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Validation Report

OneCarbon International B.V.

VALIDATION OF THE CDM-PROJECT:
HUNAN XIAOTAN HYDROPOWER PROJECT

REPORT NO. 600500034

2010, June 21

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

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Subject: Validation of a CDM Project			
Accredited TÜV SÜD Unit: TÜV SÜD Industrie Service GmbH Certification Body “climate and energy” Westendstr. 199 80686 Munich, Germany		TÜV SÜD Contract Partner: Jiangsu TÜV Product Service Ltd., Shenzhen Branch 28/F, Anlian Building No. 4018 Jintian Road 518026 Shenzhen, China	
Project Participants: Chenxi County Qiongtian Hydropower Co., Ltd. Xiaotan Village, Shibi Town, Chenxi County, Huaihua City, Hunan Province, P.R. China and OneCarbon International B.V. 8408 NL-3503 RK Utrecht, Utrecht The Netherlands.		Project Site(s): Yuanjiang River, Xiaotan Town, Chenxi County, Huaihua City, Hunan Province, China GPS coordinates: 110.144167°(110°08’39’E); 27.938611°N (27°56’19’N) (no separate coordinates were provided for the dam and the powerhouse as the powerhouse is adjacent to the dam).	
Project Title: Hunan Xiaotan Hydropower Project			
Applied Methodology / Version: ACM0002 / Version 07		Scope(s): 1 Technical Area(s): 1.1	
First PDD Version: Date of issuance: 09-09-2008 Version No.: 01 Starting Date of GSP 25-09-2008		Final PDD version: Date of issuance: 31-07-2009 Version No.: 03	
Estimated Annual Emission Reduction:		76 790 tCO ₂ e	
Assessment Team Leader: Sebastian Randig Further Assessment Team Members: Karin Wagner Rencheng (Tom) Xiong* Trainees: Xiaobo (Bernard) Zhang* Katrin Hartmann		Technical Reviewer: Thomas Kleiser Responsible Certification Body Members: Thomas Kleiser	

Summary of the Validation Opinion:

- ☒ The review of the project design documentation and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM. Hence TÜV SÜD will recommend the project for registration by the CDM Executive Board in case letters of approval of all Parties involved will be available before the expiring date of the applied methodology(ies) or the applied methodology version respectively.
- ☐ 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.

*currently not appointed (see section 2.1)

Abbreviations

ACM	Approved Consolidated Methodology
AM	Approved Methodology
AMS	Approved Methodology Small scale
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CER	Certified Emission Reduction
CM	Combined Margin
CMP	Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol
CR / CL	Clarification Request
DNA	Designated National Authority
DOE	Designated Operational Entity
EF	Emission Factor
EIA / EA	Environmental Impact Assessment / Environmental Assessment
ER	Emission Reduction
FAR	Forward Action Request
FSR	Feasibility Study Report
GHG	GreenHouse Gas(es)
IPCC	Intergovernmental Panel on Climate Change
IRL	Information Reference List
IRR	Internal Rate of Return
KP	Kyoto Protocol
MP	Monitoring Plan
NGO	Non Governmental Organisation
OM	Operational Margin
PDD	Project Design Document
PP	Project Participant
TÜV SÜD	TÜV SÜD Industrie Service GmbH
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual

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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:

Hunan Xiaotan 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 request 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 2.



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. The work starts with appointment of team covering the technical scope(s), sectoral scope(s), technical area(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 actions, 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 by the CB “climate and energy” before submission to the CDM-EB.

In order to ensure transparency, assumptions are clear and explicitly stated; the background material is clearly referenced. TÜV SÜD developed methodology-specific checklists and protocol customised 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 validator will document how a particular requirement has been validated and the result of the validation and any adjustment made to the project design.

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

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

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 Request 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 Corrective Action Request (CAR) due to non-compliance with the checklist question (See below). Clarification Request (CR) is used when the validation team has identified a need for further clarification. Forward action request 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 1	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>

2.1 Appointment of the Assessment Team

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

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

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

Name	Qualification	Coverage of sectoral scope	Coverage of technical area	Host country experience
Sebastian Randig	ATL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Karin Wagner	Validator			<input checked="" type="checkbox"/>
Rencheng (Tom) Xiong				<input checked="" type="checkbox"/>

Name	Qualification	Coverage of sectoral scope	Coverage of technical area	Host country experience
Xiaobo (Bernard) Zhang				<input checked="" type="checkbox"/>
Katrin Hartmann	T	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Sebastian Randig is ATL at the department “TÜV Carbon Management Service” in the head office of TÜV Industrie Service GmbH, Germany. He holds a M.Sc. degree in Renewable Energy and has gathered experience in planning and installing renewable energy installations before joining TÜV SÜD. He has received training in the CDM validation process and participated already in various CDM project assessments as a GHG auditor.

Karin Wagner is lead validator for GHG inventory validation and verification for scope 8, 10, 13 at the “Carbon Management Service” department of TÜV SÜD Industrie Service GmbH in Munich, Germany. She holds a M.Sc. in geological sciences and has gathered experience in environmental consulting before joining TÜV SÜD. She has received training in the CDM validation and verification processes and participated in several CDM project assessments.

Mr. Rencheng (Tom) Xiong works intensively on GHG validation and verification projects at TÜV SÜD China. He is based in Shenzhen. He has received training in the CDM validation and verification processes and participated already in several CDM project assessments.

Mr. Xiaobo (Bernard) Zhang is an environmental engineer and auditor trainee for GHG inventory validation and verification for TÜV SÜD China. He has been involved in GHG activities since 2007. He has received extensive training in CDM validation and verification processes and participated in several CDM project assessments.

Katrin Hartmann is a GHG Trainee at the department “TÜV Carbon Management Service” located in the head office of TÜV SÜD Industrie Service GmbH in Munich. She holds a Master’s degree in Business Administration and environmental protection. She worked previously with an international CDM/JI project developer. She has received training in the CDM validation process and participated already in several CDM project workshops.

2.2 Review of Documents

A first version of the PDD was submitted to the DOE in August 2008. The first PDD version submitted by the PP and additional background documents related to the project design and baseline were 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) have 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.

2.3 Follow-up Interviews

On 09-10 October 2008 TÜV SÜD performed interviews, telephone conferences and a physical site inspection 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.

Name	Organisation
Jianming Teng (Director)	Development and Reform Bureau of Chenxi County
Fuying Zhou (Director)	Land and Resources Bureau of Chenxi County

Name	Organisation
Jingfeng Xie (Director)	Agriculture Bureau of Chenxi County
Xiangguo Zeng (Villager)	Shibi village of Chenxi County
Yongsong Zhou (Director)	Environmental Protection Bureau of Chenxi County
Yongquan Tang (Villager)	Xiaotan Village of Chenxi County
Yunpei Tang (Villager)	Xiaotan Village of Chenxi County
Youhao Li (Villager)	Xiaotan Village of Chenxi County
Chengding Wang (Villager)	Baomudong Village of Chenxi County
Siqing Li (Villager)	Baomudong Village of Chenxi County
Ji Tian (Vice Director)	Water Resources of Chenxi County
Yingfu Xiang (Vice Director)	Development and Reform Bureau of Chenxi County
Minjiao He (GM)	Chenxi County Qiongtian Hydropower Co., Ltd.
Yufang Tang (Officer)	Government of Chenxi County
Yuhua Tan (Officer)	Emigration Bureau of Chenxi County
Wenxiao Dong (Supervisor)	Chenxi County Qiongtian Hydropower Co., Ltd.
Aijun Duan (Supervisor)	Chenxi County Qiongtian Hydropower Co., Ltd.
Ying Ma (Consultant)	Hunan CDM Project Service Center

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 and clarifications and any other outstanding issues which needed to be clarified for 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 have been given are documented in more detail in the validation protocol in annex 1.

The final PDD version that was submitted in August 2009 serves as the basis for the final assessment presented herewith. Changes are not considered to be significant with respect to the qualification of the project as a CDM project based on the two main objectives of the CDM, i.e. to achieve a reduction of anthropogenic GHG emissions and to contribute to a sustainable development.

2.6 Internal Quality Control

As final step of a validation the final documentation including the validation report and the protocol have to undergo an internal quality control by the CB "climate and energy", i.e. each report has to be

finally approved either by the head of the CB or the deputy. In case one of these two persons is part of the assessment team approval can only be given by the other one.

After confirmation of the PP the validation opinion and relevant documents are submitted to the EB through the UNFCCC web-platform.

3 SUMMARY

The assessment work and the main results are described below in accordance with the VVM reporting requirements. The reference documents indicated in this section and Annex 1 are stated in Annex 2.

3.1 Approval

The project participants are Chenxi County Qiongtian Hydropower Co., Ltd. of People's Republic of China and OneCarbon International B.V. of the United Kingdom of Great Britain and Northern Ireland. The host Party China and the other participating party, i.e. the United Kingdom meet the requirements to participate in the CDM.

The DNA of the United Kingdom has issued a LoA (IRL 84) on 17 July 2008 authorizing OneCarbon International B.V. as a project participant. The DNA of China has also issued a LoA (IRL 37) on 20 March 2008 authorizing Chenxi County Qiongtian Hydropower Co., Ltd. as a project participant. TÜV SÜD received these letters from the project participants directly and considers the provided letters as authentic.

The China LoA has further been double-checked with the CDM project webpage sponsored by the Department of Climate Change, NDRC (<http://cdm.ccchina.gov.cn>), which further confirms the approval of this CDM project.

Furthermore, after checking the provided LoAs, TÜV SÜD confirms that both letters refer to the precise proposed CDM project activity title in line with the title in the PDD "Hunan Xiaotan Hydropower Project".

Both letters also indicate that each participating Party is a Party to the Kyoto Protocol, and that the participation in the Hunan Xiaotan Hydropower 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 as unconditional with respect to these items.

Both LoAs have been issued by the respective Party's DNA, i.e. the National Development and Reform Commission of the People's Republic of China and the Department for Environment, Food and Rural Affairs of the United Kingdom, respectively.

TÜV SÜD considers the requirements of the VVM (§§ 45-48) to be complied with.

The LoA does not specify a version number of the PDD or validation report. The corresponding references included in the LoA, PDD and validation report are consistent.

3.2 Participation

The participants of the project activity were 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

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 provided by the participants in the applying PDD sections. Completeness was assessed through the checklist included to Annex 1 of this report.

3.4 Project description

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

The project activity is a 20 MW hydroelectric power project located in Central China (Hunan Province), situated on the Chenshui branch of Yuanjiang River. The project activity is a new reservoir hydro power station with a flooded area of 650,000 m² and a power density of 30.77 W/m². The project systems consist of two sets of GZTF07B-WP-450 turbines and SFWG10-56/5130 generators, of 10 MW each, thereby aggregating to the installed capacity of 20 MW. The project system also consists of the dam, the reservoir, the power house and the piping system. The generated electricity will be exported to the Central China Power Grid (CCPG), through the local grid.

The project activity is expected to have an annual power output of 78,880 MWh with a load factor of about 45% (based on an annual operation time of almost 4000 hours; for further discussion on the load factor please see section 3.6.3 (investment analysis)). The exported electricity from the project displaces the power generated by the existing power plants and likely capacity additions in the CCPG, thereby resulting in an estimated emission reduction of 76,790 tCO₂e annually in the renewable 7-year crediting period.

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 check the same with other sources.
- An on-site visit has been performed and relevant stakeholder and personnel with knowledge of the project were interviewed, in case of doubt further cross checks through additional interviews have been done.
- Finally information related to similar projects or technologies as the CDM project activity have been used to confirm the accuracy and completeness of the project description.

In light of the above, TÜV SÜD confirms that the project description as included to the PDD is sufficiently accurate and complete in order to comply with the requirements of the CDM.

3.5 Baseline and monitoring methodology

3.5.1 Applicability of the selected methodology

Compliance with each applicability condition as listed in the chosen baseline and monitoring methodology ACM0002 (Version 07) has been demonstrated.

The assessment was carried out for each applicability criteria 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 which sustain that applicability conditions are complied with.

The methodology specific protocol included to the Annex 1 documents the assessment process, including the steps taken. The results on the compliance check as well as the relevant evidence are explicitly presented 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 which are expected to contribute more than 1% of the overall expected average annual emissions reduction have not been identified.

3.5.2 Project boundary

The project boundary was assessed in the context of a physical site inspection, interviews and based on the secondary evidences received on the design of the project.

The spatial extent of the project boundary comprises all equipments installed and used as part of the project activity, such as power house, generators, turbines, transformers etc power generation facilities. In addition, the project activity supplies power to CCPG, hence all power plant connected physically to the CCPG is also within the project boundary.

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

- Preliminary Design Report and its approval (IRL 10, 12), and
- Electricity Purchase and Sale Contract (IRL 36).

The same have been validated during the validation process using standard audit techniques, further details of any observation are transparently presented in the annex 1.

Hence TÜV SÜD confirms 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

In the PDD the following baseline scenario has been defined:

The baseline scenario equals the scenario prior to the implementation of this project activity. The scenario simply involves the continued electricity generation by CCPG which predominantly consists of carbon intensive fossil fuel energy sources.

The information presented in the PDD has been validated by a first document review of all the data, further confirmation based on the on-site visit and a final step by cross checking the information with similar relevant projects and/or technologies. The sources referenced in the PDD have been quoted correctly. The information was cross-checked based on verifiable and credible sources, such as:

- Preliminary Design Report and its approval (IRL 10, 12), and
- Notice on Strictly Prohibiting the Construction of Fuel-fired power plants with installed Capacity of 135 MW or below (IRL 30) as well as the National Statistics Bulletin of Power Industry (IRL 41). eliminating the construction of a fossil-fuel fired power plant of a similar output, and
- Various internet websites (IRL 89, 90, 91, 92), indicating the lack of other renewable energy sources in the area, and
- ACM0002 (Version 07), clearly defining the baseline as indicated above.

TÜV SÜD has determined that no reasonable alternative scenario has been excluded. Based on the validated assumptions, TÜV SÜD considers that the identified baseline scenario is reasonable.

TÜV SÜD confirms that all relevant CDM requirements, including relevant and / or sectoral policies and circumstances, have been identified correctly taken into account in the definition of the baseline scenario.

A verifiable description of the baseline scenario has been included to the PDD.

In regard to item 86 of VVM, TÜV SÜD confirms that:

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 and 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 occur 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 and leakage and emission reductions. Corresponding calculations were carried out based on calculation spreadsheets. The parameters and equations presented in the PDD and further documentation have been compared with the information and requirements presented in the methodology and the respective tools. The equation comparison has been made explicitly following all the formulae presented in the calculation files.

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 reviewed, further references and the result of the interviews.

The baseline methodology has been correctly applied following the requirements.

The estimate of the baseline emissions can be confirmed as the same 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 the annex 1. The algorithms for the determination of the baseline, project and leakage are discussed in the following sections.

3.5.4.1 Baseline Emissions

The calculation of the baseline emissions followed the procedures described in the methodology ACM0002 (Version 07). Baseline emissions are simply calculated by multiplying the net power supply to the grid with the combined margin emission factor discussed below.

The operating margin emission factor (EF_{OM}) was determined based on the simple OM method. The ex-ante option was chosen for this calculation. The calculation of the build margin emission factor (EF_{BM}) was based on modified methods agreed by the EB, because plant specific data are not available for 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 published OM/BM calculation process recently issued by the NDRC (China DNA). The values for the EF_{OM} and EF_{BM} slightly changed from the GSP PDD to the final PDD as indicated in the table below:

Parameter	EF(OM)	EF(BM)	EF(CM)
Unit	tCO ₂ e/MWh	tCO ₂ e/MWh	tCO ₂ e/MWh
GSP-PDD	1.2783	0.7156	0.99695
Final PDD	1.27834	0.6687	0.9735
NDRC	1.2783	0.7156	0.99695

As indicated in the table above, the values in the last row were the ones that were available at the commencement of this validation which is the same time as the GSP start (September 2008).

During the validation process, the PPs decided to apply a lower, i.e. more conservative value (i.e. the ones from the final PDD row), which was accepted by TÜV SÜD. TÜV SÜD would like to point out that this is also in line with EB44, Annex 03 §90, where it is indicated that "... and will result in a conservative estimate of the emission reductions." TÜV SÜD confirms that the application of this lower EF(CM) results in a conservative estimate of the emission reductions for this project.

The value for the combined margin emission factor (EF_{CM}) was determined using the weighted average of the EF_{BM} and EF_{OM} using the default values for the factors as described in the methodology (i.e. 0.5 for hydro plants).

3.5.5 Project emissions

As indicated by the applied methodology, this type of project does not consider project emissions, since the minimum required power density is above the threshold with 31 W/m².

3.5.6 Leakage

Not applicable as indicated by the applied methodology.

3.5.7 Emission Reductions

In summary, the calculation of the baseline emissions and the resulting overall emission reductions can be considered as correct.

3.6 Additionality

The additionality of the project has been presented in the PDD by applying the first, second and fourth step as indicated in the "Tool for the demonstration and assessment of additionality" (Version 5.2).

The approach use in the PDD has been assessed first based on a document review, where following relevant documents have been reviewed:

- Preliminary Design Report (IRL 10), and
- IRR Excel Calculation Sheet (IRL 107).

On site, the additionality was principally discussed with Mr. He Minjiao, the General Manager of Chenxi County Qiongtian Hydropower Co., Ltd. Furthermore various documents were reviewed on-site (for details see annex 2).

Finally the data, rationales, assumptions, justifications and documentation provided were checked by using local knowledge as well as sectoral and financial expertise, the same was cross checked with:

- Approval of Preliminary Design Report (IRL 12) in June 2006, and
- The Project Transfer Agreement (IRL 58) signed between former and current project owner in August 2007, and
- Service Agreement of CDM Project Development (IRL 20), and
- the Board Meeting Minutes including final decision on CDM development (IRL 56) and the establishment of a CDM project department (IRL 57) in May 2006.

Based on these 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 signing the project transfer agreement on August 7, 2006 with the former project owner. This is the first real action, any other commitments to any expenditure such as the signing of equipment or construction contracts was made at a later date. In order to confirm this date, the assessment team reviewed the following documents:

- Project transfer agreement (ILR 58), signed in August 2006, and
- Various equipment purchase contracts for the turbines, generators and other supply materials (IRL 16, 63, 64, 73) signed in June 2007 and later, and
- Various contracts for construction and installation works (IRL 17, 59, 65, 72, 74) signed three days after the project transfer agreement in August 2006 and later.

The assessment team also cross checked this information with Mr. He Minjiao, the General Manager of Chenxi County Qiongtian Hydropower Co., Ltd during the on-site inspection.

The starting date of the project has been determined to be 07 August 2006 which is before 02 August 2008, and also before the GSP.

The original of the documentation presented has been reviewed and cross checked based on interviews with Mr. He Minjiao, hence the document can be considered appropriate to confirm the prior consideration.

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:

Activity	Document	Auditor conclusion
November 2006 Participation in CDM training course, signing of Intention Agreement of CDM Project Development	Copy of training documents and participation list (IRL 62); copy of signed agreement (IRL 63)	Education and training on CDM system as well as negotiations with CDM consultant clearly indicates on-going CDM actions
June 2007 CDM Consulting Agreement	Service Agreement of CDM Project Development (IRL 20)	Signing of CDM service agreement with consulting company clearly indicates on-going CDM actions.
March 2008 Issuance of host-country LoA	China LoA (IRL 37)	LoA was issued by Chinese DNA, which clearly indicates on-going CDM actions.
June 2008	CDM Emission Reductions Pur-	Continuous CDM action is

Activity	Document	Auditor conclusion
Agreement with CER buyer	chase Agreement (IRL 21)	showed by signing of ERPA with buyer.
September 2008 Start of validation	Order to TÜV SÜD, GSP Start (UNFCCC Webpage)	Start of validation work by TÜV SÜD also clearly indicates that CDM actions were still on-going.

Hence the project complies with the requirements to demonstrate the prior consideration of the CDM.

3.6.2 Identifications of alternatives

The output of the project is electricity that is exported to the Central China Power Grid.

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 a CDM project. The rest of the alternatives presented do include all plausible scenarios taking into account the local and sectoral situations for the outputs mentioned. Hence 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.

The parameters used in the financial calculations have been validated based on a review of the sources presented in the PDD, inter alia the Preliminary Design Report (PDR; IRL 10, for the investment costs, O&M costs, electricity price, electricity generation etc.). These values were confirmed verbally on-site as well.

The period of time between the finalization of the FSR and the investment decision is only four months, therefore it can be confirmed that it is unlikely that the input values have materially changed and were still valid at the time of the investment decision.

The input values applied for the investment analysis were further cross-checked with the following documents in order to evaluate their plausibility and appropriateness:

- Various contracts and agreements for the equipment as well as construction and installation works (IRL 16, 17, 35, 58, 59, 62, 63, 64, 65, 67, 69, 72, 73, 74, 75, 76, 83), indicating that the actual total investment costs were higher than the one estimated in the PDR; and
- Tariff policy and PPA (IRL 36, 46), indicating the tariff applied in the PDR is still valid (i.e. 0.316 RMB/kWh including VAT); (even with the highest tariff indicated after the power reform of 0.327 RMB/kWh in 2002 (IRL 94), the project is still not financially attractive with an IRR of 8.87%, still well below the benchmark of 10%); and
- The documents / information from independent third parties (IRL 27, 49, 79, 80, 81, 108, 109, 110, 111, 112, 113), indicating the O&M costs estimated in the PDR are conservative; and
- Hydrological data from third party (IRL 48), indicating the hydrological data quoted in the PDR is correct; the Technical Agreement of Hydraulic Turbines and Generators signed (IRL 39), indicating the installed capacity and water head is consistent with the estimated in PDR; hence, the electricity generation estimated in PDR is correct, and

- It could be verified that the plant load factor of 45% (or about 4000 annual full load operation hours) was determined by Hunan Huaihua Hydro & Power Design Institute (IRL 9, 10), which is a third-party engineering company contracted by the project participant. Hence, TÜV SÜD confirms that the PLF has been defined correctly in the PDD (as per EB48, Annex 11) as well as the resulting input data applied for the IRR calculation.

Since the project is not operational yet and still under construction, no final invoices and sales receipts were available for further cross-checking of the investment costs as well as no power sales receipts were available for further cross-checking the tariff of the amount of power generated as well as the tariff. However, based on TÜV SÜD's internal statistical evaluation of 250 hydropower projects in China, TÜV SÜD confirms that the applied values are well within the typical range.

In summary, it can be concluded that the parameters are plausible and can be considered acceptable under the project situation. The audit team further confirms that the resulting IRR of 8.56% is considered as correct and applicable for the given project activity.

The sensitivity analysis was analyzed in line with VVM para.110 (e). Further guidance on sensitivity analysis is given by EB51, Annex 58, paragraph 17 & 18, where it is indicated that:

“17. Guidance: Only variables, including the initial investment cost, that constitute more than 20% of either total project costs or total project revenues should be subjected to reasonable variation (all parameters varied need not necessarily be subjected to both negative and positive variations of the same magnitude), and the results of this variation should be presented in the PDD and be reproducible in the associated spreadsheets. Where a DOE considers that a variable which constitute less than 20% have a material impact on the analysis they shall raise a corrective action request to include this variable in the sensitivity analysis. Rationale: The initial objective of a sensitivity analysis is to determine in which scenarios the project activity would pass the benchmark or become more favorable than the alternative.

18. Guidance: The DOE should assess in detail whether the range of variations is reasonable in the project context. Past trends may be a guide to determine the reasonable range. As a general point of departure variations in the sensitivity analysis should at least cover a range of +10% and -10%, unless this is not deemed appropriate in the context of the specific project circumstances. In cases where a scenario will result in the project activity passing the benchmark or becoming the most financially attractive alternative the DOE shall provide an assessment of the probability of the occurrence of this scenario in comparison to the likelihood of the assumptions in the presented investment analysis, taking into consideration correlations between the variables as well as the specific socio-economic and policy context of the project activity. Rationale: The ultimate objective of the sensitivity analysis is to determine the likelihood of the occurrence of a scenario other than the scenario presented, in order to provide a cross-check on the suitability of the assumptions used in the development of the investment analysis.”

Sensitivity analysis was performed on the electricity tariff, the electricity generation, total investment and O&M costs. These are the four major parameters that constitute of more than 20% of total project costs (i.e. investment and O&M costs) or total project revenues (tariff and power generation). Therefore, TÜV SÜD considers the selected parameters as complete as well as reproducible.

There was not a fixed magnitude applied to each parameter, but a reverse calculation was applied in order to determine how much each parameter has to increase or decrease in order to reach the benchmark. The minimum range that was determined is 14.2% (investment costs). After thorough checking, TÜV SÜD confirms that this is fully in line with the given requirements and that the minimum required range of +/- 10% is fully covered (i.e. if the major input parameters

mentioned above are increased or decreased by 10%, the overall result remains the same and the project is still not financially attractive).

The following assessment shows under what conditions variations in the result would occur:

- **Total investment:** as already mentioned above the total investment cost would have to be reduced by 14.2% to cross the benchmark of 10%. This scenario is very unlikely considering the price of industrial products, which are mainly part of the total investment, has been increasing continually according to the National Bureau of Statistics of China, 2007. The price indices increased 5.53% from 1999 to 2006, which is equal to an annual increase rate of 0.69% (IRL 49).
- **Annual operation and maintenance cost (O&M):** even when the O&M is zero, the IRR is still under the benchmark. This is unthinkable considering the fact that the maintenance cost, salaries and insurance would hardly allow the annual O&M to drop so far. The project IRR is therefore not considered to be very sensitive to variations in O&M cost.
- **Electricity tariff:** The tariff would have to increase by 16.3% for the IRR of the proposed project to exceed the benchmark (10%). Considering that the tariff is already set by a PPA indicating a price of 0.316 RMB/kWh (including VAT) it is unlikely that the tariff would increase by 16.3% over the period of commercial operation (IRL 36). No other similar projects in the province were identified with a tariff, which is 16.3% higher than the tariff of the proposed project activity.
- **Annual electricity output:** The project IRR would cross the benchmark only if the annual output increases by 16.2%. The current design of the proposed project activity was determined by the Hunan Huaihua Hydro & Power Design Institute, which is a third-party engineering company according to the hydrological circumstances, and hence, the electricity generated and supplied to the grid will remain stable to meet its designed data. Therefore, the probability that the electricity supply to the grid would ever be higher than the estimated value is unlikely.

In summary, TÜV SÜD considers the requirements of EB51, Annex 58 regarding the sensitivity analysis as fully met and considers it as fairly unlikely that the proposed project activity will become financially or economically attractive.

The benchmark used for the financial comparison has been obtained from Economic Evaluation Code for Small Hydropower Project published by Ministry of Water Resources on 02/05/1995 (IRL 27). This value has been checked against the source and the suitability for this project can be confirmed due to the notice from the Ministry of Water Resources as well as TÜV SÜD's local and sectoral expertise. Hence it can be confirmed that the applied benchmark is adequate for this project. Although the value was published in 1995, its on-going validity was confirmed by its issuer again in 2009 (IRL 42).

Further assumptions presented in the financial analysis inter alia lifetime, taxes, residual rate of fixed assets, depreciation rate, loan amount, and loan rate have been also reviewed and were found appropriate based on PDR (IRL 10) and additional documents (IRL 39, 78, 27, 35). Hence it can be confirmed that the underlying assumptions are appropriate for this project.

The financial calculation has been completely checked, all the calculation files were checked and no mistakes have been found. Hence it can be confirmed that the calculations are correct.

3.6.4 Barrier analysis

Barrier analysis was not applied for this project.

3.6.5 Common practice analysis

The region for the common practice analysis has been defined as Hunan Province in Central China.

The project activity's technology can be found in different country regions, where different situations can appear. Hence the region has been defined taken into account the kind of technology and the industry type. The assessment team has revised the approach presented in the PDD and can confirm that the relevant parameters as location, infrastructure, economical situation and development has been taken into account in order to define the region to be use for the common practice. Hence the presented region can be considered appropriate for the common practice analysis.

Seven similar projects have been identified. According to VVM (Version 1.01; §33c) similar projects have been defined as hydropower projects that:

- are located in the same province (the investment environment varies from province to province within China, which is a result from a number of factors including the economic development level, the industrial and fundamental structure as well as the development strategy and the policy framework; in addition a number of key factors is different in each province such as cost of materials, cost of labor and services, types of loans, etc.)
- are implemented after 2002 (i.e. after the Chinese Power Reform) (IRL 51);
- With a capacity range of +/-50% of the capacity of the proposed project (as indicated in request for reviews; e.g. 2010)

In summary, TÜV SÜD considers the defined criteria for similar projects as plausible and appropriate.

The assessment team reviewed official sources such as the "Investigation Report on Medium and Small Size Hydropower Plants Operated after 2002 in Hunan Province (IRL 32) published by Hunan Investigation, Design & Research Institute of Water Resources and Hydropower in March 2008. This information confirms that the list of similar projects presented in the PDD is complete. In addition, the team made a further cross-check of the information based on the interviews.

All the similar projects that are not a CDM project were first checked by a review of all the available documentation (see annex 2). After thorough review and comparison of these seven projects with the proposed project activity, TÜV SÜD confirms that the existence of these activities does not contradict the claim that the proposed project activity is financially unattractive. The assessment team identified the following essential distinctions:

- 1) Different types of project owner, i.e. private company vs. state owned enterprise, and
- 2) Higher annual operation hours resulting in a higher power output, and
- 3) Lower investments costs, and
- 4) Higher electricity tariff (due to different policies issued at different times).

The specific data for each of the seven similar projects were taken from the "Investigation Report on Medium and Small Size Hydropower Plants Operated after 2002 in Hunan Province" which was issued by Hunan Investigation, Design & Research Institute of Water Resources and Hydro-power in March 2008, which was already reviewed during validation (IRL 32).

The two figures below are an extraction of the available data from the seven similar projects and the proposed project activity, clearly indicating that the proposed project activity is financially less attractive due to a combination of elevated investment costs and the lower power output (which is a result of less effective water resources).

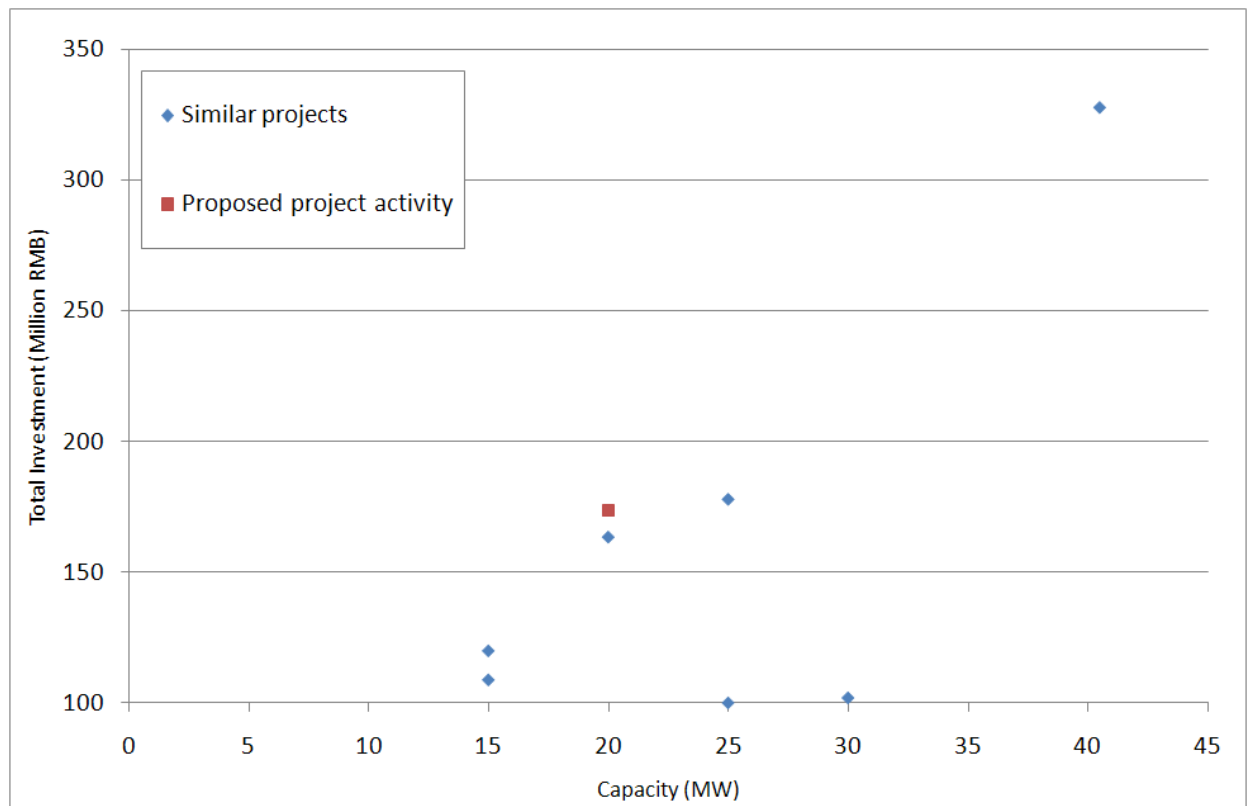


Figure 1: The proposed project activity with respect to similar projects against capacity and total investment

As it can be seen from figure 1 the proposed project activity is the one project which has the highest total investment compared to its capacity. All other similar projects are facing less unfavorable conditions.

The same can be clearly seen from figure 2, where the proposed project activity has the highest investment cost in comparison to its annual power generation.

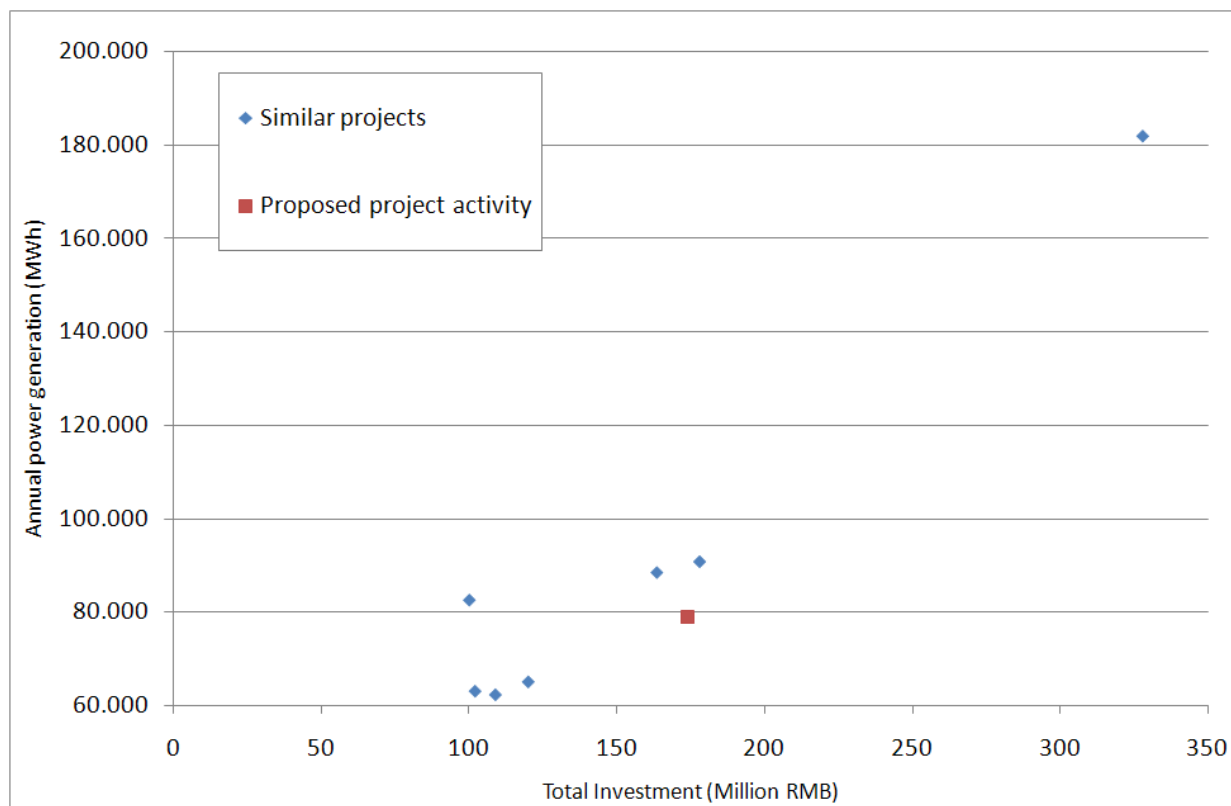


Figure 2: The proposed project activity with respect to similar projects against total investment and annual power generation

In addition, the tariff for the proposed project activity is also lower compared to the similar projects, resulting from the fact that this tariff was taken from a different tariff policy (i.e. Xiangjiazhong [2005]129) (IRL 46) whereas the tariffs from the other similar projects are taken from different tariff policies (i.e. Xiangjiazhong [2000]49 (IRL 43) and Xiangjiazhong [2001]327) (IRL 44). TÜV SÜD has verified the tariff policies and can confirm the correctness of the tariffs indicated in Table 7 of the submitted PDD. However, TÜV SÜD would like to point out that even with the highest available tariff of 0.348 RMB/kWh, the project is still not financially attractive with an IRR of 9.47%.

In summary, TÜV SÜD considers the listed distinctions as essential and clearly rendering the similar projects as financially attractive

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 relevant for 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.

The net electricity supplied to the grid will be continuously measured through two power meters (one is main meter, the other is back-up meter) installed at the connection point with the grid. The value will be cross-checked with the electricity invoices and sales receipts. Accuracy and calibration measures follow Chinese Industry Standard (i.e. 0.5S and “Technology & Management Regulations for Power Metering Devices” (DL/T448-2000)).

In addition, the installed capacity of the hydro power plant after the implementation of the project activity and the area of the reservoir measured in the surface of the water after the implementation of the project activity when the reservoir is full, will be measured according to the requirements presented in the applied methodology.

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 LoA of the Host country 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 a public notification. 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 (IRL 22).

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 ordered the Environmental Science and Research Institute of Huaihua City to prepare an environmental impact assessment (EIA) for this project activity (IRL 14). The assessment team made a document review of the information presented. The IRL 15 (EIA approval by the local Environment Protection Bureau) 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 installing a link to TÜV SÜD's own website and invited comments by Parties, stakeholders and non-governmental organisations during a period of 30 days.

The following table presents all key information on this process:

webpage: http://www.netinform.net/KE/Wegweiser/Guide2_1.aspx?ID=5780&Ebene1_ID=26&Ebene2_ID=1701&mode=1 http://cdm.unfccc.int/Projects/Validation/DB/LB1NN6T1UAFJI2VLUZN5JGDZ0TRIML/view.html	
Starting date of the global stakeholder consultation process: 2008-09-25	
Comment submitted by: -	Issues raised: None
Response by TÜV SÜD: -	

5 VALIDATION OPINION

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

Hunan Xiaotan Hydropower Project

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

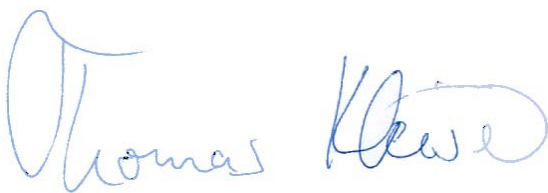
The review of the project design documentation, the subsequent follow-up interviews and the further cross check of references have provided TÜV SÜD with sufficient evidence to determine the fulfilment of stated criteria in the protocol. In our opinion, the project meets all relevant UNFCCC requirements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

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

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

Munich, 21-06-2010

Munich, 07-06-2010



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



Sebastian Randig
Assessment Team Leader



Annex 1: Validation Protocol

Validation Protocol

Project Title: Hunan Xiaotan Hydropower Project

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Table 1 Conformity of Project Activity and PDD

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
A. General description of project activity					
A.1. Title of the project activity					
A.1.1.	Does the used project title clearly enable to identify the unique CDM activity?	1, 2	The project is titled with the name of the project location, and the energy source of the project. Hence, it can be clearly identified.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.1.2.	Are there any indication concerning the revision number and the date of the revision?	1, 2	The available PDD for the on-site audit is indicated as 1 st version dated September 9, 2008, and for the submission for registration is indicated as 2 nd version dated May 10, 2009.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.1.3.	Is this consistent with the time line of the project's history?	1, 9, 10, 11, 12, 14, 15, 58, 66	The GSP has been started with the first version. The project Environmental Impact Assessment (EIA) was approved on May.11, 2005 by Environmental Protection Bureau of Huaihua city. The project was approved on Dec. 16, 2004 by Development and Reform Commission of Hunan Province. Project construction started on Sept. 15, 2007 and the project is expected to be operational in Oct. 2009.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.2. Description of the project activity					
A.2.1.	Is the description delivering a transparent overview of the project activities?	1, 2, 10, 12, 86	The project is described transparently. It is a new hydro power project, located in Chenxi County, Huaihua City, Hunan Province, China. The installed capacity is 20MW and the average power generation for the grid is 78,880 MWh. The power generated will be connected to the Central China Power Grid. The electricity generated by the project should have been supplied by the Central China Power Grid prior to the start of the implementation of the project activity, which is the same as the baseline scenario. The electricity generated by the project will displace part of generation from the fossil fuel fired power plants of the CCPG, and	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		then reduce GHG emissions amounts to 76, 790 tCO ₂ e annually.		
A.2.2. What proofs are available demonstrating that the project description is in compliance with the actual situation or planning?	1, 7, 9, 10, 11, 12, 13, 14, 15, 39, 58, 66	<p>The project activity is the displacement of electricity generated by coal fired power plants with electricity generated by hydro power. The following documents deliver evidences for the project activity:</p> <ul style="list-style-type: none"> - Feasibility study report and its approval - EIA and EIA approval - Preliminary design report and its approval - The project Transfer Agreement - Approval of Transfer of Development and Operation Rights of Hunan Xiaotan Hydropower Project. - The construction license of Hunan Xiaotan Hydropower Project <p>These documents have been evidenced during the audit.</p>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.2.3. Is the information provided by these proofs consistent with the information provided by the PDD?	1, 7, 9, 10, 11, 12, 13, 14, 15, 39, 58, 66	During the on site audit, the audit team reviewed these proofs provided by the project owner.	<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	Yes, the information is consistent throughout the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
A.3. Project participants					
A.3.1.	Is the form required for the indication of project participants correctly applied?	1, 2	The form is correctly applied. In Table A.1 and Annex 1 of the PDD the two parties involved in the project are mentioned.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.3.2.	Is the participation of the listed entities or Parties confirmed by each one of them?	1, 37, 84, 85	<u>Open issue:</u> The letter of approval from Netherlands as well MoC has not been provided. They should be provided to the DOE before submitting for registration.	Open Issue	<input checked="" type="checkbox"/>
A.3.3.	Is all information on participants / Parties provided in consistency with details provided by further chapters of the PDD (in particular annex 1)?	1, 2	<u>Corrective Action Request No.1</u> The name of buyer in the A.3 is OneCarbon International BV, but it is One Carbon International BV in the annex 1, please resolve the inconsistency.	CAR 1	<input checked="" type="checkbox"/>
A.4. Technical description of the project activity					
A.4.1. Location of the project activity					
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, 9, 10	The proposed project activity is located in Chenxi County, Huaihua City, Hunan Province, P.R.China. <u>Corrective Action Request No.2.</u> The information provided on the location of the project activity doesn't allow for a clear identification of the site, please submit the GPS coordinates of the power house and dam with degree, minute and second format.	CAR 2	<input checked="" type="checkbox"/>
A.4.1.2.	How is it ensured and/or demonstrated, that the project proponents can implement the project at this site (ownership, licenses, contracts etc.)?	1, 11, 12	The project was approved by the local Development and Reform Commission and the EIA of the proposed project was approved by the local Environmental Protection Bureau.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2. Category(ies) of project activity					
A.4.2.1.	To which category(ies) does the project	1, 2	Yes, the project falls into scope 1, Energy industries (renewable/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
activity belonging to? Is the category correctly identified and indicated?		non- renewable sources) as it deals with energy generation.		
A.4.3. Technology to be employed by the project activity				
A.4.3.1. Does the technical design of the project activity reflect current good practices?	1, 9, 10, 16, 39	Yes, the project design reflects the current good practices based on the description in the preliminary design report as well as in the PDD and investigations conducted on site	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.2. Does the description of the technology to be applied provide sufficient and transparent input/ information to evaluate its impact on the greenhouse gas balance?	1, 9, 10, 16, 39, 63, 64	The project activity comprises the use of water power for the substitution of grid supplied electricity mainly from coal fired plants. Therefore two units of GZTF07B-WP-450 turbines and two units of SFWG10-56/5130 generators matched with turbine with total installed capacity of 20MW are utilized. There is no doubt that this technology will reduce the GHG emissions significantly. <u>Corrective Action Request No.3</u> As per the latest PDD guidelines, the monitoring equipments and their location in the systems should be included.	CAR 3	<input checked="" type="checkbox"/>
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, 9, 10, 16, 17, 39, 63, 64	No, it doesn't. There is no technology transfer from annex-I countries to China by the proposed project.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.4. Is the technology implemented by the project activity environmentally safe?	1, 2, 9, 10, 16, 17, 39,	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"/>

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
	63, 64			
A.4.3.5. Is the information provided in compliance with actual situation or planning?	1, 2	Yes, it is.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.6. Does the project use state of the art technology and / or does the technology result in a significantly better performance than any commonly used technologies in the host country?	1, 2, 10, 16, 17, 39, 63, 64	Because the technology of installing a new hydropower plant has been fully developed and successfully implemented over China for decades, the technology applied in the proposed project is not different compared to that of other similar hydropower plants.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.7. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1, 2	We do not expect that there will be a substitution because the project has will be operational in 2009. 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, 6	With relevance to the CDM monitoring, a monitoring officer will receive training on the monitoring methodologies, procedures and archiving. Then, the monitoring officer will train the project staff in charge for CDM monitoring.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.9. Is information available on the demand and requirements for training and maintenance?	1, 2, 6	The effort to train the employees initially and during the operation phase was described by the project owner during the audit and the demand and requirements will be defined in written form before operation.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.10. Is a schedule available for the implementation of the project and are there any risks for delays?	1, 2, 6	The planning schedule in the past and for the future was clearly described by the project owner during the audit, and there are no any risks for delays based on the description of project owner and onsite investigation. See section B.5 of the PDD for further information.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.4. Estimated amount of emission reductions over the chosen crediting period				
A.4.4.1. Is the form required for the indication of	1, 2	Yes, the form is correctly applied.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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projected emission reductions correctly applied?				
A.4.4.2. Are the figures provided consistent with other data presented in the PDD?	1, 2	Yes, they are. The yearly emission reduction is estimated to amount 76, 790 tCO ₂ e. The same figure is quoted throughout the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.5. Public funding of the project activity				
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, 7, 8, 13, 35	According to the statement in A.4.5. of the PDD there is no public funding for the project activity. By reviewing the financial documents on-site this statement could be verified.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.5.2. Is all information provided consistent with the details given in remaining chapters of the PDD (in particular annex 2)?	1, 2	Yes, it is consistent with the information provided in Annex 2.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B. Application of a baseline and monitoring methodology				
B.1. Title and reference of the approved baseline and monitoring methodology				
B.1.1. Are reference number, version number, and title of the baseline and monitoring methodology clearly indicated?	1, 2, 3, 4	Yes, it is ACM0002/Version 07.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.1.2. Is the applied version the most recent one and / or is this version still applicable?	1, 2, 3, 4, 87	Yes, it is most recent ones at the time of uploading for GSP.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.1.3. Does the methodology refer to the following tools with its latest approved versions: - Tool to calculate the emission factor for an electricity system - Tool for the demonstration and as-	1, 2, 3, 4, 87	<u>Corrective Action Request No.4</u> The Tool to Calculate the Emission Factor for an Electricity System and the Tool for the Demonstration and Assessment of Additionality is not latest approved version at the time of uploading for GSP, please use the latest approved versions that are also indi-	CAR 4	<input checked="" type="checkbox"/>

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sessment of additionality - Tool to calculate project or leakage CO ₂ emissions from fossil fuel combustion			cated by the link to the UNFCCC webpage in the PDD.												
B.2. Justification of the choice of the methodology and why it is applicable to the project activity															
B.2.1.	Is the applied methodology considered the most appropriate one?	1, 2	Yes, the baseline and monitoring methodology ACM0002 version 7 is applicable to the proposed project, because the project meets all the applicability criteria stated in the methodology.	☑	☑										
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 power plant/unit or tidal power plant/unit.	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	☑	☑
Applicability checklist	Yes / No														
Criterion discussed in the PDD?	Yes														
Compliance provable?	Yes														
Evidences provided in the PDD?	Yes														
Compliance verified?	Yes														
B.2.3.	Criterion 2 (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	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> The proposed project activity results in new reservoirs and power density is greater than 4W/m2.	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Evidences provided in the PDD?	Yes	Compliance verified?	Yes	☑	☑
Applicability checklist	Yes / No														
Criterion discussed in the PDD?	Yes														
Compliance provable?	Yes														
Evidences provided in the PDD?	Yes														
Compliance verified?	Yes														

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-The project activity results in new reservoirs and the power density of the power plant is greater than 4 W/m2.															
B.2.4.	Criterion 3 (in the case of modification/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	Not applicable, as this is a newly launching project, i.e. no modification/retrofit in existing power plants involved. <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.2.5.	Criterion 4: Defined electricity grid boundaries	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.2.6.	Criterion 5: Approved inclusion in other methodologies (if applied only)	1, 2	Not applicable.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
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														

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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 gases contained in geothermal steam (geothermal power plants only) Gas(es): CO ₂ , CH ₄ Type: Project Emissions	1,2	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed by the PDD?</td><td>N/A</td></tr><tr><td>Inclusion / exclusion justified?</td><td>N/A</td></tr><tr><td>Explanation / Justification sufficient?</td><td>N/A</td></tr><tr><td>Consistency with monitoring plan?</td><td>N/A</td></tr></table> <p>The project consists of a grid-connected electricity generation from a hydropower station. Thus, B.3.1. is not applicable.</p>	Boundary checklist	Yes / No	Source and gas(es) discussed by the PDD?	N/A	Inclusion / exclusion justified?	N/A	Explanation / Justification sufficient?	N/A	Consistency with monitoring plan?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Boundary checklist	Yes / No													
Source and gas(es) discussed by the PDD?	N/A													
Inclusion / exclusion justified?	N/A													
Explanation / Justification sufficient?	N/A													
Consistency with monitoring plan?	N/A													
B.3.2. Source: Emissions from combustion of fossil fuels required to operate the geothermal power plant (geothermal power plants only) Gas(es): CO ₂	1,2	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed by the PDD?</td><td>N/A</td></tr><tr><td>Inclusion / exclusion justified?</td><td>N/A</td></tr><tr><td>Explanation / Justification sufficient?</td><td>N/A</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed by the PDD?	N/A	Inclusion / exclusion justified?	N/A	Explanation / Justification sufficient?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Boundary checklist	Yes / No													
Source and gas(es) discussed by the PDD?	N/A													
Inclusion / exclusion justified?	N/A													
Explanation / Justification sufficient?	N/A													

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Type: Project Emissions			<table><tr><td>Consistency with monitoring plan?</td><td>N/A</td></tr></table> <p>The project consists of a grid-connected electricity generation from a hydropower station. Thus, B.3.2. is not applicable.</p>		Consistency with monitoring plan?	N/A										
Consistency with monitoring plan?	N/A															
B.3.3.	Source: Emissions from the reservoir (hydro power plants only) Gas(es): , CH ₄ Type: Project Emissions	1,2	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed by the PDD?</td><td>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> <p><u>Corrective Action Request No.5:</u> According to the description “The project power density is greater more than 10 MW/m2, CH4 emission don’t have to be considered” in “Justification/Explanation” column, the corresponding answer should be “No” in column of “Included?” , please correct it.</p>		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	CAR 5	☑
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.3.4.	Source: Emissions from electricity generation in fossil fuel fired power plants that is displaced due to the project activity Gas(es): CO ₂ Type: Baseline Emissions	1,2	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed by the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>		Boundary checklist	Yes / No	Source and gas(es) discussed by the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	☑	☑
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.3.5.	Source: Emissions from electricity generation in fossil fuel fired power plants of any connected electricity system Gas(es): CO ₂ Type: Baseline Emissions	1,2	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed by the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>		Boundary checklist	Yes / No	Source and gas(es) discussed by the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	☑	☑
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															

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B.3.6.	Source: Emissions from electricity generation in fossil fuel fired power plants of imported electricity (project electricity consumption) Gas(es): CO ₂	1,2	<table border="1"><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed by the PDD?</td><td>N/A</td></tr><tr><td>Inclusion / exclusion justified?</td><td>N/A</td></tr><tr><td>Explanation / Justification sufficient?</td><td>N/A</td></tr><tr><td>Consistency with monitoring plan?</td><td>N/A</td></tr></table>		Boundary checklist	Yes / No	Source and gas(es) discussed by the PDD?	N/A	Inclusion / exclusion justified?	N/A	Explanation / Justification sufficient?	N/A	Consistency with monitoring plan?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
			Boundary checklist	Yes / No												
			Source and gas(es) discussed by the PDD?	N/A												
			Inclusion / exclusion justified?	N/A												
			Explanation / Justification sufficient?	N/A												
			Consistency with monitoring plan?	N/A												
			There are no imports from other power grids. Thus B.3.6 is not applicable.													
B.3.7.	Do the spatial and technological boundaries as verified on-site comply with the discussion provided by the PDD?	1,2, 40	Yes. The project boundary for the proposed project is represented by the Central China Power Grid. The Central China Grid is a larger regional grid, which consists of six sub-grids: Jiangxi Province, Henan Province, Hubei Province, Hunan Province and Chongqing City. Furthermore the project boundary includes the project site. <u>Corrective Action Request No.6</u> 1) The project boundary is not correctly delineated in the diagram, please correct this flow diagram. 2) As per the latest PDD guidelines, please represent in the diagram the emission sources and gases included in the project boundary and the monitoring variables.		CAR 6	<input checked="" type="checkbox"/>										
B.4. Description of how the baseline scenario is identified and description of the identified baseline scenario																
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, 30, 41, 88, 89, 90, 91, 92	Yes, the baseline is represented by the combined margin of the grid the activity will be connected to. It is the equivalent annually generated electricity supplied by the Central China Power Grid.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										

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B.4.2.	In case of any modification or retrofit of existing facilities: Is data available to determine the historic production level?	1,2	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.4.3.	In case of any modification or retrofit of existing facilities: Have conservative assumptions been applied in order to estimate the point in time when the existing equipment needs to be replaced?	1,2	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Changes required for methodology implementation in 2 nd and 3 rd crediting periods					
B.4.4.	Has the continued validity of the baseline been correctly assessed?	1,2	Not applicable.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.4.5.	Has the baseline been updated with new data?	1,2	Not applicable.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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.5.1.	In case the project activity started before the validation activity, how is demonstrated that the CDM was seriously taken into account for the decision to start the project?	1,2, 4, 10, 13, 16~21, 25, 35, 36, 39,	<p>The project already started before the validation activity based onsite investigation.</p> <p><u>Corrective Action Request No.7</u></p> <p>As per the latest PDD guidelines, please also include in the timeline the date when the investment decision was made, the date when construction works started, and the date when the construction contracts were signed etc.</p> <p>As per the latest guidance on early CDM consideration (EB41, Annex 46), please include in the PDD all continuing and real actions were taken to secure the CDM status for the proposed project in parallel with its implementation, such as the evidence of</p>	CAR 7 CR 1	<input checked="" type="checkbox"/>

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	53~76	<p>agreements or negotiations with a DOE for validation services, publication in newspaper, interviews with DNA, earlier correspondence on the project with the DNA or the UNFCCC secretariat.</p> <p>Please clarify in the PDD why it takes more than a year between the CDM decision was made and the CDM service agreement.</p> <p><u>Clarification Request No.1</u></p> <p>1) Please deliver the evidences with translation that demonstrate that the CDM was seriously considered in the project decision making and project implementation to the DOE.</p> <p>2) Please deliver the project transfer agreement signed between project owner and the former project owner to the DOE.</p>		
Step 1				
B.5.2. Are alternative scenarios defined that provide outputs or services comparable with the proposed CDM project activity?	1,2,4	Yes, the alternative scenarios defined provide outputs that are comparable with this project activity.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.3. Can be the list of alternatives considered to be complete, why? Is the scenario project activity without being registered as CDM project included?	1,2,4	Yes, the list is considered to be complete and the scenarios project activity without being registered as CDM project is included.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.4. In case several different facilities, technologies, outputs or services are present in the project, are separately alternative scenarios for each of them included? Have realistic combinations been considered as project scenario?	1,2,4	Not applicable.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.5. Describe why the alternative scenarios are credible and realistic?	1,2,4	All alternatives are common in China. Therefore, they can be considered as plausible and realistic.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.6. Do the alternative scenarios comply with	1,2,	Only alternative scenario1, 3 and 4 do comply with the laws and regulations of China	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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mandatory laws and regulations?		4, 30			
B.5.7.	If an scenario does not comply with the mandatory laws and regulations, it is clearly demonstrate that the law and/or regulation is systematically not enforced in the country?	1,2, 4	All the laws quoted in the PDD are enforced in this project; hence, this section is not applicable.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Step 2 (could be optional if step 3 is used)					
B.5.8.	Is the analysis method identified appropriately?	1,2, 4	3 analysis methods are provided according to the additionality tool. Because the proposed project generates economic benefits through the sales of electricity other than CDM revenue, therefore, the Option I (simple cost analysis) can't be taken. Moreover, the Option II (investment comparison analysis) only applies to projects where alternatives should be similar investment projects, how ever, in this case, the baseline scenario is the Central China Grid; hence, Option II can't be adopted either. It deems that Option III (benchmark analysis) is the only applicable one.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.9.	In case of Option I (simple cost analysis): Is it demonstrated that the activity produces no economic benefits other than CDM income?	1,2, 4	The simple cost analysis is not applicable for the proposed project because the project activity will produce economic benefit (from electricity sale) other than CERs income.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.10.	In case of Option II (investment comparison analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?	1,2, 4	Option III is chosen for the investment analysis. So this section is not applicable.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.11.	In case of use of IRR, it is clearly demonstrated why is equity of project IRR used?	1,2, 4, 27	The project IRR was used in the PDR and PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.12.	In case of Option III (benchmark analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit	1,2, 4, 27	Yes, the project IRR is selected as the most suitable financial indicator.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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ratio, or (levelized) unit cost)?				
B.5.13. How is demonstrate that the benchmark represents standard returns in the market, considering the specific risk of the project type, but not linked to the subjective profitability The benchmark is to represent standard returns in the market, considering the specific risk of the project type, but not linked to the subjective profitability expectation or risk profile of a particular project developer?	1, 2, 4, 10, 27, 31, 42	<p>The benchmark IRR used in the PDD is 10%, and its source is Interim Rules on Economic Assessment of Electrical Engineering Retrofit issued by China Electric Power Press in 2003.</p> <p><u>Clarification Request No.2</u></p> <ol style="list-style-type: none"> 1) Please make explanation in the PDD why this benchmark IRR document and benchmark IRR of 10% can be applied for the proposed project. And please clarify why the SL16-95 is not applicable to this project. 2) Please clarify in the PDD the benchmark applied in the PDD is a project or an equity benchmark. 3) Please deliver this benchmark IRR document with translation to the DOE. 	CR 2	<input checked="" type="checkbox"/>
B.5.14. In case of company internal benchmark, is it clearly demonstrate that there is only one potential project developer and that the benchmark has been consistently used in the past?	1, 2, 4, 10	The company internal benchmark is not applied, thus the section B.5.14 is not applicable.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.15. 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, 4, 10, 12, 16, 17, 27, 33~36, 39, 41,	<p><u>Clarification Request No.3</u></p> <ol style="list-style-type: none"> 1) The relevant documents that indicate the input values used for financial analysis should be provided with English translation and delivered to the DOE. 2) IRR calculation spreadsheet should be delivered to the DOE for further validation. 3) Please provide further evidence to prove all input values including operational hours, O&M cost, tariff, total investment etc. used for the financial analysis are valid and applicable at the time of the investment decision. 	CR 3	<input checked="" type="checkbox"/>

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	43~49 58, 59, 62~83, 106 ~113	4) The project is under construction since August 2007. How much money has been spent so far on the equipment, construction works etc.? How does that deviate from what was estimated in the PDR? What individual costs were included in the investment costs? Please provide a breakdown 5) Please clarify clearly in the PDD whether 0.316 yuan/KWh is the electricity tariff with VAT or not.		
B.5.16. 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, 4, 10, 12	Please see CR 3	CR 3	<input checked="" type="checkbox"/>
B.5.17. Are all assumptions and input data clearly presented, documented, evidenced and consistent with the rest of the PDD?	1,2, 4, 10, 12	Please see CR 3	CR 3	<input checked="" type="checkbox"/>
B.5.18. Does the sensitivity analysis shows that the conclusion is robust to reasonable variations in the critical assumptions?	1,2, 4, 10, 107	<u>Corrective Action Request No.8</u> Please include variation of electricity generation as parameter into sensitivity analysis.	CAR 8	<input checked="" type="checkbox"/>
B.5.19. How is demonstrate that this variations have been adequately taken (range is adequate)?	1,2, 4, 10, 36, 43~49, 107	<u>Clarification Request No.4</u> Justification for variations range should be provided in the PDD.	CR 4	<input checked="" type="checkbox"/>
Step 3 (is mandatory if step 2 is not used or does not shows additionality)				

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B.5.20. Is a complete list of barriers developed that prevent the different alternatives to occur?	1	Not applicable.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.21. Is transparent and documented evidence provided on the existence and significance of these barriers?	1	Not applicable.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.22. Is it transparently shown that the execution of at least one of the alternatives is not prevented by the identified barriers?	1	Not applicable.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.23. How is confirmed that the CDM does alleviate the barriers presented?	1	Not applicable.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Step 4				
B.5.24. Have other activities in the host country / region similar to the project activity been identified and are these activities appropriately analyzed by the PDD?	1,2, 4, 32, 33, 34, 50, 51, 52, 99, 100	<u>Corrective Action Request No.9.</u> The justification for selected geographical boundary, capacity boundary should be provided in the PDD. <u>Clarification Request No.5</u> Reference documents and data sources should be delivered to the DOE.	CAR 9 CR 5	<input checked="" type="checkbox"/>
B.5.25. 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	See B.5.24, CAR 9 and CR 5.	See CAR 9 and CR 5	<input checked="" type="checkbox"/>

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B.6. Emissions reductions				
<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, 3	The following steps are described in a transparent manner: -Step 1: calculation of emission reduction -Step 2: calculation of baseline emissions -Step 3: calculation of project emissions -Step 4: calculation of leakage emissions.	<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, 3, 38	Yes, every selection of options offered by the methodology is correctly justified and this justification is in line with the situation verified on-site.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.1.3. Are the formulae required for the determination of project emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1, 2, 3	Not applicable. The project activity is a hydropower project. Therefore, according to the ACM0002 methodology, greenhouse gas emissions from the project activity are zero, i.e. $PE_y = 0$.	<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, 3	Yes, see Equation in section B.6.1 of the PDD. $BE_y = EG_y \times EF_y$ Yes, the formulae are correctly presented.	<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 suitable and transparent manner?	1, 2, 3, 40	Yes, the choice of options to determine the Emission Factor is fully justified in the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.1.6. Are the six steps as defined per the "Tool for calculation of emission factor for electrical systems" correctly applied by the	1, 2, 3	Yes, the six steps are correctly applied.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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project participants?				
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, 3	Not applicable. The default weights for hydro power projects in the 7 th version of ACM0002 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, 3	Not applicable. See B.6.1.7.	<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, 3	No leakage is considered according to the methodology. Based on ACM0002, project participants do not need to consider leakage in applying ACM0002 methodology, i.e. $L_y=0$.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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	Not applicable.	<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 $COE_{Fi,y}$ and is $COE_{Fi,y}$ correctly determined?	1,2	Not applicable.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.1.12. Are formulae required for the determination of emission reductions correctly presented?	1,2	Yes, see Equation in the section B.6.1 of the PDD. $ER_y = BE_y - PE_y - L_y$	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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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	Yes. A list of parameters is presented according to ACM0002.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																			
B.6.2.2. Is the choice of ex-ante or ex-post vintage of OM and BM factors clearly specified in the PDD?	1,2	For the calculation of the emission reductions the ex-ante approach has been used.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																			
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 _{CH4} Global warming potential of methane valid for the relevant commitment period (tCO2/tCH4)	1,2	Not applicable.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																			
		<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Choice of data correctly justified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr></table>			Data Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided?	N/A	Has this value been verified?	N/A	Choice of data correctly justified?	N/A	Measurement method correctly described?	N/A	
		Data Checklist			Yes / No																		
		Title in line with methodology?			N/A																		
		Data unit correctly expressed?			N/A																		
		Appropriate description of parameter?			N/A																		
		Source clearly referenced?			N/A																		
		Correct value provided?			N/A																		
		Has this value been verified?			N/A																		
		Choice of data correctly justified?			N/A																		
Measurement method correctly described?	N/A																						

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B.6.2.4. Parameter Title: EG _{historical} (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	The project is a new hydropower plant, hence, this parameter is not applicable.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Data Checklist		
		Title in line with methodology?		
		Data unit correctly expressed?		
		Appropriate description?		
		Source clearly referenced?		
		Correct value provided?		
		Has this value been verified?		
		Choice of data correctly justified?		
B.6.2.5. Parameter Title: DATE _{BaselineRetrofit} (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	The project is a new hydropower plant, hence, this parameter is not applicable.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Data Checklist		
		Title in line with methodology?		
		Data unit correctly expressed?		
		Appropriate description?		
		Source clearly referenced?		
		Correct value provided?		
		Has this value been verified?		
		Choice of data correctly justified?		

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B.6.2.6. Parameter Title: EF_{Res} (only applicable to hydro-power plants with reservoir) Default emission factor for emissions from reservoirs (kgCO2e/MWh)	1,2	<div>The project is a new hydropower plant , and its power density is-greater than 10W/m², hence, no project emission is considered according to the applied methodology, thus, this parameter is not applicable.</div> <table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Choice of data correctly justified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided?	N/A	Has this value been verified?	N/A	Choice of data correctly justified?	N/A	Measurement method correctly described?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data Checklist	Yes / No																					
Title in line with methodology?	N/A																					
Data unit correctly expressed?	N/A																					
Appropriate description of parameter?	N/A																					
Source clearly referenced?	N/A																					
Correct value provided?	N/A																					
Has this value been verified?	N/A																					
Choice of data correctly justified?	N/A																					
Measurement method correctly described?	N/A																					
B.6.2.7. Parameter Title: CAP_{BL} (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	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table> <div>This value is zero.</div>	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data Checklist	Yes / No																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	Yes																					
Correct value provided?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	Yes																					

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B.6.2.8. Parameter Title: A_{BL} (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 ²).	1,2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table> <p>This value is zero.</p>	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data Checklist	Yes / No																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	Yes																					
Correct value provided?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	Yes																					
B.6.2.9. Parameter Title: Emission factor of the grid (EF_{CM} in tCO ₂ /MWh)	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> <p><u>Corrective Action Request No.10.</u> This parameter should be included in the table in section B.6.2.</p>	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	CAR 10	<input checked="" type="checkbox"/>
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.6.2.10. Parameter Title: Operating margin (EF_{OM} in tCO ₂ /MWh) emission factor of the grid	1,2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description?</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></table>	Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description?	No	Source clearly referenced?	No	Correct value provided?	No	CAR 11	<input checked="" type="checkbox"/>						
Data Checklist	Yes / No																					
Title in line with methodology?	No																					
Data unit correctly expressed?	No																					
Appropriate description?	No																					
Source clearly referenced?	No																					
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		Has this value been verified?	No		
		Choice of data correctly justified?	No		
		Measurement method correctly described?	No		
		<u>Corrective Action Request No.11.</u> This parameter should be included in the table in section B.6.2.			
B.6.2.11. Parameter Title: Build margin ($EF_{BMintCO_2/MWh}$) emission factor of the grid	1,2	Data Checklist	Yes / No	CAR 12	<input checked="" type="checkbox"/>
		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		
		<u>Corrective Action Request No.12.</u> This parameter should be included in the table in section B.6.2.			
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	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		

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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>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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Title in line with methodology?	Yes																					
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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.6.2.14. 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><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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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.6.2.15. 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	<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></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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
Data Checklist	Yes / No																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	Yes																					
Correct value provided?	Yes																					

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		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	Yes		
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	Not applicable.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Data Checklist	Yes / No		
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided?	N/A		
		Has this value been verified?	N/A		
		Choice of data correctly justified?	N/A		
		Measurement method correctly described?	N/A		
B.6.2.17. Parameter Title: $\eta_{m,y}$ Average net energy conversion efficiency of power unit m in year y	1,2	Not applicable.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Data Checklist	Yes / No		
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided?	N/A		
		Has this value been verified?	N/A		
		Choice of data correctly justified?	N/A		
		Measurement method correctly described?	N/A		
B.6.2.18. Parameter Title: fraction of time with low costs /must run plant at the margin (for simple adjusted OM only)	1,2	Not applicable.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Data Checklist	Yes / No		
		Title in line with methodology?	N/A		

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		Data unit correctly expressed?	N/A			
		Appropriate description of parameter?	N/A			
		Source clearly referenced?	N/A			
		Correct value provided?	N/A			
		Has this value been verified?	N/A			
		Choice of data correctly justified?	N/A			
		Measurement method correctly described?	N/A			
B.6.3. Ex-ante calculation of emission reductions						
B.6.3.1. Is the projection based on the same procedures as used for future monitoring?	1,2	Yes, it is.			☑	☑
B.6.3.2. Are the GHG calculations documented in a complete and transparent manner?	1,2	Yes, they are			☑	☑
B.6.3.3. Is the 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, it is documented electronically, but the spreadsheet has not been submitted to the validation team. <u>Clarification Request No.6.</u> Please deliver the spreadsheet of calculation of the operating margin and build margin emission factors to the DOE.			CR 6	☑
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, it is.			☑	☑
B.6.4. Summary of the ex-ante estimation of emission reductions						
B.6.4.1. Will the project result in fewer GHG emissions than the baseline scenario?	1,2	Yes, depending on the project nature there are no project emis- sions.			☑	☑
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.			☑	☑

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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	According to the 2 nd version of the PDD, the life time of the project is expected to be 30 years and the renewable crediting period of max 7 with two potential renewals is chosen. The yearly emission reduction and total emission reductions indicated in B.6.4. of the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																								
B.6.4.4. Is the data provided in this section in consistency with data as presented in other chapters of the PDD?	1,2	Yes, it is.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																								
B.7. Application of the monitoring methodology and description of the monitoring plan																												
B.7.1. Data and parameters monitored																												
B.7.1.1. Is the list of parameters presented by chapter B.7.1 considered to be complete with regard to the requirements of the applied methodology?	1,2	Because the ex-ante approach is adopted, the net electricity fed to the grid is required to be monitored. This parameter has been included in table B.7.1 in the PDD.	<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>No</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>No</td></tr><tr><td>QA/QC procedures described?</td><td>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?	No	Has this value been verified?	Yes	Measurement method correctly described?	Yes	Correct reference to standards?	Yes	Indication of accuracy provided?	No	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	Yes	CAR 13	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																											
Title in line with methodology?	Yes																											
Data unit correctly expressed?	Yes																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	Yes																											
Correct value provided for estimation?	No																											
Has this value been verified?	Yes																											
Measurement method correctly described?	Yes																											
Correct reference to standards?	Yes																											
Indication of accuracy provided?	No																											
QA/QC procedures described?	Yes																											
QA/QC procedures appropriate?	Yes																											

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		<u>Corrective Action Request No.13</u> 1) The indication of accuracy should be provided. 2) The value of EGy, export and EGy, import should be provided for estimation. 3) Please clarify how the meter will measure hourly.																										
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	Not applicable. <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																											
Title in line with methodology?	NA																											
Data unit correctly expressed?	NA																											
Appropriate description of parameter?	NA																											
Source clearly referenced?	NA																											
Correct value provided for estimation?	NA																											
Has this value been verified?	NA																											
Measurement method correctly described?	NA																											
Correct reference to standards?	NA																											
Indication of accuracy provided?	NA																											
QA/QC procedures described?	NA																											
QA/QC procedures appropriate?	NA																											
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	Not applicable, as this protocol refers to the ex-ante determination of CM. <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></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	<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																											

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		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.5. 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	Not applicable, as no fossil fuel is combusted in process.		<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		

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B.7.1.6. Parameter Title: Cap _{PJ} (only applicable to hydropower plant projects) Installed capacity of the hydro power plant after the implementation of the project activity (W).	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>No</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> <u>Corrective Action Request No.14</u> As per the methodology, the monitoring frequency should be provided	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?	No	Correct reference to standards?	Yes	Indication of accuracy provided?	Yes	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	Yes	CAR 14	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																											
Title in line with methodology?	Yes																											
Data unit correctly expressed?	Yes																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	Yes																											
Correct value provided for estimation?	Yes																											
Has this value been verified?	Yes																											
Measurement method correctly described?	No																											
Correct reference to standards?	Yes																											
Indication of accuracy provided?	Yes																											
QA/QC procedures described?	Yes																											
QA/QC procedures appropriate?	Yes																											
B.7.1.7. 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 implemenation of the project activity, when the reservoir is full (m ²).	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>No</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?	No	Correct reference to standards?	Yes	Indication of accuracy provided?	Yes	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	Yes	CAR 15	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																											
Title in line with methodology?	Yes																											
Data unit correctly expressed?	Yes																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	Yes																											
Correct value provided for estimation?	Yes																											
Has this value been verified?	Yes																											
Measurement method correctly described?	No																											
Correct reference to standards?	Yes																											
Indication of accuracy provided?	Yes																											
QA/QC procedures described?	Yes																											
QA/QC procedures appropriate?	Yes																											

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		<u>Corrective Action Request No.15</u> As per the methodology, the monitoring frequency should be provided																										
B.7.1.8. Parameter Title: w_{Main,CO_2} Average mass fraction of CO ₂ in the produced steam tCO2/t steam (for geothermal projects only)	1,2	The project is a new hydropower plant, hence, this parameter is not applicable. <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																											
Title in line with methodology?	N/A																											
Data unit correctly expressed?	N/A																											
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.7.1.9. Parameter Title: w_{Main,CH_4} Average mass fraction of CH ₄ in the produced steam (tCH4/t steam). for geothermal projects only)	1,2	The project is a new hydropower plant, hence, this parameter is not applicable. <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></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	<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																											

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		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.10. Parameter Title: $M_{S,y}$ Quantity of steam produced during the year y. (for geothermal projects only)	1,2	The project is a new hydropower plant, hence, this parameter is not applicable.		<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		
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	Not applicable, as no fuel is combusted in process		<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		

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		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.12. Parameter title: Weighted average mass fraction of carbon in fuel type i in year y $W_{C,i,y}$	1,2	Not applicable, as no fossil fuel is combusted in process.		<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.7.1.13. Parameter title: Weighted average density of fuel type i in year y $\rho_{i,y}$	1,2	Not applicable, as no fossil fuel is combusted in process.		<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		

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		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	Not applicable, as no fossil fuel is combusted in process.			☑	☑
		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.7.1.15. Parameter title: Weighted average CO ₂ emission factor of fuel type i in year y EF _{CO₂,i,y}	1,2	Not applicable, as no fossil fuel is combusted in process.			☑	☑
		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						

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
B.7.2.1. Is the operational and management structure clearly described and in compliance with the envisioned situation?	1,2	Yes, it is. See B.7.2 of the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.7.2.2. Are responsibilities and institutional arrangements for data collection and archiving clearly provided?	1,2	Yes, the responsibilities and institutional arrangements for data collection and archiving clearly. See B.7.2 of the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.7.2.3. Does the monitoring plan provide current good monitoring practice?	1,2	<u>Corrective Action Request No.16</u> Please show or describe in the PDD the exact location of the meter(s), the owners of the meters and the accuracy of these meters.	CAR 16	<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	There is no additional information provided in the annex4.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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.8.1. Is there any indication of a date when the baseline was determined?	1	Yes, the baseline determination is dated 10/05/2009	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.8.2. Is this consistent with the time line of the PDD history?	1	Yes, it is.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.8.3. Is the information on the person(s) / entity(ies) responsible for the application of the baseline and monitoring methodology provided consistent with the actual situation?	1	Mr. Ying Ma and Mr. Shoudou Zhan determined the 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	The persons and entities mentioned in the PDD are not project participants.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
C. Duration of the project activity / crediting period				
C.1. Duration of the project activity				
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	1	<p>The project's starting date is given as 04/06/2007 and the operational lifetime is expected to be 25 years.</p> <p><u>Corrective Action Request No.14:</u></p> <p>A description of how this start date has been determined and a description of the evidence available to support this start date should be included in the PDD.</p> <p><u>Clarification Request No.7:</u></p> <p>It is not clear to validation team why the lifetime of turbines and generators indicated in A.4.3 is 30 years, however the expected operational lifetime of the project activity is only 25 years, please clarify it.</p>	CAR 14 CR 7	<input checked="" type="checkbox"/>
C.2. Choice of the crediting period and related information				
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	The renewable crediting period of max.7 years is chosen as the crediting period, and it is reasonable because the expected operational lifetime of the project activity is 30 years according to the 2 nd version of PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D. Environmental impacts				
D.1. Documentation on the analysis of the environmental impacts, including transboundary impacts				
D.1.1. Has the analysis of the environmental im-	1,	Yes, the environmental impacts of the project activity have been	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
pects of the project activity been sufficiently described?		14, 15	clearly described.		
D.1.2.	Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, has an EIA been approved?	1, 14, 15	Yes, the EIA is a must in the P. R. China for new hydro power projects. The EIA of the proposed project was approved by the local Environment Protection Bureau	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.1.3.	Will the project create any adverse environmental effects?	1, 14, 15	Referred to the EIA and the approval of EIA, the project will create very minor negative environmental impacts.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.1.4.	Were transboundary environmental impacts identified in the analysis?	1, 14, 15	There is no trans-boundary impact described in EIA report or approval of EIA. <u>Clarification Request No.8:</u> Please clarify if there are transboundary environmental impacts involved with the project activity.	CR 8	<input checked="" type="checkbox"/>
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					
D.2.1.	Have the identified environmental impacts been addressed in the project design sufficiently?	1, 14, 15	Refer to the EIA and the approval of EIA, there is no adverse environmental impact from the project activity.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.2.2.	Does the project comply with environmental legislation in the host country?	1, 14, 15	Yes, the project is in conformity with the environmental legislation of the P. R. China and the EIA has been approved by authorized organization.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
E. Stakeholders' comments					
E.1. Brief description how comments by local stakeholders have been invited and compiled					
E.1.1.	Have relevant stakeholders been consulted?	1, 6, 22	Yes, relevant stakeholders have been consulted in Aug. 2006.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.1.2.	Have appropriate media been used to invite comments by local stakeholders?	1, 6, 22	Questionnaires have been used to invite comments by local stakeholders. <u>Clarification Request No.9:</u> It is not clear to validation team why 40 copies of questionnaire were distributed to stakeholders, however 50 copies were sent back, please clarify it.	CR 9	<input checked="" type="checkbox"/>
E.1.3.	If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	1, 6, 22	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, 6, 22	Yes. The process is described in a complete and transparent manner	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.2. Summary of the comments received					
E.2.1.	Is a summary of the stakeholder comments received provided?	1, 6, 22	Yes, a summary of the stakeholder comments received was provided.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.3. Report on how due account was taken of any comments received					
E.3.1.	Has due account been taken of any stakeholder comments received?	1, 6, 22	Referring to the PDD and filled questionnaires which were gathered from participants and reviewed by the auditor on site, al-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
			most all stakeholder comments are positive		
F. Annexes 1 – 4					
Annex 1: Contact Information					
F.1.1.	Is the information provided consistent with the one given under section A.3?	1	No, please see A.3.3 CAR 1	See CAR 1	<input checked="" type="checkbox"/>
F.1.2.	Is the information on all private participants and directly involved Parties presented?	1	Yes, it is.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Annex 2: Information regarding public funding					
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, 7, 8, 13, 35	No public funding is involved in this project activity.	<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	N.A., see F.1.3.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Annex 3: Baseline information					
F.1.5.	If additional background information on baseline data is provided: Is this information consistent with data presented by other sections of the PDD?	1,2	Yes, the information is consistent with data presented by other section of the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.1.6.	Is the data provided verifiable? Has sufficient evidence been provided to the validation team?	1,2	Yes, the data provided is verifiable, and evidence has been provided to the validation team. Nevertheless please see B.6.3.3 CR 6.	See CR 6	<input checked="" type="checkbox"/>

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F.1.7.	Does the additional information substantiate / support statements given in other sections of the PDD?	1,2	Yes, it does.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Annex 5: Monitoring information					
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	No additional background information is provided.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.1.9.	Is the information provided verifiable? Has sufficient evidence been provided to the validation team?	1	See F.1.8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.1.10.	Do the additional information and / or documented procedures substantiate / support statements given in other sections of the PDD?	1	See F.1.8	<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
CARs			
<u>Corrective Action Request No.1</u> The name of buyer in the A.3 is OneCarbon International BV, but it is One Carbon International BV in the annex 1, please resolve the inconsistency.	A.3.3 F.1.1	The name of buyer is OneCarbon International B.V., a clerical error was made in annex 1.	<input checked="" type="checkbox"/> The names are now consistent throughout the revised PDD.
<u>Corrective Action Request No.2.</u> The information provided on the location of the project activity doesn't allow for a clear identification of the site, please submit the GPS coordinates of the power house and dam with degree, minute and second format.	A.4.1.1	The project activity is a riverbed-hydroelectric station, the power house is very close to the dam. Therefore the dam and the power house have the same GPS coordinates, namely 110°08'39"E and 27°56' 19"N.	<input checked="" type="checkbox"/> The GPS coordinates were checked with Google Earth and found to be correct.
<u>Corrective Action Request No.3</u> As per the latest PDD guidelines, the monitoring equipments and their location in the systems should be included.	A.4.3.2	The monitoring meter will be installed at Chengxi Substation. The detailed information of monitoring equipments is in section B.7.2 of PDD.	<input checked="" type="checkbox"/> The information with respect to monitoring equipments and their location is now given in section B.7 of the revised PDD.
<u>Corrective Action Request No.4</u> The Tool to Calculate the Emission Factor for an Electricity System and the Tool for the Demonstration and Assessment of Additionality is not latest approved version at the time of uploading for GSP, please use the latest approved versions that are also indicated by the	B.1.3	The Tool to Calculate the Emission Factor for an Electricity System is revised to Version 01.1. The Tool for the Demonstration and Assessment of Additionality is revised to Version 05.2.	<input checked="" type="checkbox"/> The latest approved versions are now applied in the revised PDD.

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link to the UNFCCC webpage in the PDD.			
<p><u>Corrective Action Request No.5:</u></p> <p>According to the description “The project power density is greater more than 10 MW/m², CH₄ emission don’t have to be considered” in “Justification/Explanation” column, the corresponding answer should be “No” in column of “Included?”, please correct it.</p>	B.3.3	CH ₄ is not included in the project emission source. Table 3 of PDD has been revised accordingly.	<p>☑</p> <p>The table 3 has been revised in the revised PDD, therefore, this issue is considered to be resolved.</p>
<p><u>Corrective Action Request No.6</u></p> <p>1) The project boundary is not correctly delineated in the diagram, please correct this flow diagram.</p> <p>2) As per the latest PDD guidelines, please represent in the diagram the emission sources and gases included in the project boundary and the monitoring variables.</p>	B.3.7	The project boundary has been revised in line with the latest PDD guidelines, the emission sources and gases are included in the flow diagram. PDD has been revised accordingly.	<p>☑</p> <p>The project boundary is now correctly delineated in the diagram presented in the revised PDD, and that is in line with applied methodology and latest PDD guidelines.</p>
<p><u>Corrective Action Request No.7</u></p> <p>As per the latest PDD guidelines, please also include in the timeline the date when the investment decision was made, the date when construction works started, and the date when the construction contracts were signed etc.</p> <p>As per the latest guidance on early CDM consideration (EB41, Annex 46), please include in the PDD all continuing and real actions were taken to secure the CDM status for the proposed project in parallel with its implementation, such as the evidence of agreements or</p>	B.5.1	<p>The investment decision was made on Aug. 7, 2006 when the Project Transfer Agreement was signed</p> <p>The construction contract was signed on Sep. 13, 2007.</p> <p>The construction works started on Sep. 15, 2007 which could be proved by the Construction License.</p> <p>The key events are included in table 8 of the revised PDD.</p> <p>In Oct. 2005, “Procedures of CDM Projects Operation and Management” was issued by Chinese NDRC, Huaihua Qiongtian Real Estate Development Co., Ltd. consulted the CDM agent and knew that Xiaotan Hydropower Project is a typical CDM project, the project IRR would over the benchmark of 10% with the CERs. For the incentive of CDM, the Letter of Intention on</p>	<p>☑</p> <p>The timeline is now considered as complete in the revised PDD because all events of implementation and continuing and real actions taken to secure CDM status are included.</p> <p>Relevant evidences were submitted to</p>

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negotiations with a DOE for validation services, publication in newspaper, interviews with DNA, earlier correspondence on the project with the DNA or the UNFCCC secretariat.		<p>the Transfer of Xiaotan Project was signed on Dec. 26, 2005. According to the PDR, the CERs revenue would improve the financial condition of the proposed project. The project owner held the board meeting and decided to apply for CDM support, and established the CDM department to responsible for the application. Then the Project Transfer Agreement was signed on Aug. 7, 2006.</p> <p>Hunan CDM Project Service Center held a training course in Nov. 2006, the lead of Xiaotan Hydropower took part in the course and the Intention Agreement was signed at the same day. The Service agreement of CDM Project Development was signed in June 2007. Owing to the incentives of CDM, the project construction started in Sep. 2007. The approval of Chinese NDRC was received in March 2008, and the ERPA was signed in June, 2008. The PDD was published in the EB website in Sep., 2008, and DOE on-site interview was taken in Oct., 2008. The CDM decision was made on Aug. 7, 2006, the Intention Agreement of CDM Project Development was signed on Nov. 20, 2006 and the Service Agreement of CDM Project Development was signed on June 26, 2007.</p>	validation team.
<p><u>Corrective Action Request No.8</u></p> <p>Please include variation of electricity generation as parameter into sensitivity analysis.</p>	B.5.18	Electricity generation has been considered as parameter of sensitivity analysis in the revised PDD.	<input checked="" type="checkbox"/> <p>The variation of electricity generation is now included in the sensitivity analysis, therefore, the issue is considered to be solved.</p>
<p><u>Corrective Action Request No.9.</u></p> <p>The justification for selected geographical</p>	B.5.24	Hydropower projects located in different provinces of CCPG are of different location, which means different hydraulic condition and investment climate (e.g. with regards to tax, loan policy,	<input checked="" type="checkbox"/> <p>The justification for</p>

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boundary, capacity boundary should be provided in the PDD.		electricity tariff, the commodity price and labour wage). Therefore projects located in other provinces of CCPG needn't to be considered. Projects of $\pm 50\%$ (10 ~ 30 MW) should be considered, meanwhile, according to Classification & Design Safety Standard of Hydropower Project (DL5158-2003), hydropower plants with capacity below 50 MW are classified as small size projects. Thus the similar scale is defined between 0 ~ 50 MW.	selected geographical boundary, capacity boundary is now provided in the revised PDD, and is reasonable. Relevant evidences were submitted to the validation team.
<u>Corrective Action Request No.10.</u> This parameter should be included in the table in section B.6.2.	B.6.2.9	$EF_{grid,OM,y}$ is included in the revised PDD.	<input checked="" type="checkbox"/> This parameter is now included in the revised PDD, therefore, the issue is considered to be resolved.
<u>Corrective Action Request No.11.</u> This parameter should be included in the table in section B.6.2.	B.6.2.10	$EF_{grid,BM,y}$ is included in the revised PDD.	<input checked="" type="checkbox"/> This parameter is now included in the revised PDD, therefore, the issue is considered to be resolved.
<u>Corrective Action Request No.12.</u> This parameter should be included in the table in section B.6.2.	B.6.2.11	$EF_{grid,CM,y}$ is included in the revised PDD.	<input checked="" type="checkbox"/> This parameter is now included in the revised PDD, therefore, the issue is considered to be resolved.

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<u>Corrective Action Request No.13</u> 1) The indication of accuracy should be provided. 2) The value of EGy, export and EGy, import should be provided for estimation. 3) Please clarify how the meter will measure hourly.	B.7.1.2	1) The accuracy of the meter is 0.5S. 2) The value is provided in PDD. 3) The value of net electricity supplied to CCPG will be continuous measurement by the meter with accuracy of 0.5S and monthly recording.	<input checked="" type="checkbox"/> The information with respect to accuracy and value for estimation is now provided in the revised PDD, and the monitoring frequency is clarified and revised.
<u>Corrective Action Request No.14</u> As per the methodology, the monitoring frequency should be provided	B.7.1.6	The installed capacity of the hydro power plant will be yearly monitored based on recognized standards	<input checked="" type="checkbox"/> The monitoring frequency is now included in the revised PDD, and it is in line with methodology.
<u>Corrective Action Request No.15</u> As per the methodology, the monitoring frequency should be provided	B.7.1.7	The area of the reservoir when the reservoir is full will be yearly measured from topographical surveys and maps.	<input checked="" type="checkbox"/> The monitoring frequency is now included in the revised PDD, and it is in line with methodology.
<u>Corrective Action Request No.16</u> Please show or describe in the PDD the exact location of the meter(s), the owners of the meters and the accuracy of these meters.	B.7.2.3	The meters will be installed in accordance with "Technology & Management Regulations for Power Metering Devices" (DL/T448-2000) with the accuracy of 0.5S. The main meter and back-up meter will be installed at the connection point to the grid of the substation, the project owner owns the meters.	<input checked="" type="checkbox"/> The location, accuracy and owner of meters are described in the revised PDD.
<u>Corrective Action Request No.17:</u> A description of how this start date has been	C.1.1	The start date of the project is Aug. 7, 2006, it is determined by the date when the Project Transfer Agreement was signed,	<input checked="" type="checkbox"/> According to the

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determined and a description of the evidence available to support this start date should be included in the PDD.		which is the earliest starting date of the activity.	timetable presented in the B.5 of the revised PDD, the start date defined in the C.1.1 is considered as correct and reasonable.
CRs			
<u>Clarification Request No.1</u> 1) Please deliver the evidences with translation that demonstrate that the CDM was seriously considered in the project decision making and project implementation to the DOE. 2) Please deliver the project transfer agreement signed between project owner and the former project owner to the DOE.	B.5.1	1) The documents have been submitted to DOE. 2) The Development Transfer Protocol has been submitted to DOE	<input checked="" type="checkbox"/> Relevant evidences were provided.
<u>Clarification Request No.2</u> 1) Please make explanation in the PDD why this benchmark IRR document and benchmark IRR of 10% can be applied for the proposed project. And please clarify why the SL16-95 is not applicable to this project. 2) Please clarify in the PDD the benchmark applied in the PDD is a project or an equity benchmark. 3) Please deliver this benchmark IRR docu-	B.5.13	1) Economic Evaluation Code for Small Hydropower Projects (SL16-95) is approved by The Ministry of Water Resources of the People's Republic of China in 1995, it is applicable for the economic assessment of hydropower projects below 25MW, and according to The Notification of effective water conservancy technical standard which is published by Ministry of Water Resources in Jan 2009, SL16-95 is still effective now. Clerical error was made in the former PDD. SL16-95 is applicable to this project, and according to SL16-95 the benchmark IRR is 10%. 2) The benchmark applied in the PDD is a project IRR, which is	<input checked="" type="checkbox"/> The justification for selected benchmark and benchmark source is reasonable and accepted by the validation team. Relevant evidences were submitted to the validation team.

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ment with translation to the DOE.		in line with SL16-95. 3) The benchmark IRR document with translation has been submitted to the DOE	
<u>Clarification Request No.3</u> 1) The relevant documents that indicate the input values used for financial analysis should be provided with English translation and delivered to the DOE. 2) IRR calculation spreadsheet should be delivered to the DOE for further validation. 3) Please provide further evidence to prove all input values including operational hours, O&M cost, tariff, total investment etc. used for the financial analysis are valid and applicable at the time of the investment decision. 4) The project is under construction since August 2007. How much money has been spent so far on the equipment, construction works etc.? How does that deviate from what was estimated in the PDR? What individual costs were included in the investment costs? Please provide a breakdown 5) Please clarify clearly in the PDD whether 0.316 yuan/KWh is the electricity tariff with VAT or not.	B.5.15 B.5.16 B.5.17	1) The relevant documents with English translation that indicate the input values used for financial analysis have been submitted to the DOE. 2) IRR calculation spreadsheet has been submitted to the DOE. 4) all input values are cross-checked as following: The installed capacity of 20 MW is from the PDR, and the parameter in Procurement Contract of Water-turbine Generator Units which was signed on June 4, 2007 is 20 MW. Therefore the installed capacity can be cross-checked by the Procurement Contract of Water-turbine Generator Units. The annual electricity generation of 7888 kWh is from PDR, which could be cross-checked by the hydrologic data of 46 years (1957-2002) from Taoyi Hydrologic Station of Hunan Hydrologic and Water Resources Survey Bureau. The proof document has been submitted to DOE. The electricity tariff of 0.316 yuan/KWh is from the PDR, and the value is regulated as 0.316 yuan/KWh in "Notice to the Grid Purchase Electricity Tariff in Hunan Province (Xiangjiachong (2005) No.129)". Therefore the electricity tariff can be cross-checked by "Notice to the Grid Purchase Electricity Tariff in Hunan Province (Xiangjiachong (2005) No.129)" which was published by Hunan Price Bureau on Aug. 23, 2005, The loan interest rate of 5.76% is from the PDR, and the actual rate is 7.74%, the IRR would be 8.78% when the rate is 7.74%. Therefore the IRR is still below the benchmark with the actual loan interest rate.	<input checked="" type="checkbox"/> All input values used in the financial analysis are now clarified and evidenced to be appropriate and applicable by third party information. Relevant evidences submitted by PP were verified by the validation team, and can be considered as reliable and authentic. The loan interest rate indicated in the PDR is 5.76%, resulting in an IRR of 8.56%. However, actual loan rate is slightly higher, i.e. 7.74% (see IRL 35), resulting in an IRR of 8.78%, which is still below the

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		<p>The IRR analysis document has been submitted to DOE.</p> <p>The residual rate of fixed assets value of 5% is from PDR, and the value is regulated as 5% in the “The Notification of Implementation Time of the Adjusted Residual Rate of Fixed Assets Value” which is published by the State Taxation Administration in Sep. 2005.</p> <p>Therefore the residual rate of fixed assets value can be cross-checked by government regulation.</p> <p>The Operation period of 30 years is in line with the lifetime of main equipments which could be proved by “Technical Agreement of Hydraulic Turbine and Generator”, it is more conservative than the value of 25 years from the PDR.</p> <p>Therefore the operation period can be cross-checked by the Technical Agreement of Hydraulic Turbine and Generator which was signed on June 4, 2007.</p> <p>The depreciation rate of 3.17% is from the calculation of “(1-Residual Rate of Fixed Assets Value)/ Operation Period”, i.e. $(1-5\%)/30=3.17\%$, it is regulated by SL 16-95. Therefore the depreciation rate can be cross-checked by SL 16-95 which was approved by The Ministry of Water Resources in 1995.</p> <p>The repair rate of 1% is from the PDR, and the value regulated in “Interim Regulation of Financial Assessment for Hydropower Projects” is 1%. Therefore repair rate can be cross-checked by Interim Regulation of Financial Assessment which was promulgated by Programming and Design Institute for Water Resources and Hydropower of Water Resources Ministry and Power Ministry on June 14, 1994.</p> <p>The staff number of 15 is from the PDR, while the number is 48 – 79 according to regulation of Economic Evaluation Coda for Small Hydropower (SL 16-95), thus the staff number in the PDD is conservative.</p>	<p>benchmark. This was cross-checked and confirmed by the audit team (see also IRL 115). However,</p> <p>Follow-up 1:</p> <p>As per EB41, Annex 45 (§8), the cost of financing expenditures (i.e. loan repayments and interest) should not be included in the calculation of project IRR. Please clarify how this project is in line with this requirement.</p> <p>Conclusion:</p> <p>After thorough review of the provided investment analysis calculation spreadsheet, the audit team confirms that the project is in line with the requirements of EB41, Annex 45 (§8). The in-</p>

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Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		<p>The staff salary of 9,600 RMB yuan per year is from the PDR, it is decided based on the price level of 1995, and the average salary of power industry is 30,729 RMB yuan, the data was published by State Statistical Bureau in 2007. Thus the value in PDD is much lower and more conservative than present average salary level of power industry.</p> <p>The total welfare, insurance and housing fund rate of 41% is from the PDR, the value is 42% according to the government regulation. Therefore the value in PDD is much lower and more conservative than the actual total welfare, insurance and housing fund rate. The detailed information of total welfare, insurance and housing fund rate is as follow:</p> <ul style="list-style-type: none"> - The Pension Insurance: 20%, The Decision on the Optimization of Pension Insurance System (Guofa [2005] No. 38), State Council, Dec. 2005. - The Medical Insurance: 8%, The Decision on the Establishment of Labour Medical Insurance System (guofa [1998] No. 44), State Council, Dec. 1998. <p>The Housing Fund: 9%, Notice to Reinforce the Management of Housing Fund, Huaihua Government, May 2007.</p> <ul style="list-style-type: none"> - The Unemployment Insurance: 3%, The Management Method on the Budget funds of Unemployment Insurance, Provincial Department of Labour and Social Security, July 2007. - Childbirth insurance: 1%, Notice to Publish the Method of Labour Childbirth Insurance, Labour Ministry, Jan. 1995 - Injury insurance: 1%, Notice to Problem of Injury Insurance Rate, Provincial Department of Labour and Social Security, Oct. 2003. <p>The water resources fee of 0.001 yuan/kWh is from the PDR, and the value in "Notice to Verify Water Resource fee (Xiangjia-</p>	<p>terest rate only affects the calculation of the income tax, which is in line with national laws and codes (i.e. SL16-95). The interest rate is not included in the O&M costs. Furthermore, TÜV SÜD would like to point out that this approach is also further in line with recent request for review questions (The DOE is requested to explain how it has validated the income tax calculation as it does not appear to include the loan interest payments as an expense.) where it is clearly indicated that the loan interest payments should be included as an expense as part of the income tax. This is now also further in-</p>

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Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		<p>fei (2003) No.128)" is regulated as 0.001. Therefore the water resources can be cross-checked by "Notice to Verify Water Resource fee (Xiangjiafei (2003) No.128)" which was published by Finance Department and Price Bureau of Hunan Province in July 2003.</p> <p>The reservoir region maintenance fee of 0.001 yuan/kWh is from the PDR, and the value in "Notice to Abstract Reservoir Region Maintenance Fund from Generation Cost (Diancaizi No. 56)" is 0.001 yuan/kWh.</p> <p>Therefore the reservoir region maintenance fee can be cross-checked by the "Notice to Abstract Reservoir Region Maintenance Fund from Generation Cost" (Diancaizi No. 56) which was published by Finance Ministry and Power Industry Ministry in June 1981.</p> <p>The other cost of 12 yuan/kW is from the PDR, and the value is regulated as 12 yuan/kW in "Economic Evaluation Code for Small Hydropower Projects (SL 16-95)". SL 16-95 is approved by The Ministry of Water Resources in 1995, it is applicable for the economic assessment of hydropower projects below 25MW. According to "The Notification of effective water conservancy technical standard" which is published by Ministry of Water Resources in Jan 2009, SL16-95 is still effective now.</p> <p>Therefore other costs can be cross-checked by SL 16-95.</p> <p>The VAT of 6% is from the PDR, and the value regulated in "Interim Regulation of Financial Assessment for Hydropower Projects" is 6%.</p> <p>Therefore the VAT can be cross-checked by the "Interim Regulation of Financial Assessment for Hydropower Projects" which was promulgated by Programming and Design Institute of Water Resources and Hydropower of Water Resources Ministry and Power Ministry on June 14, 1994.</p>	<p>licated in the latest investment analysis guideline (EB51, Annex 58, §11).</p>

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Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		<p>The surtax of 8% is from the PDR, and the value regulated in “Interim Regulation of Financial Assessment for Hydropower Projects” is 8%. Therefore the surtax can be cross-checked by the “Interim Regulation of Financial Assessment for Hydropower Projects” which was promulgated by Programming and Design Institute of Water Resources and Hydropower of Water Resources Ministry and Power Ministry on June 14, 1994.</p> <p>The income tax of 33% is from the PDR, and the value in “Interim Regulation of Enterprise Income Tax Law of the People's Republic of China (The state council law [1993] No. 137)” is regulated as 33%.</p> <p>Therefore the income tax can be cross-checked by the Interim Regulation of Enterprise Income Tax Law of the People's Republic of China (The state council law [1993] No. 137) which is published by the State Council on Dec. 13 1993.</p> <p>The surplus accumulative fund of 10% is from the PDR, and the value regulated in “Interim Regulation of Financial Assessment for Hydropower Projects” is 10%.</p> <p>Therefore the surplus accumulative fund can be cross-checked by the “Interim Regulation of Financial Assessment for Hydropower Projects” which was promulgated by Programming and Design Institute of Water Resources and Hydropower of Water Resources Ministry and Power Ministry on June 14, 1994.</p> <p>The bank loan of 107.4779 million RMB yuan is from the PDR, and according to the Loan Agreement signed on Sep. 18 2008, the actual bank loan is 100 million RMB yuan which is more conservative in IRR analysis.</p> <p>4) The total investment of Xiaotan Hydropower has reached 184.719 million RMB yuan which is greater than the estimated total investment in PDR. The detail information of contracts is shown as follow:</p>	

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Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		<ul style="list-style-type: none"> - Agreement of Project Transfer, Aug. 7, 2006, 7.50 million RMB yuan. - Contract of Construction, Sep. 13, 2007, 41.9127 million RMB yuan. - The Supervision Contract, Nov. 8, 2007, 0.80 million RMB yuan. - Procurement Contract of Water-turbine Generator Units, June 4, 2007, 19.20 million RMB yuan. - Procurement Contract of Microcomputer Excitation System of Water-turbine Generator Units, July 9, 2007, 0.40 million RMB yuan. - Procurement Contract of Governor of Water-turbine Generator Units, July 9, 2007, 0.782 million RMB yuan. - Contract of Electromechanical Installation Works, April 14, 2008, 2.388 million RMB yuan. - Contract of Grid Connection Construction, Aug. 28, 2007, 1.70 million RMB yuan. - Procurement Contract of Cement, June 5, 2008, 4.82 million RMB yuan. - The Supervision Contract of Immigration Settlement, Nov. 15, 2008, 0.54 million RMB yuan. - The Drinking Water Project of Baomudong Village, Nov. 28, 2007, 0.376 million RMB yuan. - The Road Construction Agreement, Aug. 11, 2006, 0.65 million RMB yuan. - The Contract of Farmland Elevation, Jan. 1, 2007, 38.80 million RMB yuan. - The Agreement of Installation of Metal Structure and Hoisting Equipment, Sep. 5, 2008, 5.462 million RMB yuan. - The Supply Agreement of the Protection Construction of Downstream Right Bank of Xiaotan Hydropower Project, 	

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Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		<p>Dec. 15, 2008, 2.1 million RMB yuan.</p> <ul style="list-style-type: none"> - The compensation for reservoir submerge of 48.59 million RMB yuan is from the PDR, it is calculated on the basis of commodity price level in 2005. According to the proof document of Hunan Xiangyi Immigration Supervision Co. which is a third party, the compensation for reservoir submerge would not lower than 48.59 million RMB. Thus the actual value of compensation is much higher the estimated value in PDR. (Note: the compensation mentioned in footnote 53, 54 and 56 of the PDD are only a part of compensation for reservoir submerge). - The interest during construction is 8.697 million RMB yuan according to the calculation of loan and loan interest rate in PDR, and the actual interest during construction is 11.959 million according to the actual loan agreement, thus the actual interest during construction is much higher than 8.697 million RMB. <p>According to the data above, the sum of the contracts fund and interest is 184.719 million RMB yuan, thus, as the project is still under construction, and the current fund is not considered, the actual total investment would be over 184.719 million RMB yuan which is larger than the estimation in PDR.</p> <p>5) 0.316 yuan/KWh is the electricity tariff with VAT.</p> <p>Second response (wrt follow-up 1):</p> <p>The IRR in the PDD was calculated based on “<i>Economic Evaluation Code for Small Hydropower Projects</i>” (SL16-95), which prescribes the inclusion of loan interest. If using the project IRR calculation which does not consider the effect of interest rate, IRR would be 8.11%, lowered than the 8.56% used in the PDD. Therefore the calculation used in the PDD is more conservative.</p>	

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Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
<u>Clarification Request No.4</u> Justification for variations range should be provided in the PDD.	B.5.19	Justification for variations range has been included in the revised PDD.	<input checked="" type="checkbox"/> The justification provided in the revised PDD has been evidenced to be reasonable, and relevant evidences were submitted by the PP, and checked by the validation team.
<u>Clarification Request No.5</u> Reference documents and data sources should be delivered to the DOE.	B.5.24	Reference documents and data sources have been submitted to the DOE.	<input checked="" type="checkbox"/> Reference documents were provided.
<u>Clarification Request No.6.</u> Please deliver the spreadsheet of calculation of the operating margin and build margin emission factors to the DOE.	B.6.3.3 F.1.6	The spreadsheet of calculation of the operating margin and build margin emission factors have been submitted to the DOE.	<input checked="" type="checkbox"/> The sheet was delivered to the validation. The final EF(CM) value is slightly lower than the value published by the NDRC at the time of commencement of this validation. As this is considered as conservative, it was accepted by the audit team.

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<u>Clarification Request No.7:</u> It is not clear to validation team why the lifetime of turbines and generators indicated in A.4.3 is 30 years, however the expected operational lifetime of the project activity is only 25 years, please clarify it.	C.1.1	The lifetime of the project activity is 30 years, a clerical error was made in PDD. The lifetime of the project could be cross-checked by the technical agreement of Water-turbine Generator Units.	<input checked="" type="checkbox"/> The lifetime of 30 years has been evidenced by the relevant documents.
<u>Clarification Request No.8:</u> Please clarify if there are transboundary environmental impacts involved with the project activity.	D.1.4	According to the EIA, no transboundary environment impacts is involved with the project activity.	<input checked="" type="checkbox"/> The clarification is now included in the revised PDD.
<u>Clarification Request No.9:</u> It is not clear to validation team why 40 copies of questionnaire were distributed to stakeholders, however 50 copies were sent back, please clarify it.	E.1.2	There are 40 copies of questionnaire were distributed and all copies were sent back, a clerical error was made in Section E. of the PDD.	<input checked="" type="checkbox"/> Revised in the PDD.
Open issues			
<u>Open issue:</u> The letter of approval from Netherlands as well MoC has not been provided. They should be provided to the DOE before submitting for registration.	A.3.2	The letter of approval from Netherlands and MOC document has been provided.	<input checked="" type="checkbox"/> The LoA and MOC was provided.



Annex 2: Information Reference List

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Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
1	09/09/2008	PDD “Hunan Xiaotan Hydropower Project”, Version 01/ 02	Hunan CDM Project Service Center	
2	30/11/2007	Approved consolidated baseline and monitoring methodology ACM0002:“ Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, version 7	UNFCCC	
3	29/07/2008	Tool to calculate the emission factor for an electricity system, version 1.1	UNFCCC	
4	26/08/2008	Tool for the demonstration and assessment of additionality, version 5.2	UNFCCC	
5	09/10/2008	Participant list of on-site interviews	TÜV SÜD	
6	09/10/2008	<p>On-site interviews conducted by TÜV SÜD.</p> <p>Validation Team:</p> <p>Rencheng (Tom) Xiong Jiangsu TÜV Product Service Co.,Ltd, Shenzhen Branch Xiaobo (Bernard) Zhang Jiangsu TÜV Product Service Co.,Ltd, Shenzhen Branch</p> <p>Interviewed Persons:</p> <p>Jianming Teng Development and Reform Bureau of Chenxi County Fuying Zhou Land and Resources Bureau of Chenxi County Jingfeng Xie Agriculture Bureau of Chenxi County Xiangguo Zeng Villager of Shibi village of Chenxi County Yongsong Zhou Environmental Protection Bureau of Chenxi County Yongquan Tang Villager of Xiaotan Village of Chenxi County Yunpei Tang Villager of Xiaotan Village of Chenxi County Youhao Li Villager of Xiaotan Village of Chenxi County Chengding Wang Villager of Baomudong Village of Chenxi County Siqing Li Villager of Baomudong Village of Chenxi County Ji Tian Water Resources of Chenxi County Yingfu Xiang Development and Reform Bureau of Chenxi County Minjiao He Chenxi County Qiongtian Hydropower Co., Ltd. Yufang Tang Government of Chenxi County</p>	TÜV SÜD	

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Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
		Yuhua Tan Emigration Bureau of Chenxi County Wenxiao Dong Chenxi County Qiongtian Hydropower Co., Ltd. Aijun Duan Chenxi County Qiongtian Hydropower Co., Ltd. Ying Ma Hunan CDM Project Service Center		
7	30/03/2006	Business License	Chenxi County Industrial & Commercial Bureau	
8	23/03/2006	Company Statute	Chenxi County Qiongtian Hydropower Co., Ltd.	
9	August 2004	Feasibility Study Report	Hunan Huaihua Hydro & Power Design Institute	
10	April 2006	Preliminary Design Report of Xiaotan Project	Hunan Huaihua Hydro & Power Design Institute	IRR input data source
11	16/12/2004	Approval of Feasibility Study Report	Development and Reform Commission of Hunan Province.	
12	21/06/2006	Approval of Preliminary Design Report of Xiaotan Project	Water Resources Department of Hunan Province	
13	25/08/2006	Approval of Transfer of Development and Operation Rights of Hunan Xiaotan Hydropower Project.	Government of Chenxi County	
14	March 2005	Environmental Impact Assessment	Environmental Science and Research Institute of Huaihua City	
15	11/05/2005	Approval of Environmental Impact Assessment; Huaihuanhan [2005]34	Environmental Protection Bureau of Huaihua City	
16	04/06/2007	Procurement Contract of Turbines and Generators	Chenxi County Qiongtian Hydropower Co., Ltd and Tianji Tianfa Hydropower Equipment Manufacturing Co., Ltd	
17	13/09/2007	Contract of Construction (Civil Engineering Contract)	Chenxi County Qiongtian Hydropower Co.,	

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Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
			Ltd and Hunan Water Resources and Hydropower Company	
18	07/06/2007	Permission for Starting Construction	Hunan Huaihuai Construction Administration Bureau	
19	29/05/2006	Notice on Establishment of CDM Project Department	Chenxi County Qiongtian Hydropower Co., Ltd.	Secure CDM status
20	26/06/2007	Service Agreement of CDM Project Development	Chenxi County Qiongtian Hydropower Co., Ltd. and Hunan Xiangke Clean Development Co., Ltd. (Hunan CDM Project Service Center)	Secure CDM status
21	30/06/2008	CDM Emission Reductions Purchase Agreement	Chenxi County Qiongtian Hydropower Co., Ltd. and OneCarbon International B.V.	Secure CDM status
22	June 2006	Questionnaires	Stakeholders	
23	22/10/2007	Pre-review of Land Using	Land Resources Bureau of Hunan Province	
24	30/01/2008	Approval of Forest Land Using	The National Forest Resources Bureau	
25	November 2007	Supplemental Agreement for Temporary Land Utilization	Chenxi County Qiongtian Hydropower Co., Ltd. and Baomudong Village of Chenxi County	
26	07/07/2006	Compensation Standard	State Council of China	
27	02/05/1995	Economic Evaluation Code for Small Hydropower Projects (SL16-95)	Ministry of Water Resources, PRC	Benchmark
28	18/07/2008	2008 Baseline Emission Factors for Regional Power Grids in China	Office of National Coordination Committee on Climate Change	
29	2008	National Statistics Bulletin of Power Industry in 2007	China Electricity Council	
30	15/04/2002	Notice on Strictly Prohibiting the Construction of Fuel-fired power plants with installed Capacity of 135 MW or below	General Office of the State Council of China	

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Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
31	10/09/2002	Interim Rules on Economic Assessment of Electrical Engineering Retrofit Project 2003	State Electrical power corporation	
32	March 2008	Investigation Report on Medium and Small Size Hydropower Plants Operated after 2002 in Hunan Province	Hunan Investigation, Design & Research Institute of Water Resources and Hydropower	
33	28/11/1987	Notice on Implementation Method of Various Electricity Tariff (No. 101 Shuidiancaizi[1987])	Ministry of Water Resources and Electric Power, State Economic Committee and State Price Bureau	
34	23/04/2001	Notice on Standardizing Electricity Tariff Management (No. 701 Jijiage[2001])	State Planning Committee	
35	18/09/2008	Loan Contract	Chenxi County Qiongtian Hydropower Co., Ltd. and Agricultural Bank of China	
36	28/11/2006	Electricity Purchase and Sale Contract	Chenxi County Qiongtian Hydropower Co., Ltd. and electric power supply bureau of Huaihu City	Grid tariff is 0.316 RMB per KWh including VAT.
37	20/03/2008	China LoA	The National Development and Reform Commission of the People's Republic of China (China's DNA)	
38	2003-2007	China Electric Power Yearbooks 2003-2007		
39	04/06/2007	Technical Agreement of Hydraulic Turbine and Generator	Chenxi County Qiongtian Hydropower Co., Ltd. and Tianjing Tianfa Heavy Hydropower Equipment Manufacture Co. Ltd.	
40	30/12/2008	2008 Baseline Emission Factors for Regional Power Grids in China (revised)	Office of National Coordination Committee on Climate Change	
41	2007	National Statistics Bulletin of Power Industry	China Electricity Council	

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Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
42	12/01/2009	The Notification of effective water conservancy technical standard	Ministry of Water Resources, PRC	
43	06/03/2000	Notice to adjust electricity tariff of Hunan Power Grid, file number: Xiang Jia Chong 49(2000)	Price Bureau of Hunan Province	
44	31/12/2001	Notice to adjust and confirm the electricity tariff of Hunan Power Grid, file number: Xiang Jia Chong 327 (2001)	Price Bureau of Hunan Province	
45	04/08/2004	Notice to adjust and confirm the electricity tariff of Hunan Power Grid, file number: Xiang Jia Chong (2004) No.114	Price Bureau of Hunan Province	
46	23/08/2005	Notice to the Electricity Price of Power Grid of Hunan Province, file number: Xiang Jia Chong (2005) No.129	Price Bureau of Hunan Province	Grid tariff is 0.316 RMB per KWh including VAT.
47	22/20/2008	Notice to Adjust the Electricity Tariff of Hunan Province	Price Bureau of Hunan Province	
48	06/05/2009	The proof document regarding the hydrological data in PDR “Hunan Xiaotan Hydropower Project”	Hunan Taoyi Hydrology Monitoring Station	
49	2007	Ex-factory Price Indices of Industrial Products	National Bureau of Statistics of China	
50	28/11/1987	Notice on Implementation Method of Various Electricity Tariff, file number: 101 Shuidiancaizi [1987]	Ministry of Water Resources and Electric Power, State Economic Committee and State Price Bureau,	
51	10/02/2002	The Notification on the Scheme of Electric Power System Reform	State Council of the People's Republic of China	
52	March, 2008	Investigation Report on Medium and Small Size Hydropower Plants operated after 2002 in Hunan Province	Hunan Investigation, Design & Research Institute of Water Resources and Hydropower	

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53	19/11/2005	The consultation document to Hunan CDM Project Service Center on the CDM feasibility of Xiaotan Hydropower Project	Huaihua Qiongtian Real Estate Development Co., Ltd.	Secure CDM status
54	26/11/2005	The reply on the CDM feasibility of Xiaotan Hydropower Project	Hunan CDM Project Service Center	Secure CDM status
55	26/12/2005	The Letter of Intent on the Transfer of Xiaotan Project	Chenxi County Xiaotan Hydropower Co., Ltd. and Huaihua Qiongtian Real Estate Development Co., Ltd.	
56	28/05/2006	The Board Meeting Minute of Chenxi County Xiaotan Hydropower Co., Ltd.	Chenxi County Qiongtian Hydropower Co., Ltd.	Secure CDM status
57	29/05/2006	The Notification on Establishment of CDM Department	Chenxi County Qiongtian Hydropower Co., Ltd.	Secure CDM status
58	07/08/2006	The Project Transfer Agreement	Chenxi County Xiaotan Hydropower Co., Ltd. and Chenxi County Qiongtian Hydropower Co., Ltd.	Project starting date
59	11/08/2006	The Road Construction Agreement	Chenxi County Xiaotan Hydropower Co., Ltd. and Mr. Liao Changyi(local villager)	
60	20/11/2006	The conference guideline of the training course at Hunan CDM Project Service Center	Hunan CDM Project Service Center	
61	20/11/2006	The Intention Agreement of Hunan Xiaotan Project	Hunan CDM Project Service Center and Chenxi County Qiongtian Hydropower Co., Ltd.	
62	01/01/2007	The Contract of Farmland Elevation	Chenxi County Qiongtian Hydropower Co., Ltd. and Zhongfang County City Construction Co., Ltd.	
63	09/07/2007	The Procurement Contract of Microcomputer Excitation System of Water-turbine	Chenxi County Qiongtian Hydropower Co.,	

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Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
		Generator Units	Ltd. and Wuhan Hongshan Electric Technology Co. Ltd.	
64	09/07/2007	Procurement Contract of Governor of Water-turbine Generator Units	Chenxi County Qiongtian Hydropower Co., Ltd. and Wuhan Sichuang Auto-control Technology Co., Ltd.	
65	28/08/2007	The Contract of Grid Connection Construction	Chenxi County Qiongtian Hydropower Co., Ltd. and Chenxi Power Construction Co., Ltd.	
66	15/09/2007	The Construction License of Hunan Xiaotan Hydropower Project	Hunan Supervision and Consultation of Water Resource and Hydropower Project Company	Construction starting date
67	08/11/2007	The Supervision Contract of Xiaotan Hydropower Project	Chenxi County Qiongtian Hydropower Co., Ltd. and Hunan Supervision and Consultation of Water Resource and Hydropower Project Company	
68	26/10/2007	The Agreement for Temporary Land Utilization	Chenxi County Qiongtian Hydropower Co., Ltd. and Village of Chenxi County	
69	28/11/2007	The Drinking Water Project of Baomudong Village	Chenxi County Qiongtian Hydropower Co., Ltd. and Chenxi No. 2 Construction Co., Ltd	
70	12/12/2007	The Compensation Agreement of Land Expropriation	Chenxi County Qiongtian Hydropower Co., Ltd. and Baomudong Village of Chenxi County	
71	12/12/2007	The Compensation Agreement of Land Expropriation	Chenxi County Qiongtian Hydropower Co., Ltd. and Xiaotan Village of Chenxi County	
72	14/04/2008	Contract of Electromechanical Installation Works	Chenxi County Qiongtian Hydropower Co., Ltd. and Huaihua Water Resource and	

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Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
			Hydropower Project Construction Co., Ltd.	
73	05/06/2008	Procurement Contract of Cement	Chenxi County Qiongtian Hydropower Co., Ltd. and Hunan Chenxi Central China Cement Co., Ltd.	
74	05/09/2008	Agreement of Installation of Metal Structure and Hoisting Equipment	Chenxi County Qiongtian Hydropower Co., Ltd. and Tiaojiang Xiangzhong Hydronic Equipment Co., Ltd	
75	15/11/2008	The Supervision Contract of Immigration Settlement	Chenxi County Qiongtian Hydropower Co., Ltd.and Hunan Xiangyi Immigration Supervision Co., Ltd.	
76	15/12/2008	The Supply Agreement of the Protection Construction of Downstream Right Bank of Xiaotan Hydropower Project	Chenxi County Qiongtian Hydropower Co., Ltd. and Xiaotan Department of Hunan Water Resource and Hydropower Company	
77	03/11/2000	Technology & Management Regulations for Power Metering Devices” (DL/T448-2000)	Economic Trade Commission of China	
78	14/09/2005	The Notification of Implementation Time of the Adjusted Residual Rate of Fixed Assets Value	State Administration of Taxation	
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