonomous prefecture; Yunnan Province 674402 P.R. China		<b>Project Site(s):</b> Diqing Tibetan autonomous prefecture, Xiao Zhongdian, Yunnan province, P.R China  <b>GPS Coordinates:</b> Longitude: 99°39'~100°07' Latitude: 27°10'~28°00'		
<b>Project Title:</b> Yunnan Diqing Jisha Hydropower Project				
<b>Applied Methodology / Version:</b> ACM0002 / Version 07			<b>Scope(s):</b> 1 <b>Technical Area(s)</b> 1.1	
<b>First PDD Version:</b> Date of issuance: 10-12-2007 Version No.: 3.1 Starting Date of GSP 08-01-2008		<b>Final PDD version:</b> Date of issuance: 04-11-2009 Version No.: 3.5		
<b>Estimated Annual Emission Reduction:</b>		482 030 tCO <sub>2</sub> e		
<b>Assessment Team Leader:</b> Sven Kolmetz  <b>Assessment Team Members:</b> Li Lixin Chen Xiaoying  <b>Trainees:</b> Cyprian Fusi		<b>Veto Person:</b> Javier Castro  <b>Certification Body Responsible Person:</b> Thomas Kleiser		
<b>Summary of the Validation Opinion:</b>				
<input checked="" type="checkbox"/> The review of the Project Design Document and the subsequent follow-up interviews has 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 versions.				
<input type="checkbox"/> The review of the project design documentation and the subsequent follow-up interviews have not provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. Hence TÜV SÜD will not recommend the project for registration by the CDM Executive Board and will inform the project participants and the CDM Executive Board on this decision.				

## **Abbreviations**

<b>ACM</b>	Approved Consolidated Methodology
<b>AM</b>	Approved Methodology
<b>AMS</b>	Approved Methodology Small scale
<b>BM</b>	Build Margin
<b>CAR</b>	Corrective Action Request
<b>CDM</b>	Clean Development Mechanism
<b>CDM EB</b>	CDM Executive Board
<b>CER</b>	Certified Emission Reduction
<b>CM</b>	Combined Margin
<b>CMP</b>	Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol
<b>CR / CL</b>	Clarification Request
<b>DNA</b>	Designated National Authority
<b>DOE</b>	Designated Operational Entity
<b>EF</b>	Emission Factor
<b>EIA / EA</b>	Environmental Impact Assessment / Environmental Assessment
<b>ER</b>	Emission Reduction
<b>FAR</b>	Forward Action Request
<b>FSR</b>	Feasibility Study Report
<b>GHG</b>	GreenHouse Gas(es)
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>IRL</b>	Information Reference List
<b>IRR</b>	Internal Rate of Return
<b>KP</b>	Kyoto Protocol
<b>MP</b>	Monitoring Plan
<b>NGO</b>	Non Governmental Organisation
<b>OM</b>	Operational Margin
<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 Executive Board (CDM-EB). The ultimate decision on the registration of a proposed project activity rests at the CDM-EB and the Parties involved.

The project activity discussed by this validation report has been submitted under the project title:

**"Yunnan Diqing Jisha Hydropower Project"**

### 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 and modalities and procedures for the CDM
- 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 and 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)
- Baselines and monitoring methodologies (including GHG inventories)
- Management systems and auditing methods
- Environmental issues relevant to the sectoral scope applied for
- Applicable environmental and social impacts and aspects of CDM project activity
- Sector specific technologies and their applications
- Current technical and operational knowledge of the specific sectoral scope and information on best practice

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

Once TÜV SÜD receives a first PDD version, it is made publicly available at the UNFCCC webpage and at TÜV SÜD's webpage for starting a 30 day Global Stakeholder Consultation Process (GSP). In case of any comments received a PDD might be revised (under certain conditions the GSP could be repeated) and the final PDD will form the basis for the final evaluation as presented in this report. Information on the first and the final PDD version is presented in 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 cannot 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 applies standard auditing techniques to assess the correctness of the information provided by the project participants. The assessment is based on the "Clean Development Mechanism Validation and Verification Manual" version 01 (VVM). The process begins with the appointment of the validation or audit team covering the technical scope(s), sectoral scope(s) and relevant host country experience for evaluating the CDM project activity. Once the project is made available for the stakeholder consultation process, members of the team carry out the desk review, follow-up interviews, resolution of issues identified and finally preparation of the validation report. The prepared validation report and other supporting documents then undergo an internal quality control at TÜV SÜD Certification Body (CB) - "Climate and Energy" - before submission to the CDM EB.

In order to ensure transparency, assumptions are clearly and explicitly stated; background materials are clearly referenced. TÜV SÜD developed methodology-specific checklists and customised protocol for the project. 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 auditor has to document how a particular requirement has been validated, as well as the results of the validation and any adjustments, if any, made to the project design.

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

Validation Protocol Table 1: Conformity of Project activity and PDD				
Checklist Topic / Question	Reference	Comments	PDD in GSP	Final PDD
<i>The checklist is organised in sections following the arrangement of the applied PDD version. Each section is then further sub-divided. The lowest level constitutes a checklist question / criterion.</i>	<i>Gives reference to documents where the answer to the checklist question or item is found in case the comment refers to documents other than the PDD.</i>	<i>The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached. In some cases sub-checklist are applied indicating yes/no decisions on the compliance with the stated criterion. Any <b>Request</b> has to be substantiated within this column</i>	<i>Conclusions are presented based on the assessment of the first PDD version. This is either acceptable based on evidence provided (☑), 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. <b>Forward action request</b> to highlight issues related to project implementation that require review during the first verification.</i>	<i>Conclusions are presented in the same manner based on the assessment of the final PDD version and further documents including assumptions presented in the documentation.</i>

Validation Protocol Table 2: Resolution of Corrective Action and Clarification Requests			
Clarifications and corrective action requests	Ref. to table 1	Summary of project owner response	Validation team conclusion
<i>If the conclusions from table 1 are either a Corrective Action, a Clarification or a Forward action Request, these should be listed in this section.</i>	<i>Reference to the checklist question number in Table 1 where the issue 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 discussion on and revision to project documentation together with the validation team's responses and final conclusions. The conclusions should be reflected 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.

Validation Protocol Table 3: Unresolved Corrective Action and Clarification Requests		
Clarifications and corrective action requests	Id. of CAR / CR	Explanation of the Conclusion for Denial
<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 with a clear reference to the requirement which is not complied with.</i>

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

## 2.1 Appointment of the Assessment Team

According to the technical scopes and experiences in the sectoral or national business environment TÜV SÜD has nominated an audit team in accordance with the appointment rules set by TÜV SÜD Certification Body "Climate and Energy". The composition of an assessment team has to be approved by the Certification Body (CB) to assure that the required skills are covered by the team. TÜV SÜD CB 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 mandatory that the sectoral scope linked to the methodology has to be covered by the assessment team.

The following table shows the validation team and their qualifications as appointed by TÜV SÜD CB.



Name	Qualification	Coverage of Technical Area	Coverage of Sectoral Expertise	Host Country Experience
Dr. Sven Kolmetz	ATL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Dr. Li Lixin	GHG-A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Chen Xiaoying	GHG-A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Cyprian Fusi	T	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Dr. Sven Kolmetz** is a physicist and ATL in GHG auditing at TÜV SÜD “Carbon Management Service” department located in the head office of TÜV SÜD Industrie Service GmbH in Munich. Furthermore, he is officially an authorized expert in the verification of GHG emissions in the framework of the European Emission Trading Scheme. Before joining 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. He is Head of Department of TÜV SÜD Carbon Management Services since July 1, 2008.

**Dr. Lixin Li** is an auditor for environmental management systems (according to ISO 14001) and GHG auditor at Carbon Management Service in Jiangsu TUV Product Service Ltd. He is based in Beijing. In his position he is responsible for the implementation of validation, verification and certifications audits for management systems or CDM, VER, WCD projects. He has received training in the CDM validation process and participated already in more than two dozen of CDM project assessments. Furthermore, he deals with technical support business in the validation and verification of GHG emissions in Beijing branch. Before entering TÜV SÜD he worked as an expert in new and renewable energy, energy saving, energy strategy program fields.

**Ms. Chen Xiaoying** is an auditor for environmental management systems (according to ISO 14001) at TUV SUD China. She is based in Beijing. In her position she is responsible for the implementation of validation, verification and certifications audits for management systems. She has received training in the CDM validation process and participated already in several CDM project assessments.

**Cyprian Fusi** is a GHG auditor (Trainee) with the “Carbon Management Service” in Munich - the head office of TÜV SÜD Industrie Service GmbH, Germany. He holds a Dipl.-Ing (M.Sc) degree in electrical engineering with a speciality in Radio Frequency / Microwave (RF/MW) engineering. Mr. Fusi has worked previously with Siemens AG Berlin, Volkswagen Hannover, Fraunhofer Institute IZM Berlin, Ferdinand Braun Institute for High Frequency Techniques Berlin and Microelectronics for Multimedia Berlin. He has received training in the CDM/JI validation and verification processes and has participated in several CDM/JI project audits and workshops.

## 2.2 Review of Documents

The first version of the PDD was submitted to the DOE in December 2007. The first PDD version submitted by the PP and additional background documents related to the project design and baseline have been reviewed to verify the correctness, credibility, and interpretation of the presented information. Furthermore, a cross-check between information provided and information from other sources (if available) has been done as initial step of the validation process. A complete list of all documents and proofs reviewed is attached as annex 2 to this report (Information Reference List).

## 2.3 Follow-up Interviews

On 8<sup>th</sup> January 2008 TÜV SÜD conducted interviews, during the on-site visit, with project stakeholders to confirm relevant information, and to resolve issues identified in the first document review. The table below provides a list of all persons interviewed in this context. An expanded list including some end users is provided in annex 2.



Name	Organisation / Function
Guo Yimin (Mr.)	General Manager, CDM manager of China Guodian Diqing Shangri-La Generating Co., Ltd
Li Jun (Mr.)	CDM Engineering manager of China Guodian Diqing Shangri-La Generating Co., Ltd
Li Gang (Mr.)	CDM Manager of China Fulin windpower development Corporation
Zhang Nianwu (Mr.)	Project Manager, China Long Yuan Electric Power Group Corp.
Liu Hongrong (Mr.)	Chairman of the board of Guodian Diqing Shangri La Electricity Generation Co., Ltd.
XU Hongliang (Mr.)	Chairman of the board of China Fulin Windpower Development Corporation
Hu Yizhong (Mr.)	Legal representative of Guodian Diqing Shangri La Electricity Generation Co., Ltd

## 2.4 Further Cross-Check

During the validation process, the team makes reference to available information related to similar projects or technologies as the CDM project activity. The documentation has also been reviewed against the approved methodology/ies applied to confirm the appropriateness of formulae and correctness of calculations.

## 2.5 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation is to resolve the requests for corrective actions, clarifications, and any other outstanding issues which needed to be clarified before TÜV SÜD's conclusion on the project design. The CARs and CRs 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 were provided are documented in more detail in table 2 of the validation protocol provided in annex 1. In total, 15 CARs and 3 CRs were raised. After several loops of deliberations with the project participants, the audit team was able to resolve all remaining issues of concern. A summary of the discussions that took place between the PP and the audit team and finally culminated in the validation opinion can be found in table 2 of the validation protocol provided in annex 1 of this report. These deliberations led to the revision of the PDD to version 3.5 on which this report is based (IRL No. 55).

The final PDD version that was submitted in November 2009 (IRL No. 1) serves as the basis for the final assessment as presented by this report. Changes in the PDD 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, i.e. to achieve an additional reduction in anthropogenic GHG emissions and to contribute to sustainable development.

## 2.6 Internal Quality Control

As final step of a validation activity the final documentation, which includes the validation report and the validation protocol, has to undergo an internal quality control at the CB "Climate and Energy". This means that each report has to be approved either by the head of the CB or the deputy. In situations where either the Head of the CB or his/her Deputy is part of the assessment team approval can only be given by either of them not serving on the audit team for the project

After confirmation by the PP the validation opinion and relevant documents are submitted to the EB through the dedicated UNFCCC web-interface.

### **3 SUMMARY**

The assessment work and the main results are described below in accordance with the CDM VVM reporting requirements. The reference documents indicated in this section and in the validation protocol are provided in Annex 2 (Information Reference List).

#### **3.1 Approval**

The project participants are Guodian Diqing Shangri La Electricity Generation Co., Ltd of the People's Republic of China and Kommunalkredit Public Consulting GmbH of Austria. The host Party, China on one hand and Austria on the other as the other participating party both fulfil the requirements to participate in CDM project activities.

The Austrian DNA has issued a Letter of Approval (IRL No. 41) on 19 May 2008 authorizing Kommunalkredit Public Consulting GmbH as a project participant. The Chinese DNA has also issued a LoA (IRL No. 40) in February 2008 authorizing Guodian Diqing Shangri La Electricity Generation Co., Ltd as a project participant as well. TÜV SÜD received these letters from the project participants directly and considers the provided letters as authentic.

The Chinese approval of the project activity has further been double-checked with the CDM project webpage sponsored by the Department of Climate Change, NDRC found at [http://cdm.ccchina.gov.cn/website/CDM/pdf/Item\\_new/Item\\_new2320.pdf](http://cdm.ccchina.gov.cn/website/CDM/pdf/Item_new/Item_new2320.pdf), which further confirms the approval of this CDM project.

Furthermore, after checking the LoAs provided, TÜV SÜD is able to confirm that both letters refer to the same proposed CDM project activity titled "Yunnan Diqing Jisha Hydropower Project" which is in line with the title in the PDD.

Both letters also indicate that each participating Party is a Party to the Kyoto Protocol, and that the participation in the "Yunnan Diqing Jisha Hydropower Project" project is voluntary. The Chinese LoA also confirms that the proposed CDM project activity contributes to the sustainable development of China (host country). Based on the information given in these letters, TÜV SÜD considers the approval and the participation of each of the parties as unconditional.

Both LoAs have been issued by the **National Development and Reform Commission** of the People's Republic of China and *Lebensministerium* – Chinese and Austrian DNA respectively.

The requirements of the VVM (§§ 45-48) are therefore considered to be complied with.

The LoA does not specify a version number of the PDD or of the validation report. However, all other references mentioned in the LoA, PDD and validation report are consistent.

#### **3.2 Participation**

The participants of the project activity have been approved by the corresponding Parties, which is confirmed by the issued LoAs.

The means of validation were equivalent to those described in section 3.1 in regard to the approval process of the project activity.

#### **3.3 Project Design Document (PDD)**

The PDD is compliant with relevant form and guidance as provided by UNFCCC.

The most recent version of the PDD form was used.

TÜV SÜD considers that the guidelines for the completion of the PDD in their most recent version have been followed. Relevant information has been provided by the participants in the correspond-

ing PDD sections. Completeness was assessed by employing the validation protocol checklist included in Annex 1 to this report.

### 3.4 Project Description

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

Yunnan Jisha Hydropower Project is located in Diqing Tibetan autonomous prefecture, Yunnan province, P.R.China. The proposed project is a run-of-river hydropower plant on the Shuoduo River with a total installed capacity of **2x60 MW or 120 MW**. The power density is about **62.2 W/m<sup>2</sup>**.

The objective of the project is to convert the mechanical energy of the water from the Shuoduo river valley into electrical energy. The energy of the water would be used in rotating the two installed 60MW hydro turbines. The energy generated by this project would be fed into the South China Power Grid via the local **220 kV** Transformer Station, thereby displacing energy which would otherwise be produced by power plants connected to the grid, which is dominated by carbon intensive fossil fuel fired plants. This displacement would translate directly into additional reduction in GHG emissions. This grid-connected renewable energy project would be expected to operate **4 763 hours** and thereby generating and feeding about **571 560 MWh** of power per year to the Yunnan Power Grid which is an integral part of the South China Power Grid. The forecasted amount in GHG emission reductions during the 7 year crediting period is approximately **3 374 210 tCO<sub>2</sub>e** and a calculated annual average of **482 030 tCO<sub>2</sub>e** for the duration of the proposed project activity. The load factor is **54.4%** as confirmed by TÜV SÜD and is identical to that mentioned in the PDD and FSR. This is considered appropriate according to EB 48 § 3, annex 11.

The baseline scenario corresponds to electricity delivered to the grid by the proposed project would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources within the South China Power Grid. The proposed project activity would improve energy security and environmental quality, promote the local economy, creates local employment, provide affordable electricity to local inhabitants, and would therefore contribute to sustainable development of the host country – China.

The information presented in the PDD on the technical design is consistent with the actual planning and implementation of the project activity as confirmed by:

- Review of data and information (see annex 2), cross-checking with other sources available.
- An on-site visit has been performed and relevant stakeholder and personnel with knowledge of the project were interviewed. In case of any doubts further cross-checks through additional interviews have been conducted.
- Finally, available information related to similar projects or technologies as this CDM project activity have been used to confirm the accuracy and completeness of the project description.

In concluding, TÜV SÜD is able to confirm that the project description, as included to the PDD, is sufficiently accurate and complete and therefore comply with CDM requirements.

### 3.5 Baseline and Monitoring Methodology

#### 3.5.1 Applicability of the Selected Methodology

Compliance with each applicability criterion as listed in the applied baseline and monitoring methodology “Consolidated methodology for grid-connected electricity generation from renewable sources - ACM0002 Version 07” has been demonstrated.

The assessment was carried out for each applicability criterion and included, among others, the compliance check of the local project setting with the applicability conditions in regard to baseline setting and eligible project measures. This assessment also included the review of secondary sources, and these attest that applicability conditions are complied with.

The Methodology specific checklist (validation protocol), included in Annex 1, documents the assessment process, which also includes the various steps taken in the course of the validation. The results of the compliance check, as well as the relevant evidences, are detailed in Annex 1.

TÜV SÜD confirms that the chosen baseline and monitoring methodology is applicable to the project activity.

Emission sources, which are not addressed by the applied methodology, and are expected to contribute more than 1% of the overall expected annual average emission reductions, have not been identified.

### **3.5.2 Project Boundary**

The project boundary was assessed during the physical site inspection, interviews, and using other evidences on the design of the project received.

The spatial boundary of the project activity includes the proposed project's installations and all power plants that are connected to the South China Power Grid (SCPG). According to the PDD, "the project boundary includes the proposed project and all power plants connected to the South China Power Grid and the emissions from electricity generation in fossil fuel fired power plants of imported electricity from Center China Power Grid." The South China Power Grid has net electricity imports from Central China Power Grid. The flow diagram demonstrating the project boundary is provided in figure 2 of the PDD.

Similarly, the sources of gases included or excluded from the delineated project boundary have been appropriately justified in the PDD.

The most relevant documentation assessed in order to confirm the project boundary are following:

- Boundary definition of Chinese NDRC <http://cdm.ccchina.gov.cn/web/index.asp> (IRL No. 46)
- China Electric Power Yearbook 2007 (IRL No. 47)
- Similar projects found at UNFCCC website that are validated or undergoing validation

TÜV SÜD can therefore confirm that the identified boundary and the selected sources and gases as documented in the PDD are justified for the project activity.

### **3.5.3 Baseline Identification**

The PDD defines the following baseline scenario:

Electricity delivered to the grid by the proposed project would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources within the South China Power Grid.

The information presented in the PDD has been validated during the desk review of the PDD and any document provided by the project participants. Further confirmation is based on the on-site visit and further information obtained from similar projects and/or technologies. The sources referenced in the PDD have been quoted correctly. The information was verified against credible sources, such as:

- ACM0002 version 07
- Tool to calculate the emission factor for an electricity system (IRL No. 3).
- Similar projects found at UNFCCC website that are validated or undergoing validation
- Boundary definition of Chinese NDRC <http://cdm.ccchina.gov.cn/web/index.asp> (IRL No. 46)
- Decree no. 2002-6 of the General Office of the State Council strictly prohibiting installation of fuel-fired generation with the Capacity of 135MW or below found at [http://nyj.ndrc.gov.cn/nyfjb/nyfjb4/nyfjb43/nyfjb432/t20070112\\_110563.htm](http://nyj.ndrc.gov.cn/nyfjb/nyfjb4/nyfjb43/nyfjb432/t20070112_110563.htm) (IRL No. 52)

TÜV SÜD has determined that no reasonable alternative scenario has been excluded.

Based on the validated assumptions used in calculations, TÜV SÜD considers that the identified baseline scenario is reasonable.

Taking the definition of the baseline scenario into account, TÜV SÜD confirms that all relevant CDM requirements, including relevant and / or sectoral policies and circumstances, have been identified correctly. A verifiable description of the baseline scenario has been included in the PDD.

TÜV SÜD can therefore confirm that with respect to item 86 of VVM:

1. All the assumptions and data used by the project participants are listed in the PDD, including their references and sources;
2. All documentation used is relevant for establishing the baseline scenario are correctly quoted and interpreted in the PDD;
3. Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;
4. Relevant national and/or sectoral policies and circumstances are considered and listed in the PDD;
5. The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would have occurred in the absence of the proposed CDM project activity.

### 3.5.4 Algorithm and/or Formulae used to determine Emission Reductions

TÜV SÜD has assessed the calculations of project emissions, baseline emissions, leakage, and emission reductions. Corresponding calculations were carried out based on calculation spreadsheets - EF calculation (South China Power Grid).xls (IRL No. 45). The parameters and equations presented in the PDD, as well as other applicable documents, have been compared with the information and requirements presented in the methodology and other applicable tools. The equation comparison has been made considering all the formulae presented in the calculation files "EF calculation (South China Power Grid).xls" (IRL No. 45).

The assumptions and data used to determine the emission reductions are listed in the PDD and all the sources have been checked and confirmed.

Based on the information reviewed it can be confirmed that the sources used are correctly quoted and interpreted in the PDD. The values presented in the PDD are considered reasonable based on the documentation and references reviewed as well as on the result of interviews.

The baseline methodology has been correctly applied according to requirements.

The estimate of the baseline emissions can be confirmed to be the same as that which have been replicated by the audit team using the information provided.

Detailed information on the verification of the parameters used in the equations can be found in Annex 1. The algorithms for the determination of the baseline, project, and leakage emissions are discussed in the subsequent sections of this report.

#### 3.5.4.1 Baseline Emissions

The calculation of the baseline emissions followed the procedures described in the methodology ACM0002 Version 07. The South China Power Grid is considered to be the project boundary.

The operating margin (OM) emission factor ( $EF_{OM}$ ) was determined based on the simple OM approach. The ex-ante option was chosen for this calculation. The calculation of the build margin (BM) emission factor ( $EF_{BM}$ ) was based on modified methods agreed by the EB (IRL No. 57), because plant specific data are not available in China. The emission factor of the thermal power plants was calculated by the proportion of the emissions of coal, gas and oil times the emission factor of the best available coal, gas and oil power plant as defined and published by the Chinese DNA. The new thermal capacity installation that exceeded 20% in the last years, for which data was available, was finally assessed with this factor.

The baseline calculation was based on the well established and published OM and BM methods of calculation issued by the NDRC (China DNA). The values for the  $EF_{OM} = 1.0119 \text{ tCO}_2/\text{MWh}$  and  $EF_{BM} = 0.6748 \text{ tCO}_2/\text{MWh}$  so obtained are more conservative compared to the values published by



the Chinese DNA on December 30, 2008 (IRL No. 66) and are therefore accepted for the calculation of the baseline emissions and the emission reductions.

The value for the combined margin emission factor ( **$EF_{CM} = 0.8433 \text{ tCO}_2/\text{MWh}$** ) was determined using **0.5** as the default weight for the  $EF_{BM}$  and  $EF_{OM}$  applied to hydropower plants as described in the methodology.

In summary, the calculation of the baseline emissions and the emission reductions, respectively, can be considered to be correctly done.

### **3.5.5 Project Emissions**

As per the methodology, the project with a power density of  **$62.2\text{W}/\text{m}^2$**  does not need to consider leakage or project emissions.

### **3.5.6 Leakage**

As per the methodology, the project with a power density of  **$62.2\text{W}/\text{m}^2$**  does not need to consider leakage or project emissions.

### **3.5.7 Emission Reductions**

Emission reductions equal the baseline emissions avoided as a result of implementing the project activity. The calculation of the baseline emissions and therefore the emission reductions as demonstrated in the PDD is considered appropriate.

## **3.6 Additionality**

The additionality of the project has been presented in the PDD in a step-wise manner applying version 5.2 of the “Tool for demonstration and assessment of additionality.”

Steps 1 through 4 have been used to demonstrate that the emission reductions due to the project activity are additional to any that would have occurred in the absence of the project activity. The approach in the PDD has been assessed mainly based on a document review, where following relevant documents have been reviewed:

- Feasibility Study Report for CDM project “Yunnan Diqing Jisha Hydropower Project” issued by Beijing Guodian Hydropower Engineering Co., Ltd. in December, 2003 (IRL No. 7).
- The Approval of Geological Disaster Fatalness Evaluation for construction of Diqing Jisha Hydropower Project (Yunguotuzihuan2004-12) issued by Yunnan soil resource bureau on January 8, 2004 (IRL No. 26).
- The notification for the tariff of new constructed hydropower turbines issued by Development and Reform Commission of Yunnan province on January 6, 2006 (IRL No. 32).
- IRR\_Yunnan Diqing Jisha Hydropower project.xls (IRL No. 44)
- Benchmark\_8% for IRR of the proposed project.pdf (IRL No. 48)
- China Electric Power Yearbook 2007 (IRL No. 47)
- The statistical analysis of O&M cost for hydropower plants in China found at <http://www.hnpower.com/country/info.asp?id=1101> (IRL No. 30)
- Decree no. 2002-6 of the General Office of the State Council strictly prohibiting installation of fuel-fired generation with the Capacity of 135MW or below found at [http://nyj.ndrc.gov.cn/nyfjb/nyfjb4/nyfjb43/nyfjb432/t20070112\\_110563.htm](http://nyj.ndrc.gov.cn/nyfjb/nyfjb4/nyfjb43/nyfjb432/t20070112_110563.htm) (IRL No. 52).

During interviews conducted on-site, the additionality of the project was discussed principally with: Mr. Guo Yimin, Mr. Li Jun and Mr. Li Gang (IRL No. 5). The full list of those interviewed and docu-

menetation reviewed during the site visit is provided in the Information Reference List (IRL) in annex 2 to this report.

Finally the data, rationales, assumptions, justifications and documentation provided have further been checked using local knowledge, sectoral and financial expertise. This information was also confirmed through the following documents and/or sources:

- **China outpaces U.S. in cleaner coal-fired plants** By Keith Bradsher, NYT May 11, 2009 (IRL No. 64) which states "China's frenetic construction of coal-fired power plants has raised worries around the world about the effect on climate change. China now uses more coal than the United States, Europe and Japan combined, making it the world's largest emitter of gases that are warming the planet."
- **Pollution From Chinese Coal Casts a Global Shadow June 11, 2006** (IRL No. 65) which states that "Unless China finds a way to clean up its coal plants and the thousands of factories that burn coal, pollution will soar both at home and abroad. The increase in global-warming gases from China's coal use will probably exceed that for all industrialized countries combined over the next 25 years, surpassing by five times the reduction in such emissions that the Kyoto Protocol seeks."

Based on this validation steps we can confirm that the documentation assessed is appropriate for this project.

### 3.6.1 Prior Consideration of the Clean Development Mechanism

The starting date of the project activity is determined by the date of signature of the construction contract of the project (IRL No. 35). In order to confirm this information the assessment team has reviewed the following documents:

- Directorate decision of the proposed Project for CDM project development on August 27, 2004 (IRL No. 19).
- The intent letter of CDM development between Guodian Diqing Shangri La Electricity Generation Co., Ltd and China Fulin Windpower Development Corporation of September 11, 2004 (IRL No. 20)

The starting date of the project activity is determined to be October 21, 2004; which is prior to August 02, 2008 as well as prior to the starting date of the GSP January 08, 2008. This is the earliest date when 'real action' began according to the CDM glossary of terms and within the same period equipment purchase contracts were finalized (IRL No. 37).

The original of the documentation presented has been reviewed and cross checked based on interviews with the following persons: Mr. Guo Yimin, Mr. Li Jun and Mr. Li Gang (IRL No. 5).

Therefore the documents can be considered appropriate to confirm the prior consideration of CDM. Additionally, in order to confirm that the PPs have taken real actions to continue the activity as CDM, the following timeline has been reviewed against the respective documents presented in the table below:

Date	Activity	Document	Auditor conclusion
21.10.2004	Signing of the construction contract	IRL No. 35	Project starting date of project
05.09.2006	CDM Training about renewable energy projects by Longyuan(Beijing) carbon asset management technology Co.,Ltd	IRL No. 69	CDM Consideration ongoing
03.06.2007	CDM development contract between Guodian Diqing Shangri La Electricity Generation Co.,	IRL No. 38	CDM Consideration ongoing



	Ltd and China Fulin Windpower Development Corporation		
14.09.2007	The Letter of Intent signed between the project owner and the Kommunalkredit Public Consulting GmbH.	IRL No. 39	CDM Consideration ongoing
08.01.2008	Start of Global Stakeholder Consultation (GSP)	UNFCCC	CDM Consideration ongoing
Feb. 2008	The Letter of Approval signed by the NDRC of the People's Republic of China (Chinese DNA)	IRL No. 40	CDM Consideration ongoing
19.11.2008	LoA_ CDM Project Activity "Yunnan Diqing Jisha_Austria.pdf by Austrian DNA (Lebensministerium),	IRL No. 41	CDM Consideration ongoing

CDM was just gaining grounds in China especially during 2004-2006. Therefore, CDM related activities implemented by the project participants were mainly focus on attending CDM training and studying information concerning CDM. This explains the time lap between the project starting date and the first CDM related activity.

Otherwise, this confirms that the project complies with the requirements to demonstrate the prior and ongoing CDM considerations according to EB49, annex 21 guidance.

### 3.6.2 Identification of Alternatives

The output of the project is electrical energy or electricity.

The list of alternatives to supply the outputs mentioned above, which is presented in the PDD, includes the project activity undertaken without being registered as CDM project activity. The other alternatives presented do include all plausible scenarios taking into account the local and sectoral situations for the outputs mentioned. Hence, according to the Additionality Tool, the list of alternatives is considered to be complete.

### 3.6.3 Investment Analysis

The PP uses the investment analysis to demonstrate the additionality.

The financial returns of the proposed project are insufficient to justify the investment. This can be confirmed due to the low Internal Rate of Returns (IRR = 6.41%) of the project compared to a benchmark of 8% fixed by State Power Company in the **Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects** on September 10, 2002 (IRL No. 48). This document explicitly states that "The financial benchmark IRR of electrical industry is temporary regulated as 8% of the total investment or 10% of the equity. When the financial IRR and the economic IRR are above or equal to the corresponding financial benchmark IRR and social discount rate respectively, then the project is financially feasible and economically reasonable." The Chinese DNA's approval of this project and other CDM project activities with an IRR below this benchmark indicates IRL No. 48 is still valid.

The parameters used in the financial calculations have been validated based on a revision of the sources presented in the PDD, inter alia:

- Feasibility Study Report for CDM project "Yunnan Diqing Jisha Hydropower Project" issued by Beijing Guodian Hydropower Engineering Co., Ltd. in December, 2003 (IRL No. 7).
- Economic Assessment of FSR.pdf (IRL No. 51)
- The notification for the tariff of new constructed hydropower turbines issued by Development and Reform Commission of Yunnan province on January 6, 2006 (IRL No. 32).
- IRR\_Yunnan Diqing Jisha Hydropower preject.xls (IRL No. 44)

➤ Benchmark\_8% for IRR of the proposed project.pdf (IRL No. 48)

The approval of Yunnan Diqing Jisha Hydropower Project was issued by Yunnan Development and Reform Commission on July 6, 2004 (IRL No. 8). However, the project did not get started right away but the design had to be revised. The revision of the project design was triggered by the fact that the geological conditions were underestimated in the Feasibility Study Report (FSR) which led to an underestimated static investment of the project. This miscalculation caused the project IRR to be 10% (above the benchmark of 8%). The geological department therefore advised the project owner on July 21, 2004 to redesign the project taking into account the total static investment (IRL No. 17). This was done in accordance with Yunnan FSR development rules (IRL No. 67) and Yunnan investment approving measures found at [http://www.34law.com/lawfg/law/1797/2820/print\\_890938468989.shtml](http://www.34law.com/lawfg/law/1797/2820/print_890938468989.shtml) (IRL No. 68). This revised design was approved by the Development and Reform Commission of Yunnan province on 16th sept. 2004 (IRL No. 49). After the revision of the design, the IRR was 6.5% which is below the benchmark and therefore financial and economically unattractive without additional income streams from CERs.

While the revision was going on, pre-construction work such as road construction was underway. The length of time between the finalization of the FSR (December 2003) and the investment decision (October 2004) is about ten months. The audit team can therefore confirm that it is unlikely in the context of the underlying project activity that the input values might have materially changed according to EB 44 § 111 (a).

Furthermore, based on a cross check with the following documents and/or sources:

- The Statistical Analysis of O&M cost for hydropower plants in China found at <http://www.hnpower.com/country/info.asp?id=1101> (IRL No. 30)
- The notification for the tariff of new constructed hydropower turbines issued by Development and Reform Commission of Yunnan province on January 6, 2006 (IRL No. 32).
- Provisional Regulations on Enterprise Income tax of the P.R China found at <http://www.chinatax.gov.cn/n6669073/n6669088/6888563.html> (IRL No. 33).
- Provisional Regulations on Value Added Tax of the P.R China (VAT) found at [http://www.mof.gov.cn/guanshuizi/zhengwuxinxi/falvlagui/200806/t20080619\\_47093...2008/12/30](http://www.mof.gov.cn/guanshuizi/zhengwuxinxi/falvlagui/200806/t20080619_47093...2008/12/30) (IRL No. 34).
- Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects found at <http://cdm.unfccc.int/UserManagement/FileStorage/0H24DGX7IPLSW9EAQYBU1JFM58KZ> (IRL No. 53)

it can be seen that the parameters are still plausible and can be considered applicable for this project activity at the time of the investment decision according to EB 44 § 111(b).

The benchmark used for the financial comparison has been obtained from **Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects**. This value has been checked against the source and the suitability for this project can be confirmed since the source states: "The financial benchmark IRR of electrical industry is temporary regulated as 8% of the total investment or 10% of the equity. When the financial IRR and the economic IRR are above or equal to the corresponding financial benchmark IRR and social discount rate respectively, then the project is financially feasible and economically reasonable." Hence it can be confirmed that the benchmark used is adequate for this project.

Further assumptions presented in the financial analysis inter alia tariff of 0.205RMB/kWh (including VAT) (IRL No. 51), lifetime of 34 years (IRL No. 51), annual power output generation of 571 600 MWh with the capacity of 120 MW (IRL No. 51), and income tax of 33% (IRL No. 51) have also been reviewed and were found appropriate. Hence it can be confirmed that the underlying assumptions are appropriate for this project activity at the time of the investment decision according to EB 44 § 109 (d) and EB44 § 111 (c).

The financial calculation has been completely checked, including all the calculation files and no mistakes have been found. Hence it can be confirmed that the calculations and the input values for the investment analysis as per VVM § 111 guidance are correct.

The DOE also validated the possible impact on the financial attractiveness of the project due to variations in the main parameters used in the investment analysis. These are:

- 1) Total investment.
- 2) Annual operation and maintenance cost(O&M)
- 3) Tariff
- 4) Electricity Supplied to the grid

The total investment would have to be reduced by 13.3% for the IRR to be comparable with the benchmark. This scenario is very improbable considering that the cost of investment on fixed asset has been increasing continually according to the National Bureau of Statistics of China, 2006 found at <http://www.stats.gov.cn/english/statisticaldata/yearlydata/> (IRL No. 59).

The IRR of the proposed project could reach the benchmark only when the annual O&M cost decreases by 67.3%. This is, however, very unlikely considering the fact that maintenance cost, salaries and insurance premium would hardly allow the annual O&M to drop this far. The project IRR is therefore not considered to be sensitive to variations in O&M cost.

The tariff would have to increase by at least 14.4% for the IRR of the proposed project to exceed the benchmark IRR (8%). In the feasibility study report of the proposed project, the expected tariff is 0.205RMB/kWh (including VAT) and is lower than the benchmark tariff (0.224 RMB/kWh). According to Hydropower and Sustainable Development in China "The price fluctuation and variation of bank interest rates will affect the construction cost of a project, consequently exerting an effect on the competitiveness of its electricity tariff in the power market" (IRL No. 60). The tariff indicated in the PDD is the same as that mentioned in the Feasibility Study Report. It can therefore be concluded that it is impossible that the tariff of the proposed project could increase by 14.4% in the foreseeable future.

The electricity fed into the grid would have to be increased by 14.4% for the project IRR to become larger than the benchmark IRR (8%). According to the feasibility study report of the project the annual runoff flux (Cv) of the water resource tends gradually to be stable at 0.16-0.20 over the past 43 years - from 1959 to 2002 (IRL No. 7). This means the electricity generated and supplied to the grid would remain relatively stable to meet its design data. Therefore, the probability that the electricity fed to grid would ever be 14.4% higher than the estimated value is almost an uncertainty.

### **3.6.4 Barrier Analysis**

The project participants have not applied the barrier analysis in order to demonstrate the additional-ity of the project.

### **3.6.5 Common Practice Analysis**

The region for the common practice analysis has been defined as Yunnan province. This includes hydro power projects with a capacity of 60 MW - 180 MW existing or under construction in Yunnan province. The assessment team has reviewed the approach presented in the PDD and can confirm that the relevant parameters such as location, infrastructure, economical situation and development have been taken into account in order to define the region to be used for the common practice. The common practice analysis is limited to the provincial level as the investment environment for each Province differs (e.g. with regards to taxes, loan policy and electricity tariffs). Therefore the presented region can be considered appropriate for the common practice analysis. The assessment team has reviewed official sources the reference for common practice (IRL No. 54). The information from this source confirms that the list of similar projects presented in the PDD is complete. Additionally the team made a further cross check of the information based on interviews conducted on site.

All similar projects that are not CDM projects have been checked mainly by a review of all documentation provided in IRL in annex 2 to this report. Furthermore, the essential distinctions between these projects and the CDM project under validation have been confirmed using the investment cost per MW of the proposed project which is much higher than other similar projects. The other hydropower projects were developed without much difficulty because they either enjoyed a much lower investment cost per MW or were able to obtain the assistance from the local government due to poverty alleviation plans for entering Provincial Power Grid. Hence it can be confirmed that the proposed CDM activity is not a common practice in the defined region.

### **3.7 Monitoring Plan**

The monitoring plan presented in the PDD complies with the requirement of the methodology. The assessment team has checked all the parameters presented in the monitoring plan against the requirements of the methodology; no deviations which are relevant to the project activity have been found in the plan.

The procedures have been reviewed by the assessment team through document review and interviews with the relevant personnel. This information, together with a physical inspection, allows the assessment team to confirm that the proposed monitoring plan is feasible within the project design. The major parameters to be monitored have been discussed with the PPs especially regarding the location of the meters, the data management and in general the quality assurance and quality control procedures to be implemented in the context of the project. Electricity supplied by the project activity to the grid during the year  $y$  will be calculated based on the recording measured by metering systems installed at the project site. The electricity will be hourly measured and monthly recorded. The proportion of data to be monitored is 100% and the data will be archived electronically and kept during the crediting period and 2 years after. This would be double checked by invoices of electricity purchase. The metering equipments at the substation are calibrated and checked periodically by qualified third party for accuracy according to Chinese Electric Industry Regulation DL/T448-2000. Electricity exported to the grid will be double checked with sales invoices or other relevant commercial data. Hence it is expected that the PPs will be able to implement the monitoring plan and the emission reductions achieved can be reported ex-post and verified.

### **3.8 Sustainable Development**

The Letter of Approval of the Host country (IRL No. 40) clearly presents a statement that the project contributes to the sustainable development of the host Party.

### **3.9 Local Stakeholder Consultation**

The relevant local stakeholders have been invited via an invitation letter (IRL No. 58). Moreover, public survey was carried out by interview with the representation of the local government because the stakeholders reside dispersedly in the mountains. The evidence of these invitations has been provided to the DOE (IRL No. 58). The assessment team has reviewed the documentation in order to validate the inclusion of relevant stakeholders and using the local expertise can confirm that the communication method used to invite the stakeholders can be considered appropriate. The summary of comments presented in the PDD has been cross checked with the documentation of the stakeholder consultation and it is found to be complete. The relevant comments presented by the local stakeholders have been taken due account by the PP, the same has been cross checked with the information obtained during the interviews.

Hence the local stakeholder consultation has been adequately performed according to the CDM requirements.

### 3.10 Environmental Impacts

The project participants undertook an Environmental Impact Assessment of the project activity. The assessment team made a document review of the information presented. The approval letter for EIA of the proposed project by Environmental Protection Bureau of Yunnan Province on 6th July 2004 (IRL No. 10) confirms the correctness of the approach used by the PPs. Hence the PPs followed the requirements of the host country regarding the environmental impacts.

## 4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

TÜV SÜD published the project documents on UNFCCC website by providing a link to TÜV SÜD's website and inviting comments from 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.net/KE/Wegweiser/Guide2_3.aspx?ID=4224&amp;Ebene1_ID=26&amp;Ebene2_ID=1283&amp;mode=0">http://www.netinform.net/KE/Wegweiser/Guide2_3.aspx?ID=4224&amp;Ebene1_ID=26&amp;Ebene2_ID=1283&amp;mode=0</a> <a href="http://cdm.unfccc.int/Projects/Validation/DB/MIBEXQUWDDFSP7KSNVRDGEYHZW9CVG/view.html">http://cdm.unfccc.int/Projects/Validation/DB/MIBEXQUWDDFSP7KSNVRDGEYHZW9CVG/view.html</a> (copy and paste in browser if it clicking does not work)	
<b>Starting date of the global stakeholder consultation process:</b> 08-01-2008	
<b>Comment submitted by:</b> None	<b>Issues raised:</b> -
<b>Response by TÜV SÜD:</b> -	

## 5 VALIDATION OPINION

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

### **“Yunnan Diqing Jisha Hydropower Project”**

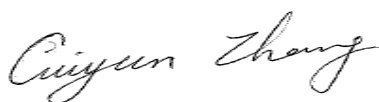
Standard auditing techniques have been used for the validation of the project. Methodology-specific checklists and customised protocol for the project have been prepared and used to carry out the audit in order to present the outcome in a transparent and comprehensive manner.

The review of the project design documentation, subsequent follow-up interviews and further verification of references have provided TÜV SÜD with sufficient information to determine the fulfilment of stated criteria in the protocol. In our opinion, the project meets all relevant UNFCCC requirements for CDM projects. Hence, TÜV SÜD will recommend the project for registration by the CDM Executive Board as a CDM project activity.

An analysis as guided by the applied methodology demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are additional to any that would have occurred in the absence of the project activity. Given that the project would be implemented as designed, it is likely to achieve the estimated amount of emission reductions of **3 374 210 tCO<sub>2</sub>e** over the seven year crediting period, amounting to a calculated annual average of **482 030 tCO<sub>2</sub>e** as specified in the final PDD version.

The validation is based on the information made available to us, as well as the engagement conditions detailed in this report. The validation has been performed following the VVM requirements. The sole 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 beyond that purpose.

Munich, 03-12-2009



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**Caiyun Zhang**

Certification Body “Climate and Energy”  
TÜV SÜD Industrie Service GmbH

Munich, 03-12-2009



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**Dr. Sven Kolmetz**

Assessment Team Leader

Annex 1: Validation Protocol



## Validation Protocol

Project Title: Yunnan Diqing Jisha Hydropower Project

Date of Completion: 03/12/2009

Number of Pages: 47



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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	Yes, the project is titled with the name of the project location, the power capacity 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	Yes, the PDD is indicated as version 3.3, dated 10/12/2008 <b><u>Corrective Action Request No.1</u></b> A revision history of the PDD should be included.	CAR1	<input checked="" type="checkbox"/>
A.1.3.	Is this consistent with the time line of the project's history?	1, 2	Yes. The GSP was started with this version.	<input checked="" type="checkbox"/>	<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 6-12	The project is described transparently and the project activities described have been proven during the audit.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.2.2.	What proofs are available demonstrating that the project description is in compliance with the actual situation or planning?	1, 2 6-13	The project activity is the displacement of electricity generated by coal fired power plants with electricity generated by the hydro power plant. The following documents deliver evidences for the project activity: <ul style="list-style-type: none"> <li>- EIA and EIA Approval</li> <li>- Approval of Feasibility Study</li> <li>- Project Application Report and Project Approval from Yunnan Province DRC</li> <li>- Approval of Connection System</li> <li>- Power Purchasing Contract</li> </ul>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
			These documents have been evidenced during the audit.		
A.2.3.	Is the information provided by these proofs consistent with the information provided by the PDD?	1, 2	There is no contradiction between the information provided by these proofs and 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, there is no inconsistency in the PDD.	<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	Yes. The form is correctly applied. Guodian Diqing Shangri La Electricity Generation Co., Ltd. and Kommunalkredit Public Consulting GmbH are considered as the project participants.	<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>Open Issue</b> Please submit the LoA issued by China and Austria together with MoC countersigned by both parties to DOE before raising the request of 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 particular annex 1)?	1, 2	Yes, all the information provided is in consistency with the details provided in annex 1.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>A.4. Technical description of the project activity</b>					
<b>A.4.1. Location of the project activity</b>					
A.4.1.1.	Does the information provided on the location of the project activity allow for a clear identification of the site(s)?	1, 2	The project location could be clearly identified according to the PDD.  Yunnan Diqing Jisha Hydropower Project is located in Diqing Ti-	CAR2	<input checked="" type="checkbox"/>

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		betan autonomous prefecture, Yunnan province, P.R.China. <b><u>Corrective Action Request No.2</u></b> Please provide enough information about GSP coordinates (in format degrees, minutes, seconds). Correct the PDD as necessarily or provide this information to the DOE.		
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 8, 9, 11	The hydro power plant have been approved by local DRC: Yunnan Diqing Jisha hydropower project approval issued by Yunnan DRC.  The EIA of the hydro power plant have been approved by local EPB: The EIA approval of Yunnan Diqing Jisha hydropower Project issued by Yunnan EPB; These approvals demonstrate that the project proponent can implement the project at this site.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>A.4.2. Category(ies) of project activity</b>				
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. The category is correctly identified and indicated in section A.4.2 of the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>A.4.3. Technology to be employed by the project activity</b>				
A.4.3.1. Does the technical design of the project activity reflect current good practices?	1, 2	Yes, the project design reflects current good practices using renewable resources to generate electricity.	<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 hydro power for the substitution of grid supplied electricity mainly from coal fired plants. There is no doubt that this technology will avoid the GHG emissions significantly.	CAR3	<input checked="" type="checkbox"/>

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		<b><u>Corrective Action Request No.3</u></b> Please include in the PDD the detailed technical data of the main equipments implemented by the proposed project activity.		
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 14	No, there is no technology going to be transferred to the host party.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.4. Is the technology implemented by the project activity environmentally safe?	1, 2 7, 8	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 13	The main turbine-generator purchasing contract has been reviewed by the auditor, and it is compliance with the planning in the feasibility study.  Nevertheless see Corrective Action Request No.3	See CAR3	<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	The common practice for electricity generation is still coal-fired power plant. Hence, the project definitely would result in a better performance than the common practice.	<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, 9	No. 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	Yes, the plant offered training materials (operational, technical and CDM, etc) to the plant staff, and there will be periodical examination for the plant staff to ensure the training quality. The training materials have been reviewed by the auditor.	<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, please see comments above.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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A.4.3.10. Is a schedule available for the implementation of the project and are there any risks for delays?	1, 2 13, 14	As the power plant of Diqing Jisha was not put operation to the test, there is some risk for delay on the tunnel construction.  <b><u>Creective Action Request No. 4</u></b> The delayed risk of the tunnel construction should be described in detail in PDD.	CAR4	<input checked="" type="checkbox"/>
<b>A.4.4. Estimated amount of emission reductions over the chosen crediting period</b>				
A.4.4.1. Is the form required for the indication of projected emission reductions correctly applied?	1, 2	Yes. The form is correctly applied according to the version 3 of the PDD template with new guideline.	<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	Yes. The figures provided consistent with other data presented in 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	Yes. There is no public funding necessary; all costs are covered equity by bank loans and private investment.	<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	The statements are consistent within the PDD.	<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, the latest version of ACM0002 (version 7) has been applied and the reference is clearly indicated.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.1.2. Is the applied version the most recent one	1, 2	Yes, as ACM0002 is a consolidated methodology since	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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and / or is this version still applicable?			14/12/2007.												
B.1.3.	Does the methodology refer to the following tools with its latest approved versions: <ul style="list-style-type: none"><li>- Tool to calculate the emission factor for an electricity system</li><li>- Tool for the demonstration and assessment of additionality</li><li>- Tool to calculate project or leakage CO<sub>2</sub> emissions from fossil fuel combustion</li></ul>	1, 2	Tools used in the PDD are list bellowing:  Tool to calculate the emission factor for an electricity system;  Tool for the demonstration and assessment of additionality (version4);  Tool to calculate project or leakage CO2 emissions from fossil fuel combustion (version01, EB32).	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
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 approved methodology ACM0002 is exactly applicable to the hydro project.  <u>Clarification Request No. 1.</u>  The source regarding information about the China Southern Power Grid is only available in Chinese. Please provide a version of this information in English to the DOE.	CR1	<input checked="" type="checkbox"/>										
Fill in the required amount of sub checklists for applicability criteria as given by the methodology applied and comment at least every line answered with “No”															
B.2.2.	Criterion 1: Type of electricity capacity addition by grid-connected renewable power generation  The following types are possible: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave	1, 2	<table><tr><th>Applicability checklist</th><th>Yes / No</th></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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No														
Criterion discussed in the PDD?	Yes														
Compliance provable?	Yes														
Evidences provided in the PDD?	Yes														
Compliance verified?	Yes														

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power plant/unit or tidal power plant/unit.																
B.2.3.	Criterion 2 (in the case of hydro plants): -The project activity is implemented in an existing reservoir, with no change in the volume of reservoir or  -The project activity is implemented in an existing reservoir, where the volume of re- servoir is increased and the power density of the project activity is greater than 4 W/m2 or  -The project activity results in new reser- voirs and the power density of the power plant is greater than 4 W/m2.	1, 2	<table><tr><th>Applicability checklist</th><th>Yes / No</th></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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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 (in the case of modifica- tion/retrofit in existing power plants):  5 years of historical data (or 3 years in the case of non hydro project activities) are available	1, 2	<table><tr><th>Applicability checklist</th><th>Yes / No</th></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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No															
Criterion discussed in the PDD?	Yes															
Compliance provable?	Yes															
Evidences provided in the PDD?	Yes															
Compliance verified?	Yes															
B.2.5.	Criterion 4: Defined electricity grid boundaries	1, 2	<table><tr><th>Applicability checklist</th><th>Yes / No</th></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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No															
Criterion discussed in the PDD?	Yes															
Compliance provable?	Yes															
Evidences provided in the PDD?	Yes															
Compliance verified?	Yes															



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B.2.6. Criterion 5: Approved inclusion in other methodologies (if applied only)	1, 2	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>N/A</td></tr><tr><td>Compliance provable?</td><td>N/A</td></tr><tr><td>Evidences provided in the PDD?</td><td>N/A</td></tr><tr><td>Compliance verified?</td><td>N/A</td></tr></table>		Applicability checklist	Yes / No	Criterion discussed in the PDD?	N/A	Compliance provable?	N/A	Evidences provided in the PDD?	N/A	Compliance verified?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No														
Criterion discussed in the PDD?	N/A														
Compliance provable?	N/A														
Evidences provided in the PDD?	N/A														
Compliance verified?	N/A														
B.2.7. Criterion 6: 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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No														
Criterion discussed in the PDD?	Yes														
Compliance provable?	Yes														
Evidences provided in the PDD?	Yes														
Compliance verified?	Yes														
B.2.8. Criterion 7: Exclusion of biomass fired power plants	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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No														
Criterion discussed in the PDD?	Yes														
Compliance provable?	Yes														
Evidences provided in the PDD?	Yes														
Compliance verified?	Yes														
B.2.9. Criterion 8: Exclusion of hydro power plants that result in new reservoirs or in the increase in existing reservoirs where the power density of the power plant is less than 4 W/m2.	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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No														
Criterion discussed in the PDD?	Yes														
Compliance provable?	Yes														
Evidences provided in the PDD?	Yes														
Compliance verified?	Yes														
B.3. Description of the sources and gases included in the project boundary															
Integrate the required amount of sub-checklists for sources and gases as given by the methodology applied and comment on at least every line answered with “No”															
B.3.1. Source: Fugitive Emissions from non-condensable	1, 2	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr></table>		Boundary checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
Boundary checklist	Yes / No														

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gases contained in geothermal steam (geothermal power plants only) Gas(es): CO <sub>2</sub> , CH <sub>4</sub> Type: Project Emissions			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 required to operate the geothermal power plant (geothermal power plants only) Gas(es): CO <sub>2</sub> Type: Project Emissions	1, 2	Boundary checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
			Source and gas(es) discussed by the PDD?	N/A		
			Inclusion / exclusion justified?	N/A		
			Explanation / Justification sufficient?	N/A		
			Consistency with monitoring plan?	N/A		
B.3.3.	Source: Emissions from the reservoir (hydro power plants only) Gas(es): , CH <sub>4</sub> Type: Project Emissions	1, 2	Boundary checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
			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 that is displaced due to the project activity Gas(es): CO <sub>2</sub> Type: Baseline Emissions	1, 2	Boundary checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
			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:	1, 2			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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Emissions from electricity generation in fossil fuel fired power plants of any connected electricity system Gas(es): CO <sub>2</sub> Type: Baseline Emissions			<table><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		
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 (project electricity consumption) Gas(es): CO <sub>2</sub>	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>No</td></tr><tr><td>Inclusion / exclusion justified?</td><td>No</td></tr><tr><td>Explanation / Justification sufficient?</td><td>No</td></tr><tr><td>Consistency with monitoring plan?</td><td>No</td></tr></table> <b><u>Crective Action Request No. 5</u></b> Emissions from electricity generation in fossil fuel fired power plants of imported electricity from South China Power Grid have to be included in the project boundary.		Boundary checklist	Yes / No	Source and gas(es) discussed by the PDD?	No	Inclusion / exclusion justified?	No	Explanation / Justification sufficient?	No	Consistency with monitoring plan?	No	CAR5	<input checked="" type="checkbox"/>
Boundary checklist	Yes / No															
Source and gas(es) discussed by the PDD?	No															
Inclusion / exclusion justified?	No															
Explanation / Justification sufficient?	No															
Consistency with monitoring plan?	No															
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 South China Power Grid, 4 provinces of Guangdong, Guangxi, Yunnan and Guizhou are included.		<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	It is clearly described in chapter B.6.1 that the baseline emission factor is calculated as the weighted average of the Operating Margin emission factor (EF <sub>OM,y</sub> ) and the Build Margin emission factor (EF <sub>BM,y</sub> ). Nevertheless see below.  <b><u>Crective Action Request No. 6</u></b>  Please describe why the Combined Margin of the grid that will be		CAR6	<input checked="" type="checkbox"/>										

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			connected to the project activity will represent the baseline.		
B.4.2.	In case of any modification or retrofit of existing facilities: Is data available to determine the historic production level?	1, 2	Not applicable.	<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	Not applicable.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Changes required for methodology implementation in 2nd and 3rd crediting periods					
B.4.4.	Has the continued validity of the baseline been correctly assessed?	1, 2	Yes.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.4.5.	Has the baseline been updated with new data?	1, 2	Yes.	<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.	Is evidence provided, that CDM has been considered seriously in the decision to proceed with the project activity (CDM decision before project start)?	1, 2 3	Yes, as the starting date will be in 27/10/2004, after the on-site audit for validation. Hence the consideration of CDM is evidenced.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.2.	Have realistic and credible alternatives been identified providing comparable outputs or services? (step 1a)	1, 2 3	The following baseline scenarios are discussed: a) The project not undertaken as a CDM project activity but as a commercial project; b) The fossil fuel power plant with the same annual electricity output as the proposed project;	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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			<p>c) Other power plants using other sources of renewable energy with the same annual electricity output as the proposed project;</p> <p>d) The South China Power Grid as the provider for the same capacity and electricity output as the proposed project.</p> <p>- These scenarios are the most credible and plausible scenarios.</p>		
B.5.3.	Is the project activity without CDM included in these alternatives? (step 1a)	1, 2 3	Yes, see above	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.4.	Is a discussion provided for all identified alternatives concerning the compliance with applicable laws and regulations? (step 1b)	1, 2 3	Yes, the national policy about strictly prohibiting the installation of coal-fired power plants with the capacity of 120MW or below is identified in the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.5.	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	Yes, see comment above.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.6.	In case of applying step 2 / investment analysis of the additionality tool: Is the analysis method identified appropriately (step 2a)?	1, 2 3	Yes, the benchmark analysis is applied.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.7.	In case of Option I (simple cost analysis): Is it demonstrated that the activity produces no economic benefits other than CDM income?	1, 2 3	The simple cost analysis does not apply as the proposed project not only obtains CDM revenue but also revenue through electricity sales.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.8.	In case of Option II (investment comparison analysis): Is the most suitable financial indicator clearly identified (IRR, NPV,	1, 2 3	Investment comparison analysis method is only applicable to projects whose alternatives are similar investment projects. The alternative baseline scenario of the proposed project is the South-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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cost benefit ratio, or (levelized) unit cost)?			ern China Power Grid rather than new investment projects. Therefore option II is not an appropriate method either.		
B.5.9.	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 indicator is selected as suitable financial indicator.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.10.	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, 18	<p>The calculation of financial figures for IRR is done for the project activity with and without the revenues from the sale of CERs.</p> <p><b><u>Creective Action Request No. 7</u></b></p> <p>The inconsistencies have to be revised. Moreover the prospective pool purchase price of power in the PDD is different within the mentioned documents showed to the DOE. Please correct this information as necessarily.</p>	CAR7	<input checked="" type="checkbox"/>
B.5.11.	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 10	<p>The input data of IRR calculation are from Invest Estimation &amp; Economic Assessment of Feasibility Study was verified during the on-site audit.</p> <p><b><u>Creective Action Request No. 8</u></b></p> <p>Please present the IRR formulas and calculations in a transparent manner, and deliver the calculation spread sheet together with the sensitive analysis (including the variations on the CERs prices) to the DOE.</p> <p><b><u>Clarification Request No. 2.</u></b></p> <p>The Diqingjisha hydropower IRR with CDM revenues is 7.1%. it is still under the benchmark of 8%. It should be explained, why the project is attractive for the investors although the benchmark would not be reached.</p>	CAR8 CR2	<input checked="" type="checkbox"/>
B.5.12.	In case of applying step 3 (barrier analysis) of the additionality tool: Is a complete list of barriers developed that prevent the	1, 2 3	Not applicable.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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different alternatives to occur?				
B.5.13. 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	Not applicable	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.14. 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	Not applicable	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.15. 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	<p>Yes, there are other activities.</p> <p><b><u>Creective Action Request No. 9</u></b></p> <p>The common practice analysis is not sufficient. Please describe in detail why the mentioned plants are economically feasible without CDM revenue, and what is the difference between the project activity and the existing projects.</p> <p><b><u>Creective Action Request No. 10</u></b></p> <p>Please include the sources for the different statements regarding the common practice analysis.</p> <p><b><u>Clarification Request No. 3.</u></b></p> <p>The evidence of similar project activities' current status should be delivered to the DOE.</p>	CAR9 CAR10 CR3	<input checked="" type="checkbox"/>
B.5.16. 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	<p>The description made in section B.5, sub-step 4b is not clear.</p> <p>See comments above.</p>	See CAR8	<input checked="" type="checkbox"/>
B.5.17. Is it appropriately explained how the ap-	1, 2	The CDM registration will make the project more financial attrac-	See	<input checked="" type="checkbox"/>



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proval of the project activity will help to overcome the economic and financial hurdles or other identified barriers?	3	tive. Nevertheless please refer to CAR7 and Clarification Request No. 2	CAR7 CR2	
<b>B.6. Emissions reductions</b>				
<i>B.6.1. Explanation of methodological choices</i>				
B.6.1.1. Is it explained how the procedures provided in the methodology are applied by the proposed project activity?	1, 2	The calculation of the emission reduction is applied according to the steps described in ACM0002: - Calculation of the Operating Margin (OM) Emission Factor - Calculation of the Build Margin (BM) Emission Factor - Calculation of the Combined Baseline Emission Factor - Calculation of the Emission Reduction These steps are described in a transparent manner.	<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, the selection of options offered by ACM0002 is correctly justified which has been verified during on-site audit.	<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	Yes. Formulae to calculate the baseline emissions are correctly presented in chapter B6.1.	<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	Yes, formulae to calculate the baseline emissions are correctly presented in chapter B.6.1 in the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.1.5. Is the choice of options to determine the emissions factor (OM, BM) justified in a	1, 2	Yes. The choice of options to determine the emission factor is justified.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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suitable and transparent manner?				
B.6.1.6. Are the six steps as defined per the "Tool for calculation of emission factor for electrical systems" correctly applied by the project participants?	1, 2	Yes. Version 01.1 of tool to calculate the emission factor for an electricity system was correctly applied by the project participants.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.1.7. 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 version 07 of ACM0002 (OM 0.5 and BM 0.5 respectively) are used.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.1.8. 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 comment above.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.1.9. 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.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Tool to calculate project or leakage CO2 emissions from fossil fuel combustion				
B.6.1.10. Is the formula required for the determination of CO2 project emissions from fossil fuel combustion correctly presented, enabling a complete identification of parameter to be used and / or monitored	1, 2	Yes.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.1.11. Is option A (preferred approach) or option B chosen for the determination of the CO2 emission coefficient COEF <sub>i,y</sub> and is COE-F <sub>i,y</sub> correctly determined?	1, 2	Yes.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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B.6.1.12. Are formulae required for the determination of emission reductions correctly presented?	1, 2	Yes. The formula is correctly presented in chapter B.6.1 and B.6.3.	☑	☑														
B.6.2. Data and parameters that are available at validation																		
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	<b><u>Crective Action Request No. 11</u></b>  The following parameters have to be added in the PDD. - emission coefficient of each fuel - fuel consumption of each power source - surface area of full reservoir level - electricity generation of each power source - electricity imports - CO2 emission coefficient of fuels used in connected grids - Emission factor of the grid	CAR11	☑														
B.6.2.2. Is the choice of ex-ante or ex-post vintage of OM and BM factors clearly specified in the PDD?	1, 2	The ex-ante calculation of emission factors is chosen.	☑	☑														
Fill in the required amount of sub checklists for monitoring parameter and comment any line answered with “No”																		
B.6.2.3. Parameter Title: GWP <sub>CH4</sub> Global warming potential of methane valid for the relevant commitment period (tCO2/tCH4)	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></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	☑	☑
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																	

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		Choice of data correctly justified?	N/A																					
		Measurement method correctly described?	N/A																					
B.6.2.4. Parameter Title: EG <sub>historical</sub> (only applicable to modification/retrofit of an existing grid-connected renewable power plant/unit)  Average of historical electricity delivered by the existing facility to the grid (MWh)	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?</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?	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?	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: DATE <sub>BaselineRetrofit</sub> (only applicable to modification/retrofit of an existing grid-connected renewable power plant/unit)  Point in time when the existing equipment would need to be replaced in the absence of the project activity	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?</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?	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?	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.6.2.6. Parameter Title: EF <sub>Res</sub> (only applicable to hydro-power plants with reservoir)  Default emission factor for emissions from reservoirs (kgCO2e/MWh)	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></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	✓	✓				
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		
B.6.2.7. Parameter Title: CAP <sub>BL</sub> (W) (only applicable to modification/retrofit of an existing grid-connected renewable power plant/unit)  Installed capacity of the hydro power plant before the implementation of the project activity. For new hydro power plants, this value is zero.	1, 2	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.6.2.8. Parameter Title: A <sub>BL</sub> (only applicable to hydropower plant projects with reservoir)  Area of the reservoir measured in the surface of the water, before the implementation of the project activity, when the reservoir is full (m2). For new reservoirs, this value is zero (m <sup>2</sup> ).	1, 2	<b><u>Crective Action Request No. 12</u></b>  Please clarify and correct as corresponds, if the <i>IPCC Revised Guideline</i> values taken on account are from 1996 or from 2006.		CAR12	☑
		Data Checklist	Yes / No		
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided?	No		
		Has this value been verified?	No		
		Choice of data correctly justified?	No		
		Measurement method correctly described?	No		
B.6.2.9. Parameter Title: Emission factor of the grid (EF <sub>CM</sub> in	1, 2	Data Checklist	Yes / No	☑	☑

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tCO <sub>2</sub> /MWh)		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		
		See CAR11			
B.6.2.10. Parameter Title: Operating margin (EF <sub>OM</sub> in tCO <sub>2</sub> /MWh) emission factor of the grid	1, 2	Data Checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	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		
		See CAR11			
B.6.2.11. Parameter Title: Build margin (EF <sub>BM</sub> intCO <sub>2</sub> /MWh) emission factor of the grid	1, 2	Data Checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		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		

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		Measurement method correctly described? See CAR11																					
B.6.2.12. Parameter Title: $FC_{i,m,y}$ , $FC_{i,y}$ , $FC_{i,j,y}$ , $FC_{i,k,y}$ , $FC_{i,n,y}$ and $FC_{i,n,h}$ Amount of fossil fuel type i consumed by power plant / unit m,j,k or n (or in the project electricity system in case of $FC_{i,y}$ ) in year y or hour h (mass or volume unit)	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	No	☑	☑
Data Checklist	Yes / No																						
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Appropriate description of parameter?	No																						
Source clearly referenced?	No																						
Correct value provided?	No																						
Has this value been verified?	No																						
Choice of data correctly justified?	No																						
Measurement method correctly described?	No																						
B.6.2.13. Parameter Title: $NCV_{i,y}$ Net calorific value (energy content) of fossil fuel type i in year y (GJ / mass or volume unit)	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	No	☑	☑
Data Checklist	Yes / No																						
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Appropriate description of parameter?	No																						
Source clearly referenced?	No																						
Correct value provided?	No																						
Has this value been verified?	No																						
Choice of data correctly justified?	No																						
Measurement method correctly described?	No																						
B.6.2.14. Parameter Title: $EF_{CO2,i,y}$ and $EF_{CO2,m,i,y}$ CO2 emission factor of fossil fuel type i in year y (tCO2/GJ)	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></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	☑	☑								
Data Checklist	Yes / No																						
Title in line with methodology?	Yes																						
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Appropriate description of parameter?	Yes																						
Source clearly referenced?	Yes																						



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		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	Yes		
B.6.2.15. Parameter Title: $EG_{m,y}$ , $EG_y$ , $EG_{j,y}$ , $EG_{k,y}$ and $EG_{n,h}$ Net electricity generated and delivered to the grid by power plant / unit m,j,k or n (or in the project electricity system in case of $EG_y$ ) in year y or hour h (MWh)	1, 2	Data Checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		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		
		See CAR11			
B.6.2.16. Parameter Title: $EG_{PJ,h}$ Electricity displaced by the project activity in hour h of year y (in MWh)  (only applicabe for the dispatch data OM)	1, 2	Data Checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		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.6.2.17. Parameter Title: $\eta_{m,y}$ Average net energy conversion efficiency of power unit m in year y	1, 2	Data Checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Title in line with methodology?	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.6.2.18 Parameter Title: $A_{PJ}$ (only applicable to hydropower plant projects with reservoir) Area of the reservoir measured in the surface of the water, after the implementation of the project activity, when the reservoir is full.	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data Checklist	Yes / No																						
Title in line with methodology?	No																						
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Appropriate description of parameter?	No																						
Source clearly referenced?	No																						
Correct value provided?	No																						
Has this value been verified?	No																						
Choice of data correctly justified?	No																						
Measurement method correctly described?	No																						
B.6.2.19. 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>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data Checklist	Yes / No																						
Title in line with methodology?	No																						
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<b>B.6.3. Ex-ante calculation of emission reductions</b>				
B.6.3.1. Is the projection based on the same procedures as used for future monitoring?	1, 2	No, as the projection is calculated with the installed capacity and the future monitoring will be directly measured..	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.3.2. Are the GHG calculations documented in a complete and transparent manner?	1, 2	Yes. The latest issued emission factors by NDRC in July of 2008 are used to calculate GHG emissions.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.3.3. Is the calculation of the operating margin and build margin emission factors documented electronically in a spreadsheet with the relevant information as defined per the "Tool for calculation of emission factor for electrical systems"? Has this spreadsheet been submitted to the validation team?	1, 2	Yes. The spreadsheet has been submitted to the validation team.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.3.4. Is the data provided in this section consistent with data as presented in other chapters of the PDD?	1, 2	Yes. The calculations of the emission reductions are consistent with sections B.6.1 and B.6.2.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>B.6.4. Summary of the ex-ante estimation of emission reductions</b>				
B.6.4.1. Will the project result in fewer GHG emissions than the baseline scenario?	1, 2	Yes, there are no project emissions.	<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 according to the PDD template.	<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	See CAR3	See CAR3	<input checked="" type="checkbox"/>
B.6.4.4. Is the data provided in this section in	1, 2	Yes, no contradictions are presented.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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consistency with data as presented in other chapters of the PDD?																												
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	The parameter EGy-- is the parameter that shall be monitored and recorded.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																								
Integrate the required amount of sub-checklists for monitoring parameter and comment on any line answered with “No”																												
B.7.1.2. Parameter Title: EGy Electricity supplied by the project activity to the grid (in MWh)	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><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</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	Indication of accuracy provided?	Yes	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																											
Title in line with methodology?	Yes																											
Data unit correctly expressed?	Yes																											
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Source clearly referenced?	Yes																											
Correct value provided for estimation?	Yes																											
Has this value been verified?	Yes																											
Measurement method correctly described?	Yes																											
Correct reference to standards?	Yes																											
Indication of accuracy provided?	Yes																											
QA/QC procedures described?	Yes																											
QA/QC procedures appropriate?	Yes																											
B.7.1.3. Parameter Title: TEGy Total electricity produced by the project activity, including the electricity supplied to the grid and the electricity supplied to internal loads, in year y (in MWh).	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></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																
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Title in line with methodology?	N/A																											
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QA/QC procedures described?	N/A																												
QA/QC procedures appropriate?	N/A																												
B.7.1.4. Parameter Title: $EF_{grid,CM,y}$  Combined margin CO2 emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system” (tCO2/MWh)	1, 2	<b>Not applicable, as this protocol refers to the ex-ante determination of CM.</b> <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"/>
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Indication of accuracy provided?	N/A																												
QA/QC procedures described?	N/A																												
QA/QC procedures appropriate?	N/A																												
B.7.1.5. Parameter Title: $PEFC_{j,y}$  CO2 emissions from fossil fuel combustion in process j during the year y (tCO2/yr). Calculated as per the latest version of the “Tool to calculate project or leakage CO2 emissions from fossil fuel combustion”	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></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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
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		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.7.1.6. Parameter Title: Cap <sub>PJ</sub> (only applicable to hydropower plant projects) Installed capacity of the hydro power plant after the implementation of the project activity (W).	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.7.1.7. Parameter Title: A <sub>PJ</sub> (only applicable to hydropower plant projects with reservoir) Area of the reservoir measured in the surface of the water, after the implementation of the project activity, when the reservoir is full (m <sup>2</sup> ).	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		
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		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		

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		QA/QC procedures appropriate?	N/A																										
B.7.1.8. Parameter Title: $w_{Main,CO_2}$ Average mass fraction of CO <sub>2</sub> in the produced steam tCO2/t steam (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"/>
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Indication of accuracy provided?	N/A																												
QA/QC procedures described?	N/A																												
QA/QC procedures appropriate?	N/A																												
B.7.1.9. Parameter Title: $w_{Main,CH_4}$ Average mass fraction of CH <sub>4</sub> in the produced steam (tCH4/t steam). 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"/>
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B.7.1.10. Parameter Title: $M_{S,y}$ Quantity of steam produced during the year y. (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"/>
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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																											
Parameters related to the “Tool to calculate project or leakage CO2 emissions from fossil fuel combustion”																												
B.7.1.11. Parameter Title: Quantity of fuel type i combusted in process j during the year y $FC_{i,j,y}$	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"/>
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Indication of accuracy provided?	N/A																											
QA/QC procedures described?	N/A																											
QA/QC procedures appropriate?	N/A																											
B.7.1.12. Parameter title:	1, 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr></table>	Monitoring Checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																						
Monitoring Checklist	Yes / No																											

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Weighted average mass fraction of carbon in fuel type i in year y  $W_{C,i,y}$		Title in line with methodology?	N/A																										
		Data unit correctly expressed?	N/A																										
		Appropriate description of parameter?	N/A																										
		Source clearly referenced?	N/A																										
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		Indication of accuracy provided?	N/A																										
		QA/QC procedures described?	N/A																										
		QA/QC procedures appropriate?	N/A																										
B.7.1.13. Parameter title:  Weighted average density of fuel type i in year y  $\rho_{i,y}$	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"/>
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Indication of accuracy provided?	N/A																												
QA/QC procedures described?	N/A																												
QA/QC procedures appropriate?	N/A																												
B.7.1.14. Parameter title:  Weighted average net calorific value of fuel type i in year y  $NCV_{i,y}$	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></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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
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		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.7.1.15. Parameter title: Weighted average CO2 emission factor of fuel type i in year y  EF <sub>CO2,i,y</sub>	1, 2	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided 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																												
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.7.2. 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, the operational and management structure of data monitoring is clearly described in B.7.2. A special CDM group will be responsible for data collection, supervision, verification and recording.  <b><u>Crective Action Request No. 13</u></b> Please provide clear and detailed description of the duties of the CDM group in the PDD.		CAR13	<input checked="" type="checkbox"/>																								
B.7.2.2. Are responsibilities and institutional arrangements for data collection and	1, 2	Yes. According to the PDD, the annual output from the power plant will be monitored and recorded at the substation. The project		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																								

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archiving clearly provided?		operator is responsible for recording this set of data. Electricity sales invoices will also be obtained as an additional check. Data records will be achieved for 2 years after the end of the crediting period.		
B.7.2.3. Does the monitoring plan provide current good monitoring practice?	1, 2	Yes. The monitoring plan shows good monitoring practices.	<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	Not applicable. Annex 4 does not include additional information.	<input checked="" type="checkbox"/>	<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 was determined on 10/12/2008.	<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. See CAR3.	See CAR3	<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	Yes, Mr. Li Gang from China Fulin Windpower Development Corporation and Mr. Sun Bingzhi from China Fulin Windpower Development Corporation are responsible for the application of the baseline and monitoring methodology.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.8.4. Is information provided whether this person / entity is also considered a project participant?	1, 2	Yes. The mentioned persons are not project participants.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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<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 15	Yes, the project starting date was 27/10/2004 and the operational lifetime is expected to be 34 years.	<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. The starting date has to be revised.  See CAR3.	See CAR3	<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, 8	Yes, the environmental impacts of the project activity during construction and operation period have been clearly described. The contracts of the migration allocation have been reviewed by the auditor; however there is no sufficient statement in the PDD.  <b><u>Creective Action Request No. 14</u></b>  Please specify the migration allocation procedure in a transparent manner, e.g. if the migrants were consulted via a questionnaire that have been reviewed by the auditor Please make a summary of the comments received from the migrants and describe them in	CAR14	<input checked="" type="checkbox"/>

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			the PDD.		
D.1.2.	Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, has an EIA been approved?	1, 2 7, 8	Yes, EIA is a must in P. R. China for new hydro power projects.  EIA of "Yunnan Diqing Jisha Hydropower Project"(Guohanpingzhengji1015), issued by Beijing Guodian Hydropower Engineering Co., Ltd., dated Jan, 2004. The documents have been reviewed by the auditor.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.1.3.	Will the project create any adverse environmental effects?	1, 2 7, 8	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, 8	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, 8	According 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, 8	Yes, the project is in conformity with the environmental legislation of 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 16	Yes, questionnaires were used to consult the relevant stakeholders.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.1.2.	Have appropriate media been used to in-	1, 2	Questionnaires were used to invite comments by local stakehold-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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vite comments by local stakeholders?		16	ers in June, 2007 during the environmental impact assessment period.		
E.1.3.	If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	1, 2 16	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"/>
E.1.4.	Is the undertaken stakeholder process that was carried out described in a complete and transparent manner?	1, 2 16	Yes. Confirmed with the detailed documents, the process is described in a complete and transparent manner.	<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 16	Yes, sections E.2 and E.3 of the PDD give a summary of stakeholder comments received by questionnaires.	<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 16	Yes, it is described in section E.3 in the PDD.	<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, both sections are consistent.	<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, Guodian Diqing Shangri La Electricity Generation Co., Ltd. and Kommunalkredit Public Consulting GmbH are presented.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



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			sented.		
<b>Annex 2: Information regarding public funding</b>					
F.1.3.	Is the information provided on the inclusion of public funding (if any) in consistency with the actual situation presented by the project participants?	1, 2	Yes. There is no public funding necessary; all costs are covered equity by bank loans and private investment. The bank loan contracts are reviewed by the auditor.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.1.4.	If necessary: Is an affirmation available that any such funding from Annex-I-countries does not result in a diversion of ODA?	1, 2	See above	<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 input data to calculate OM and BM are provided in Annex 3.	<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 consistent with the NDRC issued data and have been verified by the audit team.	<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	See above	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Annex 5: 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	No additional information is available in Annex 4.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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F.1.9.	Is the information provided verifiable? Has sufficient evidence been provided to the validation team?	1, 2	<p><b><u>Creective Action Request No. 15</u></b></p> <p>A diagram of the location of the power meters should be included. It should be transparent that for the calculation of the emission reduction only the electricity produced in the project boundary will be used.</p>	CAR15	<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	See above	<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
<b><u>Corrective Action Request No.1</u></b> A revision history of the PDD should be included.	A.1.1	The revision history of the PDD had been shown in the revised PDD.	The revision history as been in the PDD as demanded (IRL No. 55). The issue is therefore closed out. <input checked="" type="checkbox"/>
<b><u>Corrective Action Request No.2</u></b> Please provide enough information about GPS coordinates (in format degrees, minutes, and seconds). Correct the PDD as necessarily or provide this information to the DOE.	A.4.1.1	The FS report provided the information about GPS coordinates on page 1, chapter3, and the relative sections had been revised in the PDD.	The detailed GPS information has been indicated in PDD (IRL No. 55). The issue is therefore closed out. <input checked="" type="checkbox"/>
<b><u>Corrective Action Request No.3</u></b> Please include in the PDD the detailed technical data of the main equipments implemented by the proposed project activity.	A.4.3.2	The detailed technical data of the main equipments implemented by the proposed project activity had been illustrated in the revised PDD.  Date sources are from the FSR of the proposed project, page 121, chapter1, and the characteristic table of the proposed project.	The detailed technical data of the main equipments have been provided in the PDD (IRL No. 55). This is considered appropriate. The issue is therefore closed out. <input checked="" type="checkbox"/>

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<p><b><u>Corrective Action Request No.4</u></b> The delayed risk of the tunnel construction should be described in detail in PDD.</p>	<p>A.4.4.2</p>	<p>The relevant section about risk of the tunnel construction had been described in detail in A.4.3 of the revised PDD the revised PDD.</p>	<p>The relevant section about risk of the tunnel construction had been appropriately described in PDD as demanded (IRL No. 55). The issue is therefore closed out. <input checked="" type="checkbox"/></p>
<p><b><u>Corrective Action Request No.5</u></b> Emissions from electricity generation in fossil fuel fired power plants of imported electricity from Center China Power Grid have to be included in the project boundary.</p>	<p>B.3.6</p>	<p>The determination of the project boundary and the baseline scenario includes the emissions from electricity generation in fossil fuel fired power plants of imported electricity from Center China Power Grid. The relevant section had been described in detail in B3 of the revised PDD.</p>	<p>The project boundary has been revised in PDD as demanded (IRL No. 55). The issue is therefore closed out. <input checked="" type="checkbox"/></p>
<p><b><u>Corrective Action Request No.6</u></b> Please describe why the Combined Margin of the grid that will be connected to the project activity will represent the baseline.</p>	<p>B.4.1</p>	<p>According to the provisions and applicability of the approved consolidated baseline and monitoring methodology ACM0002, the baseline scenario of the proposed project can be identified the South China Power Grid that will be connected to the project activity described in B4 of the revised PDD. Moreover, to compare four alternatives and finally identify the Combined Margin of the grid that will be connected to the project activity will represent the baseline scenario in B5 of the revised PDD. The relevant sections had been described in detail in B4 and B5 of the revised PDD.</p>	<p>The Combined Margin of the grid that will be connected to the project activity will represent the baseline scenario in B5 of PDD (IRL No. 55). This is considered to be reasonable. The issue is therefore closed out. <input checked="" type="checkbox"/></p>

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<p><b><u>Corrective Action Request No.7</u></b></p> <p>The inconsistencies have to be revised. Moreover the prospective pool purchase price of power in the PDD is different within the mentioned documents showed to the DOE. Please correct this information as necessarily.</p>	<p>B.5.10</p>	<p>According to the letter of intent signed on September 14 2007, the expected CERs Price is 9.0 EUR/tCO<sub>2</sub> that was revised in the PDD and the Lol was provided to DOE. Without the power purchase agreement of the proposed project, the electricity tariff of 0.1752yuan/kwh in the FSR is used to calculate IRR. Other data used for the IRR calculation are cross-check with the FSR of the project and revised their inconsistencies in the PDD.</p>	<p>The inconsistencies have been clarified. Corresponding information in the PDD has been corrected as demanded (IRL No. 20; 21; 44; 51 &amp; 55).</p> <p>The issue is therefore closed out.</p> <p style="text-align: right;">☑</p>
<p><b><u>Corrective Action Request No.8</u></b></p> <p>Please present the IRR formulas and calculations in a transparent manner, and deliver the calculation spread sheet together with the sensitive analysis (including the variations on the CERs prices) to the DOE.</p>	<p>B.5.11</p>	<p>IRR spreadsheet including the formulas and calculations were provided to the DOE.</p>	<p>The IRR calculation workbook has been received and checked (IRL No. 44). The calculations have been appropriately.</p> <p>The issue is therefore closed out.</p> <p style="text-align: right;">☑</p>
<p><b><u>Corrective Action Request No.9</u></b></p> <p>The common practice analysis is not sufficient. Please describe in detail why the mentioned plants are economically feasible without CDM revenue, and what is the difference between the project activity and the existing projects.</p>	<p>B.5.15</p>	<p>In the revised PDD, the common practice analyses are including the determination of comparable size and geographical scope. Moreover, describing in detail the difference between the project activity and the existing projects.</p>	<p>The common practice analysis includes projects with comparable size and geographical scope in PDD (IRL No. 54 &amp; 55).</p> <p>The issue is therefore closed out.</p> <p style="text-align: right;">☑</p>

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<p><b><u>Corrective Action Request No.10</u></b> Please include the sources for the different statements regarding the common practice analysis.</p>	<p>B.5.14</p>	<p>The sources for the different statements regarding the common practice analysis are listed in the revised PDD, and provide the copies of the main sources to DOE.</p>	<p>The PDD has been updated accordingly. Also, a reference to common practice analysis has been provided to the DOE (IRL No. 54 &amp; 55). The issue is therefore closed out. <input checked="" type="checkbox"/></p>
<p><b><u>Corrective Action Request No.11</u></b> The following parameters have to be added in the PDD. - emission coefficient of each fuel - fuel consumption of each power source - surface area of full reservoir level - electricity generation of each power source - electricity imports - CO2 emission coefficient of fuels used in connected grids - Emission factor of the grid</p>	<p>B.6.2.1</p>	<p>In the revised PDD, a part of the parameters mentioned by CAR are added in B6.2 and B7.1 according to the latest methodology ACM0002 (Version 07), and others are including the calculation of Emission factor of the grid in Annex 3.</p>	<p>The parameters have been included in PDD (IRL No. 55). The issue is therefore closed out. <input checked="" type="checkbox"/></p>
<p><b><u>Corrective Action Request No.12</u></b> Please clarify and correct as appropriate, if the <i>IPCC Revised Guideline</i> values taken into account are from 1996 or from 2006.</p>	<p>B.6.2.8</p>	<p>According to the provisions of the latest methodology ACM0002 (Version 07), 2006 IPCC default values are used to calculate the Emission factor of the grid except the national data.</p>	<p>2006 IPCC default values are used to calculate the Emission factor of the grid except the national data. This is considered ok. The issue is therefore closed out. <input checked="" type="checkbox"/></p>

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<b><u>Corrective Action Request No.13</u></b> Please provide clear and detailed description of the duties of the CDM group in the PDD.	B.7.2.1	In the revised PDD, the relevant descriptions of the duties of the CDM group were enriched in detail, which definitely illuminates the responsibilities of the members in CDM group.	The relevant descriptions of the duties of the CDM group were indicated in PDD (IRL No. 55). The issue is therefore closed out. <input checked="" type="checkbox"/>
<b><u>Corrective Action Request No.14</u></b> Please specify the migration allocation procedure in a transparent manner, e.g. if the migrants were consulted via a questionnaire that have been reviewed by the auditor Please make a summary of the comments received from the migrants and describe them in the PDD.	D.1.1	The relevant sections about migration allocation were evaluated in the EIA of the project activity and the report of migration allocation. The relevant approval letters about it were provided to DOE. Therefore, the summary of the migration allocation were described simply in D1 of the revised PDD.	The relevant sections about migration allocation were evaluated in the EIA (IRL No. 10) of the project activity and the report of migration allocation. The relevant approval letters about it were delivered (IRL No. 56). The issue is therefore closed out. <input checked="" type="checkbox"/>
<b><u>Corrective Action Request No.15</u></b> A diagram of the location of the power meters should be included. It should be transparent that for the calculation of the emission reduction only the electricity produced in the project boundary will be used.	F.1.9	According to the shop drawing of the proposed project, a diagram of the location of the power meters was included in monitoring plan and the monitoring plan was detail described based on the diagram.	The diagram has been included accordingly (IRL No. 55). The issue is therefore closed out. <input checked="" type="checkbox"/>



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### **Corrective Action Request No.16**

The cells C32 to C34 in "Basic Data Table" worksheet: the data (units) for maintaining cost of the reservoir, supporting fund for the immigrants and immigrants parameters presented is non-readable. PP is requested to correct and provide a readable version of these cells.

The data (units) for maintaining cost of the reservoir, supporting fund for the immigrants and immigrants parameter in the cells C32 to C34 in "Basic Data Table" worksheet have been corrected and provided a readable version of these cells to DOE.

In "Basic Data Table" worksheet

			The IRR version for registration	In the corrected IRR worksheets
	No.	Item	Unit	Unit
C32	19	maintaining cost of the reservoir	RMB//kWh	Yuan/kWh
C33	20	supporting fund for an immigrant	RMB//person.year	Yuan/year
C34	21	immigrants	person	

The error was caused by the use of different characters in the cell which could not be read on certain systems. This has been corrected accordingly.

The issue is therefore closed out.



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### **Corrective Action Request No.17**

The Static total investment and CERs amount figure presented in the “Basic Data Table” and “IRR on Total Investment” worksheets of the Investment analysis excel file are not consistent with those indicated in the PDD. PP is requested to amend the figures and clarify the changes done.

A clerical error led to the inconsistencies in the total static investment in the in the “Basic Data Table” and “IRR on Total Investment” worksheets.

For the **inconsistencies** , the reason is shown below:

In the revised PDD and excel sheet after 5 Nov. 2009, Only a minor mistake has been corrected except the units of the data, which is calculated value of investment rate of each year. In the last excel sheet requested for registration, the sum of investment rate of each year is not 100%, only of 99% that leads to the inconsistencies in the total static investment in the in the “Basic Data Table” and “IRR on Total Investment” worksheets .Based on the data in the FSR, the mistake was checked and corrected. The investment rate of fourth year is of 18% not 17%. Based on the above correction, the IRR and critical point changed. Therefore, the PDD has been updated.

No.	Item	Unite	The IRR version for registration	In the corrected IRR worksheets
7	Static total investment	10000 Yuan	85496	85496
7.1	Static total investment	10000 Yuan	85496	85496
7.2	investment rate of the first year	%	21	21
7.3	investment rate of the second	%	24	24
7.4	investment rate of the third year	%	37	37
7.5	investment rate of the fourth year	%	17	18
Sum			99	100

The inconsistency was due to a typing error in the value of one parameter (**investment rate of fourth year**). This minor error has been corrected (from **17 % to 18%**) but it causes the IRR to change very slightly and insignificantly from 6.5% to 6.4%. Furthermore, as this minor error of 1% is on the calculation formulae used in the estimation of investment costs in the project cycle, it does not affect the input values used in the investment analysis which were verified and validated during the validation process.

The correct data is now included in the investment analysis excel file and in the PDD and they are consistent with each other.

The issue is therefore closed out.



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<b><u>Clarification Request No.1</u></b> The source regarding information about the China Southern Power Grid is only available in Chinese. Please provide a version of this information in English to the DOE.	A.2.1	The source and the calculation table regarding information about the China Southern Power Grid had been provided to DOE, which is the latest version of this information in English.	The English calculation table of CSPG has been delivered.  The issue is therefore closed out.  <input checked="" type="checkbox"/>
<b><u>Clarification Request No.2</u></b> The Diqingjisha hydropower IRR with CDM revenues is 7.1%. It is still under the benchmark of 8%. It should be explained, why the project is attractive for the investors although the benchmark would not be reached.	B.5.11	In the last PDD for GSP, the IRR of the proposed project is 7.1% without CDM revenues and is 11.41% with CDM revenues that is higher than the benchmark (8%) meaning the proposed project is financial attraction with CDM revenues.  Moreover, according to the approval letter for the revised investment, the IRR of the proposed project is 6.50% without CDM revenues and is 11.93% with CDM revenues In the revised PDD.	The detailed IRR has been explained in PDD (IRL No. 55).  The issue is therefore closed out.  <input checked="" type="checkbox"/>
<b><u>Clarification Request No.3</u></b> The evidence of similar project activities' current status should be delivered to the DOE.	B.5.15	The sources for similar project activities' current status are listed in the revised PDD, and provide the copies of sources to DOE.	The evidence of the similar projects has been delivered to DOE (IRL No. 54).  The issue is therefore closed out.  <input checked="" type="checkbox"/>

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<p><b><u>Clarification Request No.4</u></b> PP is requested to clarify the calculation and/or source of the O&amp;M costs indicated in both the PDD and in the calculation file.</p>		<p>For Hydro power projects, the O&amp;M cost is determined as the sum of maintenance cost, salary, material cost, insurance cost and other cost in <i>Economical assessment and parameters for construction project</i>. Therefore, the calculated method used in the PDD and IRR worksheets was shown below:</p> <p>Operating cost = annual salary per capita × employee population × (1+ rate of welfares) + original value of fixed assets × (rate of maintenance + rate of insurance premium) + (fixed amount of material cost+ fixed amount of other costs) × installed capacity</p> <p>According to the statistical analysis of O&amp;M cost for hydropower plants in China, in which O&amp;M cost for hydropower plants is about 0.04-0.09Yuan /kWh, the O&amp;M cost of 0.052 Yuan /kWh in the proposed project is reasonable.</p> <p>The sources on the he statistical analysis of O&amp;M cost for hydropower plants in China have been provided to DOE.</p>	<p>The O&amp;M cost has been calculated according to the standard and requirement of the host country – China. The method of calculation is as indicated in the Statistical Analysis of O&amp;M cost for Hydropower Plants in China (IRL No. 70). The inconsistency was mainly due the different units used in stating the O&amp;M cost. This has been rectified and the values in the calculation file and the final PDD are now consistent. No change on the input values used in the investment analysis which were verified and validated during the validation process occurred.</p> <p>The issue is therefore closed out.</p> <p style="text-align: right;">☑</p>
<p><b><u>Open Issue</u></b> Please submit the LoA issued by China and Austria together with MoC countersigned by both parties to DOE before raising the request of registration.</p>	<p>A.3.2</p>	<p>The LoA and MoC have been delivered to DOE.</p>	<p>LoAs from both parties have been delivered as required (IRL No. 40 &amp; 41). The issue is therefore closed out.</p> <p style="text-align: right;">☑</p>

## Validation Protocol

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**Table 3 Unresolved Corrective Action and Clarification Requests (in case of denials)**

Clarifications and / or corrective action requests by validation team	Id. of CAR/CR	Explanation of Conclusion for Denial
-	-	-


**Yunnan Diqing Jisha Hydropower Project.**

## **Annex 2: Information Reference List**


Final Report	03-12-2009	Validation of the “Yunnan Diqing Jisha Hydropower Project”  Information Reference List	Page 1 of 5	
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Reference No.	Document or Type of Information
1.	Project Design Document for CDM project “Yunnan Diqing Jisha Hydropower Project “, version 1, dated 15/06/2007. Project Design Document for CDM project “Yunnan Diqing Jisha Hydropower Project “, version 2, dated 30/08/2007. Project Design Document for CDM project “Yunnan Diqing Jisha Hydropower Project “, version 3, dated 24/09/2007. Project Design Document for CDM project “Yunnan Diqing Jisha Hydropower Project “, version 3.1, dated 21/05/2008. Project Design Document for CDM project “Yunnan Diqing Jisha Hydropower Project “, version 3.2, dated 20/09/2008. Project Design Document for CDM project “Yunnan Diqing Jisha Hydropower Project “, version 3.3, dated 10/12/2008. Project Design Document for CDM project “Yunnan Diqing Jisha Hydropower Project “, version 3.3, dated 27/04/2009. Project Design Document for CDM project “Yunnan Diqing Jisha Hydropower Project “, version 3.5, dated 04/11/2009
2.	Consolidated baseline methodology for grid-connected electricity generation from renewable sources, ACM0002, version 7.
3.	Tool to calculate the emission factor for an electricity system ( version01.1 ) ; Tool for the demonstration and assessment of additionality (version 5.2); Tool to calculate project or leakage CO2 emissions from fossil fuel combustion (version02,).
4.	Participant list of on-site interview, signed on Jan. 08th, 2008.
5.	On-site interviews at the project site in Diqing town, Yunnan. P.R China., conducted on Jan. 8th, 2008 by auditing team of TÜV SÜD:  Validation team: Mr. Li Lixin CDM Auditor trainee, TUV SÜD Industrie Service GmbH Ms. Chen Xiaoying CDM Auditor, TUV SÜD Industrie Service GmbH  Interviewed persons: Mr. Guo Yimin General Manager, CDM manager of China Guodian Diqing Shangri-La Generating Co., Ltd. Mr. Li Jun CDM Engineering manager of China Guodian Diqing Shangri-La Generating Co., Ltd. Mr. Li Gang CDM Manager of China Fulin windpower development Corporation. Mr. Zhang Nianwu Project Manager, China Long Yuan Electric Power Group Corp. Mr. Liu Hongrong Chairman of the board of Guodian Diqing Shangri La Electricity Generation Co., Ltd. Mr. XU Hongliang Chairman of the board of China Fulin Windpower Development Corporation Mr. Hu Yizhong Legal representative of Guodian Diqing Shangri La Electricity Generation Co., Ltd
6.	




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Reference No.	Document or Type of Information
7.	Feasibility Study Report for CDM project “Yunnan Diqing Jisha Hydropower Project”. issued by Beijing Guodian Hydropower Engineering Co., Ltd., dated Dec, 2003.
8.	Approval of Yunnan Diqing Jisha Hydropower Project, issued by Yunnan DRC(2004-100), dated Feb.13th. 2004.
9.	EIA of “Yunnan Diqing Jisha Hydropower Project”(Guohanpingzhengjiazi1015), issued by Beijing Guodian Hydropower Engineering Co., Ltd., dated June, 2004.
10.	Approval of EIA of Yunnan Diqing Jisha Hydropower Project (2004-422), issued by Yunnan EPB, dated Jul. 6 <sup>th</sup> , 2004.
11.	Approval of get into grid of Yunnan Diqing Jisha Hydropower Project, issued by Yunnan Power Grid, dated Dec. 22th.2003.
12.	The business license of Guodian Diqing Shangri-La power generation Co. Ltd. issued by Yunnan Diqing industry and commerce administration, dated Sep. 19 <sup>th</sup> , 2003.
13.	Turbine-generator purchase contract(GSG/JS-JD-001), signed with Kunmin electric machine Co.Ltd, dated Jul. 2nd, 2004.
14.	Questionnaires of stakeholders’ comments. Dated Jul. 1 <sup>st</sup> , 2007 to Jul. 31 <sup>st</sup> , 2007.
15.	Approval of the transfer agreement of forest land for construct of Diqing Jisha Hydropower project (Yunlinzhengzi2004-76), issued by Yunnan forest bureau, dated.Mar. 2nd , 2004.
16.	Approval of the transfer agreement of soil for construct of Diqing Jisha Hydropower project (Diguotuzi2004-19), issued by Diqing soil source bureau, dated.Mar. 25th , 2004.
17.	The geologic estimate advice for Diqing Jisha Hydropower project on the channels by the local geological department,dated July 21 <sup>st</sup> 2004
18.	The approval letter for Diqing Jisha Hydropower project by Environmental Protection Bureau of Yunnan Province, dated Sep. 16th 2004
19.	Directorate meeting of Diqing Jisha Hydropower project For CDM project development ,dated Aug,27 <sup>th</sup> ,2004
20.	The intent letter of CDM development between Guodian Diqing Shangri La Electricity Generation Co., Ltd and China Fulin Windpower Development Corporation, dated Sep.11st, 2004.
21.	CERs purchase agreement, signed between Kommunalkredit Pubic Consulting GmbH and China Guodian Diqing Shangri-La Generating Co., Ltd. signed Sep., 2007.
22.	Yunnan Diqing Jisha Hydropower Project General ichnography (1:10000).
23.	Approval of programmatic report of hydropower resource development of Diqing Shuoduohe River. Issued by Yunnan program

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Reference No.	Document or Type of Information
	bureau. (Yunjinengjiao(92)1455). Dec.3 <sup>rd</sup> 1992.
24.	Approval of Diqing Jisha Hydropower Project proposal (Yunjijichu2003-1065). Issued by Yunnan development program committee. Sep.19 <sup>th</sup> , 2003.
25.	Approval of Water and Soil protection of Diqing Jisha Hydropower Project (Yunshuishuibao2004-27), by Yunnan Water and Soil protection Bureau at Mar. 4 <sup>th</sup> 2004.
26.	The approval of geological disaster fatalness evaluation for construct of Diqing Jisha Hydropower Project (Yunguotuzihuan2004-12), issued by Yunnan soil resource bureau at Jan. 8 <sup>th</sup> 2004.
27.	The approval of mineral resources investigation of Diqing Jisha Hydropower Project (Yunguotuzichu2004-1), issued by Yunnan soil resource bureau at Jan.9 <sup>th</sup> 2004.
28.	Part of bank loan agreement signed with Agriculture bank of China Yunnan branch bank(Xiangdiansi 2006-9), 737,000,000RMB, dated Feb. 15 <sup>th</sup> , 2006.
29.	The experts ' comments for the revised investment of Yunnan Jisha hydropower plant issued on Aug.19 <sup>th</sup> 2004
30.	The statistical analysis of O&M cost for hydropower plants in China, in which O&M cost for hydropower plants is about 0.04-0.09Yuan RMB/kWh.( <a href="http://www.hnpower.com/country/info.asp?id=1101">http://www.hnpower.com/country/info.asp?id=1101</a> )
31.	The experts ' comments for the FSR of Yunnan Jisha hydropower plant issued on Jan.15 <sup>th</sup> 2004
32.	The notification for the tariff of new constructed hydropower turbines issued by Development and Reform Commission of Yunnan province on Jan.6 <sup>th</sup> 2006.
33.	Provisional regulations on enterprise income tax of the people's republic of China.
34.	Provisional regulations on Value Added Tax (VAT) of the people's republic of China.
35.	The construction contracts of the project,dated on Oct.21 <sup>st</sup> 2004
36.	The project construction permission for the proposed Project, dated on Oct.27 <sup>th</sup> 2004
37.	Equipment purchasing agreements,dated on Dec.7 <sup>th</sup> 2004
38.	CDM development contract between Guodian Diqing Shangri La Electricity Generation Co., Ltd and China Fulin Windpower Development Corporation,dated on June 3 <sup>th</sup> 2007
39.	The LoI signed by the project owner and the Kommunalkredit Public Consulting GmbH, dated on Sept.14 <sup>th</sup> 2007
40.	LoA_China_Yunnan Diqing Jisha.pdf signed by the NDRC of the People's Republic of China, dated on Feb.2008
41.	LoA_ CDM Project Activity “Yunnan Diqing Jisha_Austria.pdf by Austrian DNA (Lebensministerium), dated on Nov.19 <sup>th</sup> 2008

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Reference No.	Document or Type of Information
42.	The development report for solar PV in China ( <a href="http://finance.people.com.cn/GB/1038/59942/59949/6294546.html">http://finance.people.com.cn/GB/1038/59942/59949/6294546.html</a> )
43.	The industrial analysis for biomass technology in china by Economy Reference Newspaper( <a href="http://jckb.xinhuanet.com/cjxw/2007-11/27/content_75467.htm">http://jckb.xinhuanet.com/cjxw/2007-11/27/content_75467.htm</a> )
44.	(IRR_Yunnan Diqing Jisha Hydropower preject.xls) IRR calculation sheet
45.	EF calculation sheet
46.	<a href="http://cdm.ccchina.gov.cn/web/index.asp">http://cdm.ccchina.gov.cn/web/index.asp</a> .
47.	China Electric Power Yearbook 2007
48.	Benchmark_8% for IRR of the proposed project.pdf
49.	Approval letter for the revised investment of the proposed project.pdf
50.	The approval letter for the FSR of the proposed project by Development and Reform Commission of Yunnan province on 13rd Feb.2004.
51.	14 Economic assessment of FSR.pdf
52.	Notice Strictly Prohibiting the Installation of Fuel-fired Generation with the Capacity of 135MW or below decree no. 2002-6 <a href="http://nyj.ndrc.gov.cn/nyfjb/nyfjb4/nyfjb43/nyfjb432/t20070112_110563.htm">http://nyj.ndrc.gov.cn/nyfjb/nyfjb4/nyfjb43/nyfjb432/t20070112_110563.htm</a>
53.	Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects.pdf <a href="http://cdm.unfccc.int/UserManagement/FileStorage/0H24DGX7IPLSW9EAQYBUCR1JFM58KZ">http://cdm.unfccc.int/UserManagement/FileStorage/0H24DGX7IPLSW9EAQYBUCR1JFM58KZ</a>
54.	References for common practice.pdf ( <a href="http://old.yjx.gov.cn/new/xxxs.asp?id=20030218153335">http://old.yjx.gov.cn/new/xxxs.asp?id=20030218153335</a> )
55.	Yunnan Diqing Jisha Hydropower Project-TUV-clean.doc
56.	Approval letter for the migration allocation report of the proposed project.pdf
57.	<a href="http://cdm.unfccc.int/UserManagement/FileStorage/AM_CLAR_QEJWJEF3CFBP1OZAK6V5YXPQKK7WYJ">http://cdm.unfccc.int/UserManagement/FileStorage/AM_CLAR_QEJWJEF3CFBP1OZAK6V5YXPQKK7WYJ</a>
58.	The stakeholders invitation information for Yunnan Diqing Jisha hydropower projec.pdf
59.	National Bureau of Statistics of China, 2006 ( <a href="http://www.stats.gov.cn/english/statisticaldata/yearlydata/">http://www.stats.gov.cn/english/statisticaldata/yearlydata/</a> )
60.	Hydropower and Sustainable Development in China ( <a href="http://www.un.org/esa/sustdev/sdissues/energy/op/hydro_luyoumei.pdf">http://www.un.org/esa/sustdev/sdissues/energy/op/hydro_luyoumei.pdf</a> )
61.	A Study on the Pricing Policy of Wind Power in China by Greenpeace, October 26, 2006 found at <a href="http://www.greenpeace.org/raw/content/china/en/press/reports/wind-power-price-policy.pdf">http://www.greenpeace.org/raw/content/china/en/press/reports/wind-power-price-policy.pdf</a>
62.	Yunnan FSR develop rules.pdf <a href="http://www.cas.ac.cn/10020/10127/2007/127260.htm">http://www.cas.ac.cn/10020/10127/2007/127260.htm</a>
63.	Yunnan investment approving measure.pdf <a href="http://www.34law.com/lawfg/law/1797/2820/print_890938468989.shtml">http://www.34law.com/lawfg/law/1797/2820/print_890938468989.shtml</a>
64.	China outpaces U.S. in cleaner coal-fired plants By Keith Bradsher, NYT (May 11, 2009) <a href="http://news.cnet.com/China-outpaces-U.S.-">http://news.cnet.com/China-outpaces-U.S.-</a>

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	<a href="#">in-cleaner-coal-fired-plants/2100-13840_3-6249629.html</a>
65.	Pollution From Chinese Coal Casts a Global Shadow June 11, 2006 <a href="http://www.nytimes.com/2006/06/11/business/worldbusiness/11chinacoal.html">http://www.nytimes.com/2006/06/11/business/worldbusiness/11chinacoal.html</a>
66.	2008 Baseline Emission Factors for Regional Power Grids in China: <a href="http://cdm.ccchina.gov.cn/english/NewsInfo.asp?NewsId=3250">http://cdm.ccchina.gov.cn/english/NewsInfo.asp?NewsId=3250</a>
67.	Yunnan FSR develop rules.pdf
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69.	CDM Training about renewable energy projects by Longyuan(Beijing) carbon asset management technology Co.,Ltd
70.	The statistical analysis of O&M cost for hydropower plants in China