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# Validation Report

**Standard Bank Plc**

## VALIDATION OF THE CDM-PROJECT: NANZHAHE CASCADE HYDROPOWER PROJECT, CHINA

REPORT NO. 1004062

**2008, May 26**

TÜV SÜD Industrie Service GmbH

Carbon Management Service
Westendstr. 199 - 80686 Munich – GERMANY

Industrie Service

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**Subject:** Validation of a CDM Project

| **Accredited TÜV SÜD Unit:** | **TÜV SÜD Contract Partner:** |
|---|---|
| TÜV SÜD Industrie Service GmbH<br>Certification Body "climate and energy"<br>Westendstr. 199 - 80686 Munich<br>Federal Republic of Germany | Jiangsu TÜV Product Service Shenzen Branch<br>Room A01, B01 & B02, 28th Floor Anlian Building<br>No. 4018 Jintian Road, Futian District<br>518026 Shenzhen<br>P.R. China |
| **Client:**<br>Standard Bank Plc<br>25 Dowgate Hill, Cannon Bridge House, London, ZIP: EC4R 2SB, United Kingdom. | **Project Site(s):**<br>Zhenkang County, Lincang City, Yunnan Province, PR China<br>Geographical coordinates:<br>23°47'58'' N and 99°21'02'' E (1st hydropower plant)<br>23°46'08'' N and 99°22'08'' E (2nd hydropower plant) |

| | | | |
|---|---|---|---|
| **Project Title:** | Nanzhahe Cascade Hydropower Project, China | | |
| **Applied Methodology / Version:** | AMS-I.D/version 10<br>ACM0002 / version 6 | **Scope(s):** | 1 |

| **First PDD Version:** | | **Final PDD version:** | |
|---|---|---|---|
| Date of issuance: | 2007-03-01 | Date of issuance: | 2008-01-10 |
| Version No.: | 1 | Version No.: | 3 |
| Starting Date of GSP | 2007-05-12 | | |

| | |
|---|---|
| **Estimated Annual Emission Reduction:** | 33,734 tons $CO_{2e}$ |

| **Assessment Team Leader:** | **Further Assessment Team Members:** |
|---|---|
| Dr. Sven Kolmetz | Chen Xiaoying<br>Sebastian Randig<br>Zhang Jiming |

**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.

## Abbreviations

| | |
|---|---|
| **ACM** | Approved Consolidated Methodology |
| **AM** | Approved Methodology |
| **CAR** | Corrective Action Request |
| **CDM** | Clean Development Mechanism |
| **CER** | Certified Emission Reduction |
| **CR** | Clarification Request |
| **DNA** | Designated National Authority |
| **DOE** | Designated Operational Entity |
| **EB** | Executive Board |
| **EIA / EA** | Environmental Impact Assessment / Environmental Assessment |
| **ER** | Emission reduction |
| **GHG** | Greenhouse gas(es) |
| **KP** | Kyoto Protocol |
| **MP** | Monitoring Plan |
| **NGO** | Non Governmental Organisation |
| **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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# 1 INTRODUCTION

## 1.1 Objective

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

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

Nanzhahe Cascade Hydropower Project, China.

## 1.2 Scope

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

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

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

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

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

# 2 METHODOLOGY

The project assessment aims at being a risk based approach and is based on the methodology developed in the Validation and Verification Manual, an initiative of Designated and Applicant Entities, which aims to harmonize the approach and quality of all such assessments.

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

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

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

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

| ***Validation Protocol Table 1: Conformity of Project Activity and PDD*** | | | | |
|---|---|---|---|---|
| ***Checklist Topic / Question*** | ***Reference*** | ***Comments*** | ***PDD in GSP*** | ***Final PDD*** |
| *The checklist is organised in sections following the arrangement of the applied PDD version. Each section is then further subdivided. The lowest level constitutes a checklist question / criterion.* | *Gives reference to documents where the answer to the checklist question or item is found in case the comment refers to documents other than the PDD.* | *The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached. In some cases sub-checklist are applied indicating yes/no decisions on the compliance with the stated criterion. Any **Request** has to be substantiated within this column* | *Conclusions are presented based on the assessment of the first PDD version. This is either acceptable based on evidence provided (☑), or a **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.* | *Conclusions are presented in the same manner based on the assessment of the final PDD version.* |

| *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*** |
| *If the conclusions from table 1 are either a Corrective Action Request or a Clarification Request, these should be listed in this section.* | *Reference to the checklist question number in Table 1 where the Corrective Action Request or Clarification Request is explained.* | *The responses given by the client or other project participants during the communications with the validation team should be summarised in this section.* | *This section should summarise the validation team's responses and final conclusions. The conclusions should also be included in Table 1, under "Final PDD".* |

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*** |
| *If the final conclusions from table 2 results in a denial the referenced request should be listed in this section.* | *Identifier of the Request.* | *This section should present a detail explanation, why the project is finally considered not to be in compliance with a criterion.* |

## 2.1 Appointment of the Assessment Team

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

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

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

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

| Name | Qualification | Coverage of technical scope | Coverage of sectoral expertise | Host country experience |
|---|---|---|---|---|
| **Dr. Sven Kolmetz** | **ATL** | ☑ | ☑ | ☑ |
| **Chen Xiaoying** | **GHG-A** | ☑ | ☑ | ☑ |
| **Sebastian Randig** | **GHG-A** | ☑ | ☑ | |
| **Zhang Jiming** | **A** | | | ☑ |

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

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

**Sebastian Randig** is a GHG auditor for environmental management systems at the "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 in several CDM project assessments.

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

## 2.2 Review of Documents

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

## 2.3 Follow-up Interviews

In the period of May 17$^{th}$ -18$^{th}$, 2007 TÜV SÜD performed interviews on-site with project stakeholders to confirm selected information and to resolve issues identified in the first document review. The table below provides a list of all persons interviewed in the context of this on-site visit.

| Name | Organisation |
|---|---|
| Mr. Zeng Chengde | Board member of Yongzhou Zhongxin Hydropower Development Co., Ltd |
| Mr. Li Jianwei | CDM Manager of Accord Global Environment Technology Co., Ltd |

## 2.4 Resolution of Clarification and Corrective Action Requests

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

## 2.5 Internal Quality Control

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

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

# 3 SUMMARY OF FINDINGS

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

**History of the validation process**

The audit team has been provided with a draft PDD in March 2007. Based on this documentation a document review and a fact finding mission in form of an on-site audit has taken place. Afterwards the client decided to revise the PDD according to the CARs and CRs indicated in the audit process. The final PDD version submitted in January 2008 serves as the basis for the assessment presented herewith. Changes are not considered to be significant with respect to the qualification of the project as a CDM project based on the two main objectives of the CDM to achieve a reduction of anthropogenic GHG emissions by sources and to contribute to sustainable development.

**Project description**

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

Nanzhahe Cascade Hydropower Project consists of 2 hydropower plants with a total installed capacity of 10.4 MW. It will provide 40 GWh renewable electricity to the China Southern Power Grid and thus displace electricity generated by carbon intensive fossil fuel fired power plants. The two hydropower plants are diversion run-of-river hydropower stations with an installed capacity of 6.4 MW (2*3.2MW) and 4 MW (2*2 MW) respectively and a pretended electricity generation of 24.22 GWh and 15.78 GWh respectively.

**Findings**

In total the assessment team expressed 2 Clarification Requests and 8 Corrective Action Requests.

Some of the requests addressed formal aspects, such as additional information of the project, project participants, issues concerning project schedule, the version of the applied methodology, location of the project activity, inconsistent information about the amount of emission reductions and missing parameters (CAR 1, CAR 2, CAR 3, CAR 4, CAR 5, CAR 6, CAR 10 and CR 2). Besides this, the project owner had to deliver additional documents regarding the additionality (CR 1) and the monitoring had to be described more detailed in aspects like parameters to be monitored and ammeter location (CAR 8 and CAR 9). Finally, the discussion about what date to be used for the calculation of the emissions factor was resolved (CAR 7).

**Baseline calculation**

For the BM calculation the PDD adopts modified methods agreed by the EB for the approved methodologies AM0005 and AMS I.D. because plant specific data are not available in China. The emission factor of the thermal power plants is calculated by the proportion of the emissions of coal, gas and oil times the emission factor of the best available coal, gas and oil power plant as defined and published by the Chinese DNA. The new thermal capacity installation that exceeds 20% in the last years, for which data are available, is finally assessed with this factor. The emission reductions are calculated based on the IPCC 2006 values and the Chinese yearbooks 2001 – 2006 as published by the Chinese DNA on August 09, 2007. These were the latest available data at the time writing the PDD. Even though TUEV´s findings after checking NDRC emissions factors have not been considered by the project participants, the figures used in the PDD are more conservative and hence have been accepted.

**Additionality**

The additionality of the project was checked carefully. In doing so the assessment team has put the main focus on the following issues.

The consideration of CDM before start of construction has been confirmed by the Board Resolution of Yongzhou Zhongxin Hydropower Development Co., Ltd dated on September 16, 2004 (Refer to Annex 2 No. 13). This is before the date of starting the project activity, which is October 2004 for 2nd level station and October 2005 for 1st level station.
The additionality tool has not been used, instead Attachment A of Appendix B of the simplified modalities and procedures for small-scale CDM project activities. It has been identified an investment barrier, that prevents the project activity to occur without CER revenues.

It is described in detail that the proposed project is not financially attractive without CER revenues. The basic figures of the IRR calculation, as presented in Table 2 of the PDD, have been evidenced by the preliminary design report. This report was approved by the local native speaking auditor. Further the calculation spreadsheet and the source of the benchmark was checked. Both documents will be uploaded together with the PDD. The benchmark of 10% is frequently used in the Chinese power sector. By demonstrating the IRR of 1st level amounts 8,24% and of 2nd level is 7,35% it is clearly demonstrated that the project faces a financial barrier. Also a sensitivity analysis is performed, by taking into account 10% variations in total investment costs, operation and maintenance costs and net power output. It deems reasonable to use the applied variables, they present well realistic variations of these key parameters. To conclude the sensitivity analysis it can be stated that under non of the assumed variation of variables the benchmark of 10% is met. We thus conclude the project is financially unattractive without CER revenues.

On the other side, CER revenues help to overcome the investment barrier.

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

**In May 2008 a request for review was raised by the EB leading to reassessing the additionality criteria.**

**Please find below the result of this assessment, as presented to the EB in our letter in response to this request for review.**

*Issue 1*

***The DOE shall describe how the reliability of the input values used in the investment analysis have been validated in accordance with the requirements of EB38 paragraph 54.***

*As the request of registration was submitted on Jan 17th, 2008, which was before the EB38 guidance (dated Mar 12th, 2008), obviously either at the time of validation or the time of submission to CDM registration, all the parties involved in the proposed project activity were not aware of the regulation released by EB38.*

*Therefore, we would like to justify our approach to validating the IRR input values before EB38 guidance. Below we have listed all major IRR input values and their respective sources as well as a justification for the applicability of each of the sources.*

| *Parameter* | *Source (incl. IRL reference)* | *Justification* |
|---|---|---|
| *Total investment*<br>*25,640,000 RMB Stage1*<br>*18,250,000RMB Stage2* | *Feasible Study Section12(IRL No.5)* | *The amount of the total investment is comply with the description of the FSR.* |
| *Fluid capital*<br>*64,000RMB Stage1*<br>*40,000RMB Stage2* | *Feasible Study Section12 (IRL No.5)* | *The amount of the fluid capital is comply with the description of the FSR.* |
| *VAT 6%; Income tax 0% for the first 2 years, 16.5% for next 3 years, 33% for other years;* | *Feasible Study Section12 (IRL No.5)*<br>*The State Administration of Taxation (2002) No.47 Document(IRL No.24)* | *The taxation part is in compliance with the relevant Chinese taxation regulation.* |
| *Urban maintenance and construction tax 5%; surtax for education* | *Feasible Study Section12 (IRL No.5)* | *See above* |
| *Staff number 55 Stage1*<br>*Staff number 35 Stage2* | *Economic Evaluation Code for Small Hydropower Projects (SL16-95) (IRL No. 14)* | *The staff number is reasonable considering of the relative semi-automatic operational system of the hydro plant.* |
| *Feed-in electricity*<br>*24.22 GWh Stage1*<br>*15.78 GWh Stage2* | *Feasible Study Section12 (IRL No.5)* | *The feed-in electricity is consistent the actual designed capacity of the project.* |
| *Bus-bar tariff (including VAT)*<br>*0.2RMB* | *Feasible Study Section12 (IRL No.5)* | *This figure is taken from the FSR.* |

*Each of the sources had been assessed in course of the validation, and the applied values were found to be correct.*

*However there some minor inconsistencies occurred in the investment calculation, e.g. the figure of immaterial assets is slightly different to the original source of the FSR. Therefore the client has provided a revised corrected IRR calculation sheet where all the input values have been clearly indicated, the revised investment analysis demonstrates again that the financial hurdle for this project is significant, both the IRR of the first level power plant and the second power plant are all below the selected benchmark. The relevant external source are official published statistics, please refer to No. 14, 23, 24 of the revised IRL.*

*In light of reassessing the IRR sources one major inconsistency was found. When first assessing the IRR the project starting date was assumed to be in the end of 2005. However with submission of the project, it was revealed that the 2nd level plant had already started construction in 2004, which limits the applicability of the FSR only written in August 2005 as a major source for the investment decision. Consequently the starting date of the project activity was shifted to 2004 in the last PDD as submitted with request for registration. However, the FSR as the source claimed by the client since the beginning of the validation was the source for many of the parameters in the investment analysis and it was therefore submitted as PDF copy with request for registration.*

*In the context of this request for review the client has submitted a study "Nanzhahe Cascade hydro station preliminary financial assessment, issued by Yongzhou hydro power design and research institute, dated April 18, 2004" (previously not available to the DOE) – which appears to be more applicable to the CDM context as it matches the timeline of the project implementation (also refer to issue 3). This document was found to sufficiently demonstrate the need for the CDM money in 2004, presenting an IRR of 8.39% which is sufficiently below the benchmark.*

*While reassessing the previously submitted FSRs (dated 2005) according to EB38 guidance it was found that these FSRs show an IRR of 13.3% and 11.8% respectively, which is far above the benchmark of 10%. Seeing the project timeline of implementation in the light of this new EB guidance – which requires a justification for every non-consistency – we conclude that this finding is a major inconsistency to the PPs claim for carbon finance, as according to these documents the project had become more feasible in 2005 than in 2004. The additionality criterion can thus not be met and we have concluded to change our validation opinion to non-compliance with the CDM regulations.*

*Confronted with above findings the client had failed to provide any convincing justification. Consequently we would like to withdraw our request for registration, not considering the project any longer meeting the CDM criteria. It should be mentioned that project participants have been informed on this change of our opinion, while they do not share this point of view.*

*Issue 2*

***The DOE shall describe how the investment analysis has been validated, in particular the debt/equity ratio as this differs between the feasibility study report and the PDD.***

*At the onsite audit it was assured by checking the projects financing that the project had in fact been financed without a bank loan. It was therefore deemed appropriate to that the calculation reflects the true situation of Nanzhahe project.*

*Upon this request for review the client has confirmed the before mentioned and has requested the bank to provide a letter indicated that the bank loan which was applied in 2005/08/03 was never received. This letter, issued on 2008/05/16 has been submitted to the validation team and is found to sufficiently evidence the difficulty of the project to obtain a loan.*

*To conclude, based on the above it was found to be reflecting the true situation of the project to not include any bank loan in the calculation of the financial analysis.*

*Issue 3*

***Further explanation for the delay in submitting the project for validation is required as this delay impacts the credibility of the claims that CDM revenues were an essential requirements for a positive investment decision. The response should provide a detailed timeline of project implementation and evidence of actions taken to register the project as CDM.***

*The delay in the development of Nanzhahe project as CDM project activity has been described by the PPs as follows. The first CDM consultancy contract was signed on 15 November 2004, between Hunan Yongzhou zhongxin Hydro Power Development Co., Ltd and Jiangxi Huashijie Environmental*

*Protection Technology Development Co., Ltd. As evidences the PPs have provided the contract and a cancelation of the contract which is dated Oct. 2006, signed by the same parties.*

*On 5th of February 2007 the consultancy contract with the current CDM consultant, Accord Global Environment Technology (Beijing) Co., Ltd was signed.*

*Below please see the overview of the main events, with reference to the revised Annex 2:*

| *Date* | *Event and evidence* |
|---|---|
| *15 Nov. 2004* | *The project owner contracted with a consulting company for CDM development. (IRL No.26)* |
| *Oct. 2006* | *The contracted CDM consulting company could not finish development, project owner made a cancellation with the consulting company. (IRL No.27)* |
| *5 Feb. 2007* | *The project owner contracted with Accord Global Environment Technology (Beijing) Co., Ltd. for CDM development. (IRL No.28)* |

*The assessment of the delay has made us doubt in the seriousness of the projects need for carbon finance. First of all the first CDM consultant, hired for two years, does cancel the contract after two years admitting that no work was done on the development of the project as CDM project activity. The cancellation contract clearly states that during the two years neither payment was installed from PPs to the consultant, nor any service was provided by the consultant. This questions the reliability of the newly submitted evidence regarding the first CDM consultant. Our main concern is however that during all these years no service was provided and that the PPs were waiting until Feb. 2007 to contract a new consultant who was then able to deliver the service needed to further develop Nanzhahe hydropower as CDM activity. We suppose that, in cases in which a project solely relies on carbon finance the PPs would not be willing to wait for such a long time before they can get this additional funding secured. This is especially doubtful in case of Nanzhahe project as 2$^{nd}$ stage was already commissioned in 11/2006 and 1st stage in 12/2007. In this light the PPs were accepting knowingly a considerable loss of eventually urgently needed funding.*

*Confronted with the above the PPs were not able to provide us a convincing response for the delay. Due to this circumstance combined with the inconsistency found when assessing the first issue we have decided to change our validation opinion. We now suggest excluding Nanzhahe project from being recognized as CDM project activity.*

Given the above findings, we have changed our validation opinion, see also chapter 5.

# 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:**<br>http://www.netinform.de/KE/Wegweiser/Guide2_1.aspx?ID=3015&Ebene1_ID=26&Ebene2_ID=920&mode=1 | |
| **Starting date of the global stakeholder consultation process:**<br>2007-05-12 | |
| **Comment submitted by:**<br>none | **Issues raised:**<br>- |
| **Response by TÜV SÜD:**<br>- | |

# 5 VALIDATION OPINION

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

Nanzhahe Cascade Hydropower Project, China.

The review of the project design documentation and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfilment of stated criteria. In our opinion, the project does not meet all relevant UNFCCC requirements for the CDM. Hence TÜV SÜD will not recommend the project for registration by the CDM Executive Board.

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

Munich, 2008 – 05 – 26

Certification Body “climate and energy”
TÜV SÜD Industrie Service GmbH

Munich, 2008 - 05 - 26

Assessment Team Leader

# ANNEX 1: VALIDATION PROTOCOL

| CHECKLIST TOPIC / QUESTION | Ref. | COMMENTS | PPD in GSP | Final PDD |
|---|---|---|---|---|
| ***A. General description of small-scale project activity*** | | | | |
| **A.1. Title of the small-scale 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. The project title is Nanzhahe Cascade Hydropower Project. | ☑ | ☑ |
| A.1.2. Are there any indication concerning the revision number and the date of the revision? | 1, 2 | The available PDD is indicated as version 01, and was completed on March, 1st, 2007. | ☑ | ☑ |
| A.1.3. Is this consistent with the time line of the project's history? | 1, 2 | Yes, it is. | ☑ | ☑ |
| **A.2. Description of the small-scale project activity** | | | | |
| A.2.1. Is the description delivering a transparent overview of the project activities? | 1, 2 | The project is described transparently and the project activities described have been proven during on site audit.<br>**Corrective Action Request No.1.**<br>It is required to provide additional information of the project. E.g. the name of the developer, manufacturer and constructor, the starting date and the current status of the project. | **CAR1.** | ☑ |
| A.2.2. What proofs are available demonstrating that the project description is in compliance with the actual situation or planning? | 1, 2<br>6-10 | The planning is described in the feasibility study. The project activity is the displacement of electricity generated by coal fired power plants with electricity generated by hydro power. The following data deliver evidences for the project activity:<br>- Feasibility study<br>- The feasibility study approval letter signed by Lincang development and reform commission<br>- Approval of connecting to the Lincang power grid<br>- The EIA approval of the first level and the second level power plant | ☑ | ☑ |

| | | | | |
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| | | These documents have been evidenced during the audit. | | |
| A.2.3. Is the information provided by these proofs consistent with the information provided by the PDD? | 1, 2 | Yes, it is. During on site audit, the audit team reviewed these proofs provided by the project owner. They are consistent with the information provided by the PDD. | ☑ | ☑ |
| A.2.4. Is all information presented consistent with details provided by further chapters of the PDD? | 1, 2 | Yes, there is no inconsistency in the PDD. | ☑ | ☑ |
| A.2.5. Does the description of the technology to be applied provide sufficient and transparent input to evaluate its impact on the greenhouse gas balance? | 1, 2 | Yes, the proposed project is a renewable energy project, it will achieve GHG emission reductions by avoiding CO2 emissions form the business-as usual scenario electricity generation of those fossil fuel-fired power plants connected into the China Southern Power Grid. | ☑ | ☑ |
| A.2.6. Is the brief explanation how the project will reduce greenhouse gas emission transparent and suitable? | 1, 2 | Yes. Please see A.2.5. | ☑ | ☑ |
| **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 the two parties involved in the project are mentioned: United Kingdom (Standard Bank Plc.) and P.R. China (Yongzhou Zhongxin Hydropower Development Co., Ltd.) | ☑ | ☑ |
| A.3.2. Is the participation of the listed entities or Parties confirmed by each one of them? | 1, 2 | **Open Issue**<br>Please deliver the LoA issued by China and UK together with MoC countersigned by both parties to DOE before raising the request of registration. | **Open issue** | ☑ |
| 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 | **Corrective Action Request No.2.**<br>The participants' name is not consistent with details provided in Annex 1. This inconsistency should be resolved. | **CAR2.** | ☑ |
| **A.4. Technical description of the small-scale project activity** | | | | |

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| A.4.1. *Location of the small-scale 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, 2 | The project' location could be clearly identified according to the PDD. The project site is located at the Nanzhahe River within Zhengkang Country, Lincang City, Yunnan Province, P. R. China. However the GPS coordinates are not very precise.<br>**Corrective Action Request No.3.**<br>Please provide exact location of each of the two hydro power plants individually. | **CAR3** | ☑ |
| A.4.1.2. How is it ensured and/or demonstrated, that the project proponents can implement the project at this site (ownership, licenses, contracts etc.)? | 1, 2, 6, 8, 10 | The EIA approval letter is signed by Zhenkang EPB on 22nd, Aug, 2005 and the project approval letter is signed by Lincang development and reform commission on 2nd, Sep, 2005. | ☑ | ☑ |
| A.4.2. *Type and category(ies) and technology/measure of the small-scale project activity* | | | | |
| A.4.2.1. To which type(s) does the project activity belong to? Is the type correctly identified and indicated? | 1, 2 | The proposed project belongs to scope 1 (Energy industries (renewable/ non- renewable sources) as it deals with energy generation | ☑ | ☑ |
| A.4.2.2. To which category (ies) does the project activity belong to? Is the category correctly identified and indicated? | 1, 2 | The project falls into Category I.D.-Grid Connected Renewable Electricity Generation.<br>Yes. The category is correctly identified and indicated. | ☑ | ☑ |
| A.4.2.3. Does the technical design of the project activity reflect current good practices? | 1, 2 | The domestically sourced project design is standard hydropower technology and hence reflects the current good practices to use renewable resources to generate electricity. | ☑ | ☑ |
| A.4.2.4. Does the implementation of the project activity require any technology transfer from Annex-I-countries to the host country (ies)? | 1, 2 | No, it doesn't. There is no technology transfer from annex-I countries to China by the proposed project. | ☑ | ☑ |
| A.4.2.5. Is the technology implemented by the project activity environmentally safe? | 1, 2 9 | Yes. The main environmental impacts will be brought about during the construction period, which are small and some of the impacts are temporary and short lived. The employed environmental pro- | ☑ | ☑ |

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| | | tecting methods will reduce and avoid the negative impacts. | | |
| A.4.2.6. Is the information provided in compliance with actual situation or planning? | 1, 2<br>11 | Yes, it is in compliance as validated on-site on May,17th, 2007. The construction work of the power house, the dam and preparation for the turbines have been quite far developed and it appears reasonable to assume completion of the construction works and starting of the plants operation by October 2007. | ☑ | ☑ |
| A.4.2.7. Does the project use state of the art technology and / or does the technology result in a significantly better performance than any commonly used technologies in the host country? | 1, 2 | The common practice for electricity generation is still coal-fired power plant. Hence, the project definitely would result in a better performance than the common practice. | ☑ | ☑ |
| A.4.2.8. Is the project technology likely to be substituted by other or more efficient technologies within the project period? | 1, 2<br>7 | No. The life time of the project is under normal circumstances longer than the crediting period. | ☑ | ☑ |
| A.4.2.9. Does the project require extensive initial training and maintenance efforts in order to be carried out as scheduled during the project period? | 1, 2<br>12-15 | Yes, the training evidence, including pictures and course agenda have been reviewed by the validator on site. | ☑ | ☑ |
| A.4.2.10. Is information available on the demand and requirements for training and maintenance? | 1, 2<br>12-15 | See A.4.2.9. | ☑ | ☑ |
| A.4.2.11. Is a schedule available for the implementation of the project and are there any risks for delays? | 1, 2 | The planning schedule in the past and for the future was clearly described by the project owner during the audit. The level 2 power plant has been put into test operation and the equipments of the level 1 power plant have been purchased, the main construction work of level 1 is nearly finished.<br>**Corrective Action Request No.4.**<br>The time schedule of the implementation of the project should be included into the PDD. | **CAR4.** | ☑ |
| A.4.3. *Estimated amount of emission reductions over the chosen crediting period* | | | | |
| A.4.3.1. Is the form required for the indica- | 1, 2 | Yes. The form is correctly applied according to SSC PDD format | ☑ | ☑ |

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| tion of projected emission reductions correctly applied? | | revision Guideline. The project emission reductions are shown in chapter A.4.3 according to the guidelines. | | |
| A.4.3.2. Are the figures provided consistent with other data presented in the PDD? | 1, 2 | **Corrective Action Request No.5.**<br>The crediting period will start after the registration of this project, so the starting date of the crediting period and the estimated emission reductions of the year 2007 in Table 1 and further chapters of the PDD have to be revised. | **CAR5.** | ☑ |
| A.4.3.3. Are the figures consistent with the small-scale criteria for the used Type? | 1, 2 | Yes. The total installed capacity of the proposed project is consistent with the small-scale criteria for the renewable sources. | ☑ | ☑ |
| A.4.4. *Public funding of the small-scale project activity* | | | | |
| A.4.4.1. Is the information provided on public funding provided in compliance with the actual situation or planning as available by the project participants? | 1, 2 | Yes. There is no public funding necessary; all costs are covered by private equity. | ☑ | ☑ |
| A.4.4.2. Is all information provided consistent with the details given in remaining chapters of the PDD (in particular annex 2)? | 1, 2 | Yes, the information on public funding is consistent with the information provided in Annex 2 where is also mentioned that no public funding takes place. | ☑ | ☑ |
| A.4.5. *Confirmation that the small-scale project activity is not a debundled component of a large scale project activity* | | | | |
| A.4.5.1. Is there a registered small-scale CDM project activity or an application to register another small-scale CDM project activity: with the following characteristics: | 1, 2 | <table><tr><th>Debundling checklist</th><th>Yes / No</th></tr><tr><td>the same project participants?</td><td>No</td></tr><tr><td>In the same project category and technology/measure?</td><td>Yes</td></tr><tr><td>Registered within previous two years? Or in registration process?</td><td>Yes</td></tr><tr><td>Whose boundary is within 1 km of the project boundary of the small scale project activity under consideration?</td><td>No</td></tr></table> | ☑ | ☑ |
| A.4.5.2. If the answer to all the above question is '**Yes**' then does the total size of the | 1, 2 | The proposed project is not a debundled component of a larger project activity. | ☑ | ☑ |

| | | | | |
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| small scale project activity combined with previously registered small scale CDM project activity exceeds the limits of small scale CDM project activities? | | | | |
| ***B. Application of a baseline and monitoring methodology*** | | | | |
| **B.1. Title and reference of the approved baseline and monitoring methodology applied to the small-scale project activity** | | | | |
| B.1.1.1. Are reference number, version number, and title of the baseline and monitoring methodology clearly indicated? | 1, 2 | The approved methodology AMS-I.D. "Grid connected renewable electricity generation" (version 10) and ACM0002 (version 06) are used. | ☑ | ☑ |
| B.1.1.2. Is the applied version the most recent one and / or is this version still applicable? | 1, 2 | The applied version is the most recent one and is still applicable. | ☑ | ☑ |
| **B.2. Justification of the choice of the project category** | | | | |
| B.2.1. Is the applied methodology considered the most appropriate one? | 1, 2 | Yes. It is. The total installed capacity of the hydro project is 10.4MWh, which does not exceed the limit of 15MW stipulated for the chosen methodology, therefore the AMS-I.D is applicable to the project. | ☑ | ☑ |
| B.2.1.1. Criterion 1: This category comprises renewable energy generation units, such as photovoltaics, hydro, tidal/wave, wind, geothermal and renewable biomass, that supply electricity to and/or displace electricity from an electricity distribution system that is or would have been supplied by at least one fossil fuel fired generating unit. | 1, 2 | Applicability checklist / Yes / No / NA<br>Criterion discussed in the PDD? Yes<br>Compliance provable? Yes<br>Compliance verified? Yes | ☑ | ☑ |
| B.2.1.2. Criterion 2: If the unit added has both renewable and non-renewable compo- | 1, 2 | Applicability checklist / Yes / No / NA | ☑ | ☑ |

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| nents (e.g.. a wind/diesel unit), the eligibility limit of 15MW for a small-scale CDM project activity applies only to the renewable component. If the unit added co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15MW. | | Criterion discussed in the PDD? N/A<br>Compliance provable? N/A<br>Compliance verified? N/A | | |
| B.2.1.3. Criterion 3: Biomass combined heat and power (co-generation) systems that supply electricity to and/or displace electricity from a grid are included in this category. To qualify under this category, the sum of all forms of energy output shall not exceed 45 MWthermal e.g. for a biomass based co-generating system the rating for all the boilers combined shall not exceed 45 MWthermal. | 1, 2 | Applicability checklist / Yes / No / NA<br>Criterion discussed in the PDD? N/A<br>Compliance provable? N/A<br>Compliance verified? N/A | ☑ | ☑ |
| B.2.1.4. Criterion 4: In the case of project activities that involve the addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct1 from the existing units. | 1, 2 | Applicability checklist / Yes / No / NA<br>Criterion discussed in the PDD? N/A<br>Compliance provable? N/A<br>Compliance verified? N/A | ☑ | ☑ |
| B.2.1.5. Criterion 5: Project activities that seek to retrofit or modify an existing facility for renewable energy generation are included in this category. To qualify as a small scale project, the total output of the modified or retrofitted unit shall not | 1, 2 | Applicability checklist / Yes / No / NA<br>Criterion discussed in the PDD? N/A<br>Compliance provable? N/A | ☑ | ☑ |

| | | | | |
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| exceed the limit of 15 MW. | | Compliance verified? N/A | | |
| **B.3. Description of the project boundary** | | | | |
| B.3.1. Does the project boundary include physical, geographical site where the project activity takes place? | 1, 2 | Yes, the boundary of the proposed project is Southern China Power Grid which is consistent with the guideline published on December, 15th, 2006 by NDRC. | ☑ | ☑ |
| B.3.2. Do the spatial and technological boundaries as verified on-site comply with the discussion provided by / indication included to the PDD? | 1, 2 | Yes. | ☑ | ☑ |
| **B.4. Description of baseline and its development** | | | | |
| B.4.1 Have all technically feasible baseline scenario alternatives to the project activity been identified and discussed by the PDD? Why can this list be considered as being complete? | 1, 2 | Based on the simplified modalities and procedures for small-scale CDM project activities, the baseline is KWh produced by the renewable generating unit multiplied by an emission coefficient calculated in a transparent and conservative manner. | ☑ | ☑ |
| B.4.2 Does the project identify correctly and excludes those options not in line with regulatory or legal requirements? | 1, 2 | N/A | ☑ | ☑ |
| 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 | ☑ | ☑ |
| **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 small-scale CDM project activity:** | | | | |
| B.5.1. In case of applying step 2 / investment | | N /A | ☑ | ☑ |

Table 1 is applicable to AMS I-D

| | | | | | |
|---|---|---|---|---|---|
| | analysis for additionality demonstration: Is the analysis method identified appropriately (step 2a)? | | | | |
| B.5.2. | In case of Option I (simple cost analysis): Is it demonstrated that the activity produces no economic benefits other than CDM income? | | N /A | ☑ | ☑ |
| B.5.3. | 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)? | | N /A | ☑ | ☑ |
| B.5.4. | In case of Option III (benchmark analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)? | | N /A | ☑ | ☑ |
| B.5.5. | 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? | | N /A | ☑ | ☑ |
| B.5.6. | In case of Option II or Option III: Is the analysis presented in a transparent manner including publicly available proofs for the utilized data? | | N /A | ☑ | ☑ |
| B.5.7. | In case of applying step 3 (barrier analysis) of the additionality tool: Is a complete list of barriers developed that prevent the different alternatives to occur? | | N /A | ☑ | ☑ |
| B.5.8. | In case of applying step 3 (barrier analysis): Is transparent and documented evidence provided on the existence and significance of these barriers? | | N /A | ☑ | ☑ |

| | | | | | |
|---|---|---|---|---|---|
| B.5.9. | In case of applying step 3 (barrier analysis): Is it transparently shown that the execution of at least one of the alternatives is not prevented by the identified barriers? | | N /A | ☑ | ☑ |
| B.5.10. | Have other activities in the host country / region similar to the project activity been identified and are these activities appropriately analyzed by the PDD (step 4a)? | | N /A | ☑ | ☑ |
| B.5.11. | 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)? | | N /A | ☑ | ☑ |
| B.5.12. | Is it appropriately explained how the approval of the project activity will help to overcome the economic and financial hurdles or other identified barriers (step 5)? | | N /A | ☑ | ☑ |
| If the additionality tool has not been used please answer B.5.13 to B.5.18 | | | | | |
| B.5.13. | If the starting date of the project activity is before the date of validation, is evidence available to prove that incentive from the CDM was seriously considered in the decision to proceed with the project activity? | 1, 2 3 | Yes, the resolution of CDM implementation is clearly presented to the auditor, and the date of the decision is before the starting date of the project activity. | ☑ | ☑ |
| B.5.14. | Is a complete list of barriers developed that prevents the project activity to occur? | 1, 2 3 | N/A | ☑ | ☑ |
| B.5.15. | Does this list include at least one of the following barriers? | 1, 2 3 16-18 | <table><tr><th>Barrier</th><th>Discussed?</th><th>Verifiable?</th></tr><tr><td>Investment</td><td>Yes</td><td>Yes</td></tr><tr><td>Technological</td><td>N/A</td><td>N/A</td></tr></table> | CR1 | ☑ |

Table 1 is applicable to AMS I-D

| | | | | |
|---|---|---|---|---|
| | | <table><tr><td>Due to prevailing practice</td><td>N/A</td><td>N/A</td></tr><tr><td>Other</td><td>Yes</td><td>Yes</td></tr></table> **Clarification Request No.1** Please deliver the evidence of the CERs price to the DOE. | | |
| B.5.16. Does the discussion sufficiently take into account relevant national and/or sectoral policies? | 1, 2 3, 17 18 | N/A | ☑ | ☑ |
| B.5.17. Is transparent and documented evidence provided on the existence and significance of these barriers? | 1, 2 3, 17 18 | N/A | ☑ | ☑ |
| B.5.18. Is it appropriately explained how the approval of the project activity will help to overcome the identified barriers? | 1, 2 | Yes. It is presented in the PDD that the project faces significant commercial and financial barriers without CER revenues. | ☑ | ☑ |
| **B.6. Emissions reductions** | | | | |
| B.6.1. *Explanation of methodological choices* | | | | |
| B.6.1.1. Is it explained how the procedures provided in the methodology are applied by the proposed project activity? | 1, 2 | The calculation of the emission reduction is applied according to the steps described in ACM0002:<br>- Calculation of the Operating Margin Emission Factor<br>- Calculation of the Build Margin Emission Factor<br>- Calculation of the Baseline Emission Factor<br>These steps are described in a transparent manner. | ☑ | ☑ |
| B.6.1.2. Is every selection of options offered by the methodology correctly justified and is this justification in line with the situation verified on-site? | 1, 2 | Yes, the selection of options offered by ACM0002 is correctly justified which has been verified during on-site audit. | ☑ | ☑ |
| B.6.1.3. Determination of project emissions (Comment on any line answered “No”) | | | | |
| 7.1.2.2 Component 1: emissions from | 1, 2 | | ☑ | ☑ |

| | | | | |
|---|---|---|---|---|
| use of fossil fuel | | Project emission checklist / Yes / No<br>Component discussed in the PDD? / N/A<br>Formulae correctly applied? / N/A | | |
| B.6.1.4. Are the formulae required for the determination of baseline emissions correctly presented, enabling a complete identification of parameters to be used and / or monitored? | 1, 2 | Yes, formulae to calculate the baseline emissions are correctly presented in chapter B6.1 | ☑ | ☑ |
| B.6.1.5. Are the formulae required for the determination of leakage emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored? | 1, 2 | No leakages have to be considered according to the methodology. Therefore the question is not applicable. | ☑ | ☑ |
| B.6.1.6. Are the formulae required for the determination of emission reductions correctly presented? | 1, 2 | Yes, The formulae are correctly presented in chapter B6.1. | ☑ | ☑ |
| 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 in chapter B.6.2.<br>**Corrective Action Request No.6.**<br>Since the methodology AMS-I-D is updated to version 10, the relevant parameters should be updated for the emission factor calculation, e.g. the IPCC2006 default values should be adopted.<br>**Clarification Request No.2.**<br>The parameters: imported electricity from Southern China Grid and the emission factor of Southern China Grid, etc, as well as the electricity auxiliary rate of the power plant have to be included in B.6.2 | **CAR6**<br>**CR2** | ☑ |
| B.6.2.2. Comment on any line answered with "No" | | | | |

Table 1 is applicable to AMS I-D


Industrie Service

<table>
<tr>
<td>B.6.2.3.<br>Parameter Title:<br>Annual electricity supplied to the grid prior to retrofit<br>(applicable only for retrofit and modification activities)</td>
<td>1, 2</td>
<td>
<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>
</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>B.6.2.3. Parameter Title:<br>Emission factor of the grid (CM)</td>
<td>1, 2</td>
<td>
<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>
</td>
<td>See CAR6</td>
<td>☑</td>
</tr>
</table>

<table>
<tr><td></td><td></td><td>See CAR7</td><td></td><td></td></tr>
<tr><td>B.6.2.4. Parameter Title:<br>Operating margin (OM) emission factor of the grid</td><td>1, 2</td><td><table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>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>See CAR7</td><td>See CAR6</td><td>☑</td></tr>
<tr><td>B.6.2.5. Parameter Title:<br>Build margin (BM) emission factor of the grid</td><td>1, 2</td><td><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>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></table></td><td>See CAR6</td><td>☑</td></tr>
</table>

| | | | | |
|---|---|---|---|---|
| | | <table><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table> See CAR7 | | |
| B.6.2.6. Parameter Title: fuel consumption of each power source | 1, 2 | <table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table> | ☑ | ☑ |
| B.6.2.7. Parameter Title: emission coefficient of each fuel | 1, 2 | <table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr></table> | ☑ | ☑ |

| | | | | |
|---|---|---|---|---|
| | | Correct value provided? — Yes<br>Has this value been verified? — Yes<br>Choice of data correctly justified? — Yes<br>Measurement method correctly described? — Yes | | |
| B.6.2.8. Parameter Title: electricity generation of each power source | 1, 2 | Data Checklist — Yes / No<br>Title in line with methodology? — Yes<br>Data unit correctly expressed? — Yes<br>Appropriate description of parameter? — Yes<br>Source clearly referenced? — Yes<br>Correct value provided? — Yes<br>Has this value been verified? — Yes<br>Choice of data correctly justified? — Yes<br>Measurement method correctly described? — Yes | ☑ | ☑ |
| B.6.2.9. Parameter Title: surface area of full reservoir level (for new hydroelectric activities only) | 1, 2 | Data Checklist — Yes / No<br>Title in line with methodology? — No<br>Data unit correctly expressed? — No | See CAR 6 | ☑ |

| | | | | |
|---|---|---|---|---|
| | | <table><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> See CAR7 | | |
| B.6.2.10. Parameter Title:<br>fraction of time with low costs /must run plant at the margin<br>(for simple adjusted OM only) | 1, 2 | <table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Choice of data correctly justified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr></table> | ☑ | ☑ |
| B.6.2.11. Parameter Title:<br>electricity imports | 1, 2 | <table><tr><th>Data Checklist</th><th>Yes / No</th></tr></table> | See CAR 6 | ☑ |

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|---|---|---|---|---|
| | | <table><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> See CAR7 | | |
| B.6.2.12. Parameter Title: $CO_2$ emission coefficient of fuels used in connected grids | 1, 2 | <table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>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> See CAR7 | See CAR 6 | ☑ |

| | | | | |
|---|---|---|---|---|
| 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, the procedures are same. | ☑ | ☑ |
| B.6.3.2. Are the GHG calculations documented in a complete and transparent manner? | 1, 2 | NDRC newly issued OM and BM factors of South China Power Grid on August 8th of 2007 which are used in the calculations.<br>But see CAR6 | See CAR6 | ☑ |
| B.6.3.3. If there is more than one component of the project activity, then, are emission reduction calculations provided separately for each component? | 1, 2 | N/A | ☑ | ☑ |
| 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. | ☑ | ☑ |
| 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, there are no project emissions. | ☑ | ☑ |
| 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. | ☑ | ☑ |
| B.6.4.3. If the project activity involves more than one component, is separate table included for each of the component. | 1, 2 | N/A | ☑ | ☑ |
| B.6.4.4. Do these values comply with small-scale criteria for every year? | 1, 2 | Yes, no contradiction. | ☑ | ☑ |
| B.6.4.5. Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period? | 1, 2 | See CAR5 | See CAR5 | ☑ |

<table>
<tr><td>B.6.4.6. Is the data provided in this section in consistency with data as presented in other chapters of the PDD?</td><td>1, 2</td><td>Yes.</td><td>☑</td><td>☑</td></tr>
<tr><td colspan="5">B.7. Application of the monitoring methodology and description of the monitoring plan</td></tr>
<tr><td colspan="5">B.7.1. Data and parameters monitored</td></tr>
<tr><td>B.7.1.1. Is the list of parameters presented in chapter B.7.1 considered to be complete with regard to the requirements of the applied methodology?</td><td>1, 2</td><td>Yes. The power generation supplied to the grid and the electricity use of power plant supplied by the grid are presented in the chapter B.7.1.</td><td>☑</td><td>☑</td></tr>
<tr><td colspan="5">B.7.1.2. Comment on any line answered with “No”</td></tr>
<tr><td>7.1.2.1 Parameter Title: Electricity generated by the renewable technology</td><td>1, 2</td><td><table><tr><th>Monitoring 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>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table><u>Corrective Action Request No.7.</u><br>The parameter title should be EGy instead of EGoutput.</td><td>CAR7.</td><td>☑</td></tr>
<tr><td>7.1.2.2 Amount of biomass input (if applicable)</td><td>1, 2</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr></table></td><td>☑</td><td>☑</td></tr>
</table>

| | | | | |
|---|---|---|---|---|
| | | <table><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> | | |
| 7.1.2.3 Amount of fossil fuel (if applicable) | 1, 2 | <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table> | ☑ | ☑ |
| B.7.2. *Description of the monitoring plan* | | | | |
| B.7.2.1.Is the operational and management structure clearly described and in com- | 1, 2 | A chief monitoring officer will be appointed by the project owner, who supervises and verifies metering and recording, collects data | ☑ | ☑ |

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| pliance with the envisioned situation? | | (meter's data reading, sales/ billing receipts), calculates emission reductions and prepares a monitoring report. | | |
| B.7.2.2. Are responsibilities and institutional arrangements for data collection and archiving clearly provided? | 1, 2 | See B.7.2.1. | ☑ | ☑ |
| B.7.2.3. Does the monitoring plan provide current good monitoring practice? | 1, 2<br>25 | Yes. According to the PDD, energy metering equipment will be properly configured, and the metering equipment will be checked periodically according to the relevant national electric industry standards and regulations.<br>**Corrective Action Request No.8.**<br>- A diagram of the location of the power meters should be included in the PDD. It should be transparent that for the calculation of the emission reduction only the electricity produced in the project boundary will be used. | **CAR8.** | ☑ |
| B.7.2.4. If applicable: Does annex 4 provide useful information enabling a better understanding of the envisioned monitoring provisions? | 1, 2 | No additional information is provided in annex 4. | ☑ | ☑ |
| **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.8.1.1. Is there any indication of a date when the baseline was determined? | 1, 2 | Yes, on 29/03/2007. | ☑ | ☑ |
| B.8.1.2. Has dd/mm/yyyy format been used to indicate the date. | 1, 2 | Yes. See B.8.1.1 | ☑ | ☑ |
| B.8.1.3. Is this consistent with the time line of the PDD history? | 1, 2 | Yes, it is consistent. | ☑ | ☑ |
| B.8.1.4. Is the information on the person(s) / entity (ies) responsible for the application of the baseline and monitoring method- | 1, 2 | Yes.<br>Mr. Jin Song from Beijing Accord International Environment Tech- | ☑ | ☑ |

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| ology provided consistent with the actual situation? | | nology Co., Ltd. determined the monitoring methodology. | | |
| B.8.1.5. Is information provided whether this person / entity is also considered a project participant? | 1, 2 | The above mentioned persons are no project participants. | ☑ | ☑ |
| ***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, 2<br>7,<br>19<br>20,<br>21 | The operational lifetime is expected to be 26 years, and it is reasonable. | ☑ | ☑ |
| **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, 2 | 7 years with potential for 2 renewals is chosen as the crediting period. | ☑ | ☑ |
| C.2.2. Has dd/mm/yyyy format been used to indicate the start date of the crediting period. | 1, 2 | 7 years with potential for 2 renewals is chosen as the crediting period. The starting date has to be revised. See CAR5. | See CAR5 | ☑ |
| ***D. Environmental impacts*** | | | | |
| **D.1. If required by the host Party, documentation on the analysis of the environmental impacts of the project activity:** | | | | |
| D.1.1. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, has an EIA been approved? If yes answer also D.1.2 to D.1.4 | 1, 2<br>9, 10 | Yes, EIA is a must in P. R. China for new hydro power projects. The EIA of the proposed project was approved by Shanxi Province Environmental Protection Bureau on August 4th, 2005. The documents have been reviewed by the DOE. | ☑ | ☑ |
| D.1.2. Has the analysis of the environmental | 1, 2 | Yes. The environmental impacts on aquatic environment, ambient | ☑ | ☑ |

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| impacts of the project activity been sufficiently described? | 9, 10 | environment, acoustic environment, solid waste, soil & water conservation, plant destroy, land utilization, and ecosystem are sufficiently described. | | |
| D.1.3. Will the project create any adverse environmental effects? | 1, 2<br>9, 10 | Referred to the EIA and the approval of EIA, the project will create no negative environmental impacts. | ☑ | ☑ |
| D.1.4. Were transboundary environmental impacts identified in the analysis? | 1, 2<br>9, 10 | There is no trans-boundary impact described in EIA report or approval of EIA. | ☑ | ☑ |
| **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, 2<br>9, 10 | Refering to the EIA and the approval of EIA, there is no adverse environmental impact from the project activity. | ☑ | ☑ |
| D.2.2. Does the project comply with environmental legislation in the host country? | 1, 2<br>9, 10 | Yes, the project is in conformity with the environmental legislation of P. R. China and the EIA has been approved by authorized organization. | ☑ | ☑ |
| ***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, 2<br>22-24 | Yes, the relevant stakeholders have been consulted via questionnaires. No negative comments were given from the participants. | ☑ | ☑ |
| E.1.2. Have appropriate media been used to invite comments by local stakeholders? | 1, 2<br>22-24 | Questionnaires were used to invite comments by local stakeholders on August 16, 2005. | ☑ | ☑ |
| E.1.3. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process | 1, 2<br>22-24 | There are no regulations/laws in China for carrying out the stakeholder consultation process for this project activity. | ☑ | ☑ |

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| been carried out in accordance with such regulations/laws? | | | | |
| E.1.4. Is the undertaken stakeholder process that was carried out described in a complete and transparent manner? | 1, 2 22-24 | Yes. Confirmed with the detailed documents, the process is described in a complete and transparent manner. | ☑ | ☑ |
| **E.2. Summary of the comments received** | | | | |
| E.2.1. Is a summary of the received stakeholder comments provided? | 1, 2 22-24 | Yes, see E.2. and E.3. of the PDD. | ☑ | ☑ |
| **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, 2 22-24 | All stakeholder comments are positive, no action has been taken. | ☑ | ☑ |
| ***F. Annexes 1 - 4*** | | | | |
| **F.1. Annex 1: Contact Information** | | | | |
| F.1.1. Is the information provided consistent with the one given under section A.3? | 1, 2 | Yes. | ☑ | ☑ |
| F.1.2. Is the information on all private participants and directly involved Parties presented? | 1, 2 | The information about Yunnan Province Yongzhou Zhongxin Hydropower Development Co., Ltd is presented. | ☑ | ☑ |
| **F.2. Annex 2: Information regarding public funding** | | | | |
| F.2.1. Is the information provided on the inclusion of public funding (if any) in consistency with the actual situation presented by the project participants? | 1, 2 | Yes. There is no public funding taking place; all costs are covered by private equity. | ☑ | ☑ |
| F.2.2. If necessary: Is an affirmation available that any such funding from Annex-I- | 1, 2 | See F.1.3 | ☑ | ☑ |

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| countries does not result in a diversion of ODA? | | | | |
| **F.3. Annex 3: Baseline information** | | | | |
| F.3.1. If additional background information on baseline data is provided: Is this information consistent with data presented by other sections of the PDD? | 1, 2 | Yes. The input data to calculate OM and BM are included in Annex. | ☑ | ☑ |
| F.3.2. Is the data provided verifiable? Has sufficient evidence been provided to the validation team? | 1, 2 | Yes. The data are consistent with the NDRC published data. | ☑ | ☑ |
| F.3.3. Does the additional information substantiate / support statements given in other sections of the PDD? | 1, 2 | Yes. The addition information is given in chapter B.6.1 and B.6.2. | ☑ | ☑ |
| **F.4. Annex 4: Monitoring information** | | | | |
| F.4.1. If additional background information on monitoring is provided: Is this information consistent with data presented in other sections of the PDD? | 1, 2 | No additive information in Annex 4. | ☑ | ☑ |
| F.4.2. Is the information provided verifiable? Has sufficient evidence been provided to the validation team? | 1, 2 | See F.4.1. | ☑ | ☑ |
| F.4.3. Do the additional information and / or documented procedures substantiate / support statements given in other sections of the PDD? | 1, 2 | See F.4.1. | ☑ | ☑ |

## 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 |
|---|---|---|---|
| **Open Issue:**<br>Please deliver the LoA issued by China and UK together with MoC countersigned by both parties to DOE before raising the request of registration. | A.3.2. | | ☑ |
| The project is described transparently and the project activities described have been proven during on site audit.<br>**Corrective Action Request No.1.**<br>It is required to provide additional information of the project. E.g. the name of the developer, manufacturer and constructor, the starting date and the current status of the project. | A.2.1. | The developer (project owner) is Yongzhou Zhongxin Hydro-power Development Co., Ltd.<br><br>The manufacturer is Yunan Yuxi Hydropower Equipment Works for 1st level station; Zhejiang Jinhua Turbine Works.<br><br>The constructor is just local builder.<br><br>The start date of construction is Oct.2005 for 1st level station, Oct.2004 for 2nd level station.<br><br>Current status of 1st level station is equipment commissioning; 2nd level station has already been operated.<br>Above information have been added into PDD. | ☑ |

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| **Corrective Action Request No.2.**<br>The participants' name is not consistent with details provided in Annex 1. Please resolve this inconsistency | A.3.3 | Revised.<br>**DOEs first response:**<br>The before mentioned inconsistency was resolved.<br>However, in the further assessment more mistakes were detected. Section A.4.3 of the PDD, version 2: in the text above the table, it is mentioned that the annual emission reductions will be 34,150 $tCO_2e$. The correct amount is 33,734 $tCO_2e$. This has to be corrected<br>Section B.6.4 of the PDD, version 2: in the text above the table, it is mentioned that the emission reductions per year will be 239,050 $tCO_2e$. This information has to be corrected as above.<br><br>Project participants 2nd response:<br>Revised. | ☑ |
| The project' location could be clearly identified according to the PDD. The project site is located at the Nanzhahe River within Zhengkang Country, Lincang City, Yunnan Province, P. R. China. However the GPS coordinates are not very precise.<br>**Corrective Action Request No.3.**<br>Please provide exact location of each of the two hydro power plants individually. | A.4.1.1. | 1st level station: 23° 46′ 58″ N<br>99° 19′ 50″ E<br><br>2nd Level station: 23° 45′ 35″ N<br>99° 21′ 27″ E<br><br>**DOEs first response**:<br>The provided GPS (for both levels of the power plant) in version 2 of the PDD is not a point directly in the River, but in the area near. Please clarify this issue and submit the correct GPS coordinates.<br>Project participants 2nd response:<br>The Project geographic coordinate is 23° 47′ 58″ N and 99° 21′ 02″ E for 1st level, 23° 46′ 08″ N and 99° 22′ 08″ E for 2nd level | ☑ |

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| The planning schedule in the past and for the future was clearly described by the project owner during the audit. The level 2 power plant has been put into test operation and the equipments of the level 1 power plant have been purchased, the main construction work of level 1 is nearly finished.<br>**Corrective Action Request No.4.**<br>The time schedule of the implementation of the project should be included into the PDD. | A.4.2.11 . | See A4.2 Chapter in updated PDD. | ☑ |
| **Corrective Action Request No.5.**<br>The crediting period will start after the registration of this project, so the starting date of the crediting period and the estimated emission reductions of the year 2007 in Table 1 and further chapters of the PDD have to be revised. | A.4.3.2. | Revised, see updated PDD. | ☑ |
| Yes. A list of parameters is presented in chapter B.6.2.<br>**Corrective Action Request No.6.**<br>Since the methodology AMS-I-D is updated to version 11, the relevant parameters should be updated for the emission factor calculation, e.g. the IPCC2006 default values should be adopted. | B.6.2.1. | Revised, see updated PDD.<br><br>The relevant parameters are adopted from the last version *Notification on Determining Baseline Emission Factor of China's Grid* which is issued on 9/Aug./2007. All the data in this notification comes from IPCC2006 and relevant Chinese sectored yearbook 2006. | ☑ |
| **Corrective Action Request No.7.**<br>The parameter title should be EGy instead of EGoutput. | B.7.1.2. | **DOEs first response:**<br>Please comment on the CAR. The issue appears to be solved when reviewing the PDD.<br>PPs response: | ☑ |

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| Yes. According to the PDD, energy metering equipment will be properly configured, and the metering equipment will be checked periodically according to the relevant national electric industry standards and regulations.<br>**Corrective Action Request No.8.**<br>A diagram of the location of the power meters should be included in the PDD. It should be transparent that for the calculation of the emission reduction only the electricity produced in the project boundary will be used. | B.7.2.3. | Parameter title in B6.3 and B7.1 has been revised. | ☑ |
| **Clarification Request No.1.**<br>Please deliver the evidence of the CERs price to the DOE. | B.5.15. | The page of CER price is attached.<br>**DOEs first response:**<br>It is not clear where the page of CER price is attached, as it is not in the PDD.<br>Is it possible to change, later on, this statement to "The page of CER price has been delivered to the DOE"?<br><br>Project participants 2nd response:<br>the page mentioned the CER's price is delivered to the DOE, the price is 8euro/ton. | ☑ |
| **Clarification Request No.2.**<br>The parameters: imported electricity from Southern China Grid and the emission factor of Southern China Grid, etc, as well as the electricity auxiliary rate of the power plant have to be included in B.6.2 | B.6.2.1. | See B6.2 Chapter in updated PDD.<br>**DOEs first response:**<br>Most of the asked parameters at the moment of the validation are already included in the PDD. Nevertheless the "Combined Margin (CM)" and the "Reservoir Area" are still missing. Please include this parameters in the PDD.<br>Project participants 2nd response:<br>The hydro power plant is run-off river style, thus there is no reservoir area for the proposed project activity. | ☑ |

# ANNEX 2: INFORMATION REFERENCE LIST

| Reference No. | Document or Type of Information |
|---|---|
| 1. | Project Design Document for CDM project "Nanzhahe Cascade Hydropower Project", version 01,dated 1st, March, 2007. |
| 2. | Consolidated baseline methodology for grid-connected electricity generation from renewable sources, ACM0002, version 06. |
| 3. | Participant list of on-site interview, signed on 17th, May, 2007. |
| 4. | Validation team:<br>Dr. Sven Kolmetz — CDM Assessment team leader, TUV SÜD Industrie Service GmbH<br>Zhang Jiming — CDM Auditor, TUV SÜD Beijing branch<br>Ms. CHEN Xiaoying — CDM Auditor trainee, TUV SÜD Beijing branch<br><br>On-site interviews at the project site in Zhengkang country, Lincang city, Yunnan province, P.R China., conducted on May 17th to 18th, 2007 by auditing team of TÜV SÜD:<br><br>Interviewed persons:<br>Mr. Zeng chengde — Board member of Yongzhou Zhongxin Hydropower Development Co., Ltd<br>Mr. Li jianwei — CDM manager of Accord Global Environment Technology Co., Ltd |
| 5. | Feasibility Study Report for CDM project "Nanzhahe Cascade Hydropower Project". Dated Aug, 2005. |
| 6. | Approval of Feasibility Study Report for CDM project Nanzhahe Cascade Hydropower Project, issued by Lincang development and reform commmision, dated 2nd, Sep, 2005. |
| 7. | EIA Report for CDM project "Nanzhahe Cascade Hydropower Project", issued by Lincang environmental and science institute, dated July, 2005. |
| 8. | Approval of EIA Report for CDM project "Nanzhahe Cascade Hydropower Project", issued by Zhenkang EPB, dated 22nd, Aug, 2005. |

| Reference No. | Document or Type of Information |
|---|---|
| 9. | Business license of lincang Nanzhahe hydro power plant, issued by Lincang industry and commerce bureau, dated 6th, July, 2006 |
| 10. | Agreement of Grid connection signed between Nanzhahe Hydropower Plant, and Lincang city Power Grid company, dated 22nd, June, 2006. |
| 11. | Purchasing and Selling Electricity Contract signed between Nanzhahe Hydropower Plant and Lincang city Power Grid company, dated 22nd, June, 2006. |
| 12. | Local Stakeholder Comments Questionnaire. Developed in Aug, 2005. |
| 13. | Board Resolution of Yonghou Zhongxin Hydropower Development Co.,Ltd; dated on September 16, 2004 |
| 14. | Economic Evaluation Code for small hydropower project (SL 16-95) |
| 15. | IRR calculation sheet |
| 16. | Project Design Document for CDM project “Nanzhahe Cascade Hydropower Project“, version 02, from August 01, 2007. |
| 17. | Consolidated baseline methodology for AMS-I.D. “Grid-connected renewable electricity generation”, version 10 |
| 18. | Tool for Appendix B of the simplified modalities and procedures for small-scale CDM project activities. |
| 19. | LoA from the host country |
| 20. | NDRC data (Chinese Yearbooks) 2001-2006 |
| 21. | IPCC: Revised 2006 Guidelines for National Greenhouse Gas Inventories. |
| 22. | IPCC: 2000, Good Practice Guidance |
| 23. | 2005 National economic and social development statistics for Yunan Province, issued by National statistic administration. |
| 24. | The State Administration of Taxation (2002) No.47 Document. |
| 25. | The bank loan rejection letter, issued by China agriculture development bank Zhenkang branch, dated May 16th, 2008. |
| 26. | The first CDM consultation contract signed between Hunan Yongzhou zhongxin Hydro Power Development Co., Ltd and Jiangxi Huashijie Environmental Protection Technology Development Co., Ltd, dated Nov 15th, 2004. Submission date May 21st, 2008. |
| 27. | Cancellation letter of the first CDM contract, signed between Hunan Yongzhou zhongxin Hydro Power Development Co., Ltd and Jiangxi Huashijie Environmental Protection Technology Development Co., Ltd, dated Nov 17th, 2006. Submission date May 21st, 2008. |
| 28. | CDM consultation contract signed between Hunan Yongzhou zhongxin Hydro Power Development Co., Ltd and Accord Global Environment Technology (Beijing) Co., Ltd. Dated Feb 5th, 2007. Submission date May 21st, 2008. |