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Validation Report

RWE Power AG

VALIDATION OF THE CDM-PROJECT:
GUANGXI ZHUANG AUTONOMOUS REGION NANDAN NABA 1ST LEVEL HYDROPOWER STATION

REPORT NO. 1029731

2008, September 22~~**2008, April 02**~~

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

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Report No.	Date of first issue	Revision No.	Date of this revision	Certificate No.
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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:** TÜV SÜD Industrie Service GmbH Carbon Management Service Westendstr. 199 80686 Munich Germany
Client: RWE Power Rellinghauser Straße 37 45128 Essen Germany	**Project Site(s):** Naba Village, Hechi City Nandan County, Guangxi Zhuang Autonomous Region P.R. China
Project Title: Guangxi Zhuang Autonomous Region Nandan Naba 1st Level Hydropower Station	
Applied Methodology / Version: AMS-I.D / Version 11	**Scope(s):** 1
First PDD Version: Date of issuance: 2007-05-31 Version No.: 02 Starting Date of GSP 2007-07-10	**Final PDD version:** Date of issuance: 2007-11-26 Version No.: 03
Estimated Annual Emission Reduction:	40540 tCO_2e
Assessment Team Leader: Dr. Sven Kolmetz	**Further Assessment Team Members:** Carl Zhou Sebastian Randig Karin Wagner

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.

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Abbreviations

ACM	Approved Consolidated Methodology
AM	Approved Methodology
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CM	Combined Margin
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)
IRL	Information Reference List
KP	Kyoto Protocol
MP	Monitoring Plan
NDRC	National Development and Reform Commission
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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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:

Guangxi Zhuang Autonomous Region Nandan Naba 1st Level Hydropower Station

1.2 Scope

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

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

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

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

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

2 METHODOLOGY

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

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

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

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

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

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**	☑	☑	☑
Carl Zhou	GHG-A	☑	☑	☑
Sebastian Randig	GHG-A	☑	☑	
Karin Wagner	T		☑	

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

Carl Zhou is an auditor for environmental management systems (according to ISO 14001) at Jiangsu TUV Product Service Ltd. He is based in Shenzen. 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.

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.

Karin Wagner is an auditor trainee 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 ga-

thered experience in environmental consulting before joining TÜV SÜD. She has received training in the CDM validation process and participated 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

On July 16th, 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
Ms. Fan Ting (Assistant)	Beijing Tianqing Power International CDM Consulting Co., Ltd.
Ms. Wang Ting (Assistant)	Beijing Tianqing Power International CDM Consulting Co., Ltd.
Mr. Jiang Dongkui (Documentation Dept. Manager)	Beijing Tianqing Power International CDM Consulting Co., Ltd.
Mr. Lu Yongsheng (Board Chairman)	Nandan Hongyuan Hydropower Exploitation Co., Ltd.
Mr. Jiang Xu (Leader of the Finance Dept.)	Nandan Hongyuan Hydropower Exploitation 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 and 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 PDD in July 2007. Based on this documentation a document review and a fact finding mission in form of an on-site audit have 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 November 2007 serves as the basis for the assessment presented herewith. Changes are not considered to be significant with respect to the qualification of the project as a CDM project based on the two main objectives of the CDM to achieve a reduction of anthropogenic GHG emissions by sources and to contribute to sustainable development.

Project description

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

The Guangxi Zhuang Autonomous Region Nandan Naba 1st Level Hydropower Station project involves the construction and operation of a small-scale run-of-river hydropower station at the Naba River. The project site is located close to Naba Village, in Nandan County, Guangxi Zhuang Autonomous Region, in China.

The main objective of this project is to generate electricity from clean renewable energy resources (i.e. hydro) in the Guangxi Zhuang Autonomous Region and to contribute to the sustainable generation of electricity for the Southern China Power Grid.

The hydropower station includes three turbine / generator units with a total installed capacity of 15 MW.

The described project activity is part of a two-level hydropower developing project at the Naba River. According to the PDD, the described project activity does not have any impact on the second level project.

In China, the programming of a river is performed by the local government. The project owner will be appointed at a later stage through a public call for bids. The programming of the Naba River developed by the local government included the two levels (i.e. Naba 1st and 2nd level, Annex 2, IRL 34). For the 2nd level project, the project owner was appointed in 2003, therefore this project was developed first. The project owner for the Naba 1st level project (i.e. this project) was appointed in June 2006 (Annex 2, IRL 35). The documentation has been reviewed and the information explained above can be considered correct. Thus, the described project activity does not have any impact on the 2nd level project and can be considered separately as a stand-alone project activity with a total capacity of 15 MW.

The proposed project activity is designed with a total capacity of 15 MW and can therefore be considered as a small-scale project.

The plant is designed to generate 55540 MWh per year on average. The net annual electricity supplied to the grid is expected to be 48,070 MWh on average. The annual CO_2 emissions are estimated to be reduced by 40540 tCO_2e on average.

Findings

In total, the assessment team expressed 5 Clarification Requests (CR) and 14 Corrective Action Requests (CAR).

Formal requests that were raised during the assessment included:

- the format of the date (CAR1)
- the correct name of the river (CAR3)
- the exact description of the dam and the powerhouse including complete GPS coordinates (CAR4)
- the type of the equipment (CAR5, CR2)
- the revision of the starting date of the crediting period to a more realistic date in the future (i.e. 01/01/2009, CAR7).
- the correct sub-grid where the generated electricity will be supplied to (CAR9)
- the missing parameters in Table B.6.2 (CAR12)
- and the correct source of information, i.e. FSR, PDR etc. (CR1).

Additional documents that were requested by and submitted to the assessment team for further verification included the traceable, English version of the IRR calculations (CAR10), and the equipment purchasing contract (CAR2).

A detailed description of the measures undertaken to guarantee the minimum ecological flow is added to the PDD (CAR14). Since no people were or will be relocated, no compensation is necessary (CAR14).

The data with respect to the area of the reservoir was added to the PDD and shown that there is no need to consider leakage emissions as per the methodology (CR4). A description of the accuracy of the monitoring meters was also added to the PDD (CAR13). The training of the operational stuff is explained in the PDD (CAR6).

This project activity can be considered as a stand-alone project and is separate from the second level hydro power plant (see detailed explanation in the project description chapter 3, p. 10). Thus, for the proposed project activity, CDM was seriously considered by the project owner in the summer of 2006 (i.e. prior to the starting date in December 2006), as soon as they obtained the approval from the local government to proceed with the development of this project (CR3).

For the reasons explained above (see detailed explanation in the project description chapter 3, p. 10), the proposed project activity is separate from the second level hydro power plant, the proposed project can be considered as a new facility and the addition to an existing facility does not need to be considered for this project (CAR8, CR5).

For a better understanding of the monitoring process, a diagram was added to the PDD showing the meter locations (CR6).

The emission factors have been updated with the latest data published by the NDRC in August 2007 (CAR11).

Considering these findings the previous PDD versions have been revised and the latest PDD is in compliance with the CDM requirements.

Baseline calculation

The calculation of the baseline emissions are based on the baseline emission factor multiplied by the net annual power generation. The baseline emission factor equals the combined margin emission factor (EF_{CM}) that is a combination of the operating margin and the build margin (BM) emission factors (EF_{OM} and EF_{BM}, respectively).The Southern China Power Grid is considered to be the project boundary.
The EF_{OM} is determined based on the simple OM method. The ex-ante option was chosen for the calculation.
The calculation of the EF_{BM} is based on 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 values for EF_{OM} and EF_{BM} were adopted from the latest publication of the NDRC (August 2007). However, the data published by the NDRC is based on inaccurate emission factors of coke and refinery gas and outdated values for the imported electricity from the connected grids. The amendment of the calculation which is based on the proper emission factors and the latest data for the imported electricity that is presented in the IPCC 2006 guidelines and in the published data released by the State Grid Company results in slightly higher emission factors. Therefore, the slightly lower values presented in the PDD that are adopted from the NDRC table can be considered as more conservative and are accepted for the baseline calculations.
The value for the EF_{CM} is 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).
As per the methodology, the project does not need to consider leakage or project emissions. As a result, the annual emission reductions equal the annual baseline emissions.

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 assessment team has reviewed the proof for the early consideration of the project. The project starting date is December 22nd, 2006, when the construction on site was initiated. The equipment purchasing contract is dated five months later, May 29th, 2007 (Annex 2, IRL 15).
As described above (chapter 3 – project description), this 1st level project is separate from the 2nd level project and can be considered as a stand-alone project. The project owner for the 1st level project was appointed in 2006 (Annex 2, IRL 34). The evidence documents were reviewed and this information can be considered as correct. The project owner for the 2nd level project was appointed three years earlier in 2003, and this plant started to generate electricity in 2004.
Prior to the starting date of the project activity in December 2006, applying CDM was seriously considered by the project owner, as could be evidenced by a board decision to apply for CDM in June 2006 (Annex 2, IRL 21) and a letter of supplying the project to apply for CDM issued by the local government dated October 27th, 2006 (Annex 2, IRL 22). The meeting minutes were reviewed and found to consistently prove the project's early CDM consideration.

The additionality tool has not been used, instead Appendix B of the simplified modalities and procedures for small scale CDM project activities. An investment barrier has been claimed, 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 (IRR of 7.86%). The assessment team has checked all the sources of the IRR calculation, as presented in Table B.3 of the PDD. The source of the benchmark could be evidenced. The main sources, the preliminary design report (PDR) published in November 2005 and the additional financial report of the PDR, dated April 2006 (Annex 2, IRL 6, 7) have been approved in July and August 2006, respectively (Annex 2, IRL 12) by the local authorities. Thus it deems appropriate to refer to the PDR and the additional financial report for the investment decision. The sources of the applied values were assessed and found to be appropriate.
However, the earlier source (PDR, November 2005, IRL 6) indicated a higher IRR of 12.6%. This IRR has been revised due to the investment estimate in the additional financial document (IRL 7), which was approved by the local DRC in August 2006. The higher IRR in the PDR was explained to be incorrect due to the increase in the investment amount as a result of the advanced channel work, the increased price of raw and processed materials and a longer distance to the transformer.

In summary, the IRR presented in the PDD of 7.86% is same as the IRR presented in the additional financial document of the PDR (Annex 2, IRL 7). In both cases it is referred to the same benchmark rate of 10% which is frequently used in the Chinese power sector (Annex 2, IRL 10).

TÜV SÜD is strongly convinced that applying fixed input values (tariffs and O&M costs) in the IRR calculation is appropriate in the context of the project activity. This is because the project applies SL-16-95, Economic Evaluation Code for Small Hydropower Projects, P.R.China Industry Standard, standard no. SL16-1995 (IRL10). According to this document, it can be clearly seen that the parameters used in the calculation should be constant throughout the assessment period. Thus, in order to comply with the benchmark criteria "*In the financial evaluation, when calculating input and output, the current price shall be used".*

Further a sensitivity analysis is performed to see if the assumptions taken in the IRR calculation are robust against reasonable variations. Taking into account 10% variations in total investment costs, operating costs and estimated grid price, 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 none of the assumed variations of variables the benchmark of 10% is met. We thus conclude the project is financially unattractive without CER revenues. The additionality argumentation is strengthened as by demonstrating that the benchmark is crossed when recalculating the IRR with CER revenues, then IRR amounts 10.34%.

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.

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:

<table>
<tr><td colspan="2">webpage:
http://www.netinform.net/KE/Wegweiser/Guide2_1.aspx?ID=3632&Ebene1_ID=26&Ebene2_ID=1040&mode=1</td></tr>
<tr><td colspan="2">Starting date of the global stakeholder consultation process:
2007-07-10</td></tr>
<tr><td>Comment submitted by:
None</td><td>Issues raised:
-</td></tr>
<tr><td colspan="2">Response by TÜV SÜD:
-</td></tr>
</table>

5 VALIDATION OPINION

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

Guangxi Zhuang Autonomous Region Nandan Naba 1st Level Hydropower Station

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

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

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

Munich, 2008-049-022	Munich, 2008-09-222008-03-20
Certification Body “climate and energy” TÜV SÜD Industrie Service GmbH	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.	☑	☑
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 2, and was completed on 31/05/2007. **Corrective Action Request No.1.** The completing date should be written in dd/mm/yyyy format. Please extend this correction for the rest of the PDD. Also, as the present GSP PDD is entitled version 2 please include a revision history of the document for the sake of transparency,.	CAR1	☑
A.1.3. Is this consistent with the time line of the project's history?	1, 2	Yes. The date of determining the baseline and monitoring methodology is indicated as 26/04/2007 in chapter B.8.	☑	☑
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 type of the hydropower, the capacity, the location, the annual electricity and the connection system are described in the PDD. **Corrective Action Request No.2.** According to the approval of the preliminary design report, dated on July 3rd 2006, Guangxi Zhuang Autonomous Region water power department, the total installed capacity of the proposed project is 16.89MW, in which the new installed capacity is 15MW and the built 2 level hydropower station 3*0.63MW will be purchased. Please describe this information in the PDD. The purchasing contract should be delivered to the validators. **Corrective Action Request No.3.** The description of the project location in chapter A.2: The station	CAR2 CAR3 CR1	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		is located on the banks of the Gui River. It is inconsistent with the actual situation. Please revise and correct it. **Clarification Request No. 1.** In the feasibility study phase there is FSR and its approval and in the preliminary design phase the PDR and its approval; it has been detected that there inconsistencies among the two. Therefore please indicate the data sources described in the PDD and extend the clarification to the rest of the PDD.		
A.2.2. What proofs are available demonstrating that the project description is in compliance with the actual situation or planning?	1, 2 6 , 7, 8, 10 , 11 , 12 , 13	The planning is described in the preliminary design report. 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: - Feasibility study report and its approval - EIA and EIA approval - Project approval - Approval of connection to the Grid This data have been proven during the audit. Nevertheless see Corrective Action Request No.2, No. 3 and Clarification Request No.1.	See CAR 2,3 and CR1	☑
A.2.3. Is the information provided by these proofs consistent with the information provided by the PDD?	1, 2	See Corrective Action Request No.2, No. 3 and Clarification Request No.1.	See CAR 2,3 and CR 1	☑
A.2.4. Is all information presented consistent with details provided by further chapters of the PDD?	1, 2	see Corrective Action Request No.2, No. 3 and Clarification Request No.1.	See CAR 2,3 and CR 1	☑
A.2.5. Does the description of the technology	1, 2	The proposed project is a hydro power station. The electricity	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
to be applied provide sufficient and transparent input to evaluate its impact on the greenhouse gas balance?		generated by the project will partially displace the electricity generated by the fossil fuel-fired power plants. Without doubt, to implement the proposed project will deliver GHG emission reduction.		
A.2.6. Is the brief explanation how the project will reduce greenhouse gas emission transparent and suitable?	1, 2	Yes, the PDD clearly describes how to avoid an important volume of GHG.	☑	☑
A.3. Project participants				
A.3.1. Is the form required for the indication of project participants correctly applied?	1, 2	Yes, the form is correctly applied. Nandan Hongyuan Hydropower Exploitation Co., Ltd and RWE Power AG are considered as project participants.	☑	☑
A.3.2. Is the participation of the listed entities or Parties confirmed by each one of them?	1, 2	Open Issue: Pls. deliver the LoA issued by China and the DNA of investment party, as well as the MoC countersigned by all parties to the DOE before raising the request for 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	Yes, all information in the PDD regarding project participants and parties is consistent.	☑	☑
A.4. Technical description of the small-scale project activity				
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	Yes. Nevertheless see Corrective Action Request No.2 **Corrective Action Request No.4.** To increase transparency, please clearly describe the GPS data of both the powerhouse and the dam site.	CAR4 See CAR2	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
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, 10-13, 27	The relevant evidences have been listed in the IRL. They have been reviewed on site by the validation team.	☑	☑
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	Type I, Renewable .Energy Projects. Yes, it is indicated in section A.4.2 of the PDD.	☑	☑
A.4.2.2. To which category (ies) does the project activity belong to? Is the category correctly identified and indicated?	1, 2	Category I.D, Grid Connected Renewable Electricity Generation. Yes, it is indicated in section A.4.2 of the PDD.	☑	☑
A.4.2.3. Does the technical design of the project activity reflect current good practices?	1, 2, 15	Yes, the project design reflects current good practices to use renewable resources to generate electricity according to the feasibility study report. The supplier of the generation units is Niuzhou city Jiuyuan turbines Co. Ltd. It is a good manufacturer for generation units in China.	☑	☑
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. The technology adopted by the project is national technology. So there is no technology transfer involved in the proposed project.	☑	☑
A.4.2.5. Is the technology implemented by the project activity environmentally safe?	1, 2	Yes. According to the results of EIA and its approval, there is no negative impact on the local environments. So the technology implemented by the project activity is environmentally safe.	☑	☑
A.4.2.6. Is the information provided in compliance with actual situation or planning?	1, 2	**Clarification Request No. 2.** The PDD does not mention the characteristics of the main transformer. Please provide this information to the validator.	CR2 CAR5	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Corrective Action Request No.5. The information of the turbines and generators described in table A.1 is inconsistent with the purchasing contract. Please revise and correct them.		
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 11	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	No. The lifetime 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	Yes. The project owner can count on some experienced experts for properly operating the project after completion of construction. The employees will be sent to another hydropower station which is already in operation for initial training. Moreover, the turbine manufacturing factory will provide direct training to the employees. **Corrective Action Request No.6.** The statement in the chapter A.4.2: There is no need for extensive initial training on operation and maintenance, since the hydropower is a mature and common practice technology in China. It should be revised referring to the training mentioned on-site.	CAR6	☑
A.4.2.10. Is information available on the demand and requirements for training and maintenance?	1, 2	Yes, the relevant trainings dealing with the control system and safety operations have been provided.	☑	☑
A.4.2.11. Is a schedule available for the implementation of the project and are there any	1, 2, 15	The planning schedule in the past and for the future was clearly described by the project owner during the audit. The purchasing	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
risks for delays?		contract of the generation units have been signed and the estimated operation dated is on Sept. 2008.		
A.4.3. *Estimated amount of emission reductions over the chosen crediting period*				
A.4.3.1. Is the form required for the indication of projected emission reductions correctly applied?	1, 2	Yes. The form is correctly applied. Nevertheless see Corrective Action Request No.7 **Corrective Action Request No.7.** According to the time schedule of the project provided by the project owner the estimated operation date is in Set; 2008. Please revise the starting date of the first crediting period in Table A.2 accordingly. And extend the correction for the rest of the PDD.	CAR7	☑
A.4.3.2. Are the figures provided consistent with other data presented in the PDD?	1, 2	Yes. They are consistent. Nevertheless see Corrective Action Request No.7	See CAR7	☑
A.4.3.3. Are the figures consistent with the small-scale criteria for the used Type?	1, 2	Yes. The capacity new installed of the hydropower is 15MW, less than the limit of 15MW for a small-scale CDM. Nevertheless see Corrective Action Request No. 2	See CAR2	☑
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 equity by bank loans and private investment.	☑	☑
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. Annex 2 mentions that there is no public founding for the project.	☑	☑
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:	1, 2	Debundling checklist | Yes / No	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
with the following characteristics:		the same project participants? — No In the same project category and technology/measure? — No Registered within previous two years? Or in registration process? — No Whose boundary is within 1 km of the project boundary of the small scale project activity under consideration? — No		
A.4.5.2. If the answer to all the above question is '**Yes**' then does the total size of the small scale project activity combined with previously registered small scale CDM project activity exceeds the limits of small scale CDM project activities?	1, 2	Not applicable. The proposed project is not a debundled component of a larger project activity.	☑	☑
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	Yes. The methodology "Simplified Modalities and Procedures for Small-Scale CDM project activities" AMS-I.D Grid connected renewable electricity generation (Version 11) and the approved baseline methodology ACM0002/Version 06, consolidated methodology for grid-connected electricity generation from renewable sources have been applied.	☑	☑
B.1.1.2. Is the applied version the most recent one and / or is this version still applicable?	1, 2	The applied version 11 of the methodology AMS-I.D ais the most recent one as of the date when the GSP was started, lasting from 10 Jul 07 - 08 Aug 07.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
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. The application of the methodology is appropriate and the discussion of the baseline sufficiently transparent.	☑	☑
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 Criterion discussed in the PDD? Yes Compliance provable? Yes Compliance verified? Yes	☑	☑
B.2.1.2. Criterion 2: If the unit added has both renewable and non-renewable components (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.		Applicability checklist / Yes / No / NA Criterion discussed in the PDD? NA Compliance provable? NA Compliance verified? NA	☑	☑
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		Applicability checklist / Yes / No / NA Criterion discussed in the PDD? NA Compliance provable? NA Compliance verified? NA	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
a biomass based co-generating system the rating for all the boilers combined shall not exceed 45 MWthermal.				
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.		Applicability checklist / Yes / No / NA Criterion discussed in the PDD? / No Compliance provable? / No Compliance verified? / No **Corrective Action Request No.8.** Criterion 4 should be discussed in the PDD. Please describe why the two projects (i.e. 1st and 2nd level) can be considered separately and how the 1st level project can be differentiated to the 2nd level project.	CAR8	☑
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 exceed the limit of 15 MW.		Applicability checklist / Yes / No / NA Criterion discussed in the PDD? / NA Compliance provable? / NA Compliance verified? / NA	☑	☑
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 project boundary of the proposed project is the project connected to the China Southern Power Grid. According to Chinese DNA advice, the China Southern Power Grid includes Guangdong Province, Guizhou Province, Yunnan Province and Guangxi Autonomous Region. Nevertheless see CAR 9. **Corrective Action Request No.9.**	CAR9	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		The statement in the chapter B.3: "In this specific case, the station will be connected to the Yunnan Grid" is inconsistent with the actual situation. It should be connected to the Guangxi grid. Please revise this. Please extend the correction for the rest of the PDD.		
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. The project boundary for the proposed project is represented by the South China Power Grid.	☑	☑
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	The following technically feasible baseline scenario alternatives to the project activity have been identified and discussed. Alternative 1—The Project activity not undertaken as CDM project activity. Alternative 2 — Construct a fossil fuel-fired power plant with equivalent annual electricity generation, connected to the grids. Alternative 3 – Construct a renewable power plant with equivalent annual electricity generation, and supply power to the grids. Alternative 4 – Get equivalent electricity supply from the CCPG annually	☑	☑
B.4.2. Does the project identifies correctly and excludes those options not in line with regulatory or legal requirements?	1, 2	Options not in line with regulatory or legal requirements have been identified and excluded in the PDD.	☑	☑
B.4.3. Have applicable regulatory or legal requirements been identified?	1, 2	Yes. The applicable regulatory and legal requirements have been identified in the chapter B.4	☑	☑
B.4.4. Does the PDD identify the most likely baseline scenario in absence of the	1, 2	Yes. The most likely baseline scenario in absence of the project activity is the fourth scenario. Without the proposed hydropower	☑	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PPD in GSP	Final PDD
	project activity?		station, power generation will be supplied by the Southern Grid.		
B.4.5.	Is this identification supported by official and/or verifiable documents (e.g. studies, web pages, certificates, etc?	1, 2	Yes. The evidences indicated in the PDD have been reviewed and proven during audit.	☑	☑
B.4.6.	Is the identified baseline scenario in line with regulatory or legal requirements?	1, 2	Yes. The identified baseline scenario is in line with regulatory and legal requirements in China.	☑	☑
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 analysis of the additionality tool: Is the analysis method identified appropriately (step 2a)?		NA	☑	☑
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?		NA	☑	☑
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)?		NA	☑	☑
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)?		NA	☑	☑
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?		NA.	☑	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PPD in GSP	Final PDD
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?		NA	☑	☑
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?		NA	☑	☑
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?		NA	☑	☑
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?		NA	☑	☑
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)?		NA	☑	☑
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)?		NA	☑	☑
B.5.12.	Is it appropriately explained how the approval of the project activity will help to overcome the economic and financial	1, 2 3	NA	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
hurdles or other identified barriers (step 5)?				
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?	22 , 24	According to the EB 38, and the timeline provided by the PP, we can see Primary Design Report of the project wrote by Guangxi Liuzhou Hydropower Reconnaissance Institution is written on Nov. 2005. And then there is a supplementary financial assessment report dated on April of 2006, a budgetary report about the proposed project also dated on April of 2006. It is not clear for audit team what is the relationship between of them. The most important thing is, in the approval of PDR dated on July 3 2006 (the date is latter compared with the date of the supplementary financial assessment report and the budgetary report).it is no evidence to show the authorized government knew, assessed and approved the increased investment mentioned in the supplementary financial assessment report and the budgetary report. Hence we think it can't be acceptable that the data from the budgetary report is applied to calculate IRR. According to the result of IRR in the PDR, it is 12.60%, more than the benchmark IRR 10%. Hence, it is no additionality for this project. **Clarification Request No. 3.** The above mentioned issue should be clarified. In addition, please explain why the project would not be released in spite of existing "river planning" and although 2nd level has been installed obviously without requiring CDM revenues.	CR3	☑
B.5.14. Is a complete list of barriers developed that prevents the project activity to occur?	23	Yes. The investment barrier is identified.	☑	☑
B.5.15. Does this list include at least one of the following barriers?	23	Barrier / Discussed? / Verifiable?	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Investment: Yes / Yes Technological: No / NA Due to prevailing practice: No / NA Other: No / NA		
B.5.16. Does the discussion sufficiently take into account relevant national and/or sectoral policies?	10	Yes. *The Economic Assessment Rules of Small Hydropower Project SL16-95* was taken into account as the evidence of the benchmark IRR.	☑	☑
B.5.17. Is transparent and documented evidence provided on the existence and significance of these barriers?	23	**Corrective Action Request No.10.** The calculation table of IRR in English in PDF and excel format should be delivered to the DOE. The data source of the IRR calculation table should be translated to English and be delivered to the DOE.	CAR10	☑
B.5.18. Is it appropriately explained how the approval of the project activity will help to overcome the identified barriers?	23	Yes. The approval of the project activity will help to improve the project's financial indicators and reduce the risks of low bus-bar tariff and unstable electricity generation.	☑	☑
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: - Calculation of the Operating Margin Emission Factor - Calculation of the Build Margin Emission Factor - Calculation of the Combined Margin Emission Factor 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, all the options were analyzed and justified in the PDD, as well as in the on-site visit.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
B.6.1.2.1. Component 1: emissions from use of fossil fuel	1, 2	<table><tr><td>Project emission checklist</td><td>Yes / No</td></tr><tr><td>Component discussed in the PDD?</td><td>NA</td></tr><tr><td>Formulae correctly applied?</td><td>NA</td></tr></table>	☑	☑
B.6.1.3. 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.	☑	☑
B.6.1.4. Are the formulae required for the determination of leakage emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1, 2	No leakage is considered according to the methodology.	☑	☑
B.6.1.5. Are the formulae required for the determination of emission reductions correctly presented?	1, 2	The OM and BM published by the Chinese DNA on Dec. 15th, the IPCC 1996 values were adopted for the calculation of the emission factor according to the methodology's advice. **Corrective Action Request No.11.** Since the start of GSP new emission factors were published by the NDRC in August 2007. According to the methodology, the latest available data shall be used. Therefore please revise section B.6 and Annex 3 accordingly and provide the spreadsheet of the revised emission factor calculation to the assessment team.	CAR11	☑
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. Almost all parameters are presented in the chapter B.6.2 of the PDD. **Corrective Action Request No.12.** The parameters indicated in the following tables with "no" should	CAR 12	☑

<table>
<tr><th>CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>PPD in GSP</th><th>Final PDD</th></tr>
<tr><td></td><td></td><td>be included into the PDD.</td><td></td><td></td></tr>
<tr><td colspan="5">B.6.2.2. Comment on any line answered with “No”</td></tr>
<tr><td>B.6.2.3. Parameter Title:
Annual electricity supplied to the grid prior to retrofit
(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>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?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Choice of data correctly justified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table></td><td>☑</td><td>☑</td></tr>
<tr><td>B.6.2.3. Parameter Title:
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></table></td><td>See CAR12</td><td>☑</td></tr>
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<tr><td></td><td></td><td><table><tr><td>Measurement method correctly described?</td><td>No</td></tr></table>See Corrective Action Request No.12</td><td></td><td></td></tr>
<tr><td>B.6.2.4. Parameter Title:
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>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><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 Corrective Action Request No.12</td><td>See CAR12</td><td>☑</td></tr>
<tr><td>B.6.2.5. Parameter Title:
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>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></table></td><td>See CAR12</td><td>☑</td></tr>
</table>

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Correct value provided? — No Has this value been verified? — No Choice of data correctly justified? — No Measurement method correctly described? — No See Corrective Action Request No.12		
B.6.2.6. Parameter Title: fuel consumption of each power source	1, 2	Data Checklist — Yes / No Title in line with methodology? — Yes Data unit correctly expressed? — Yes Appropriate description of parameter? — Yes Source clearly referenced? — Yes Correct value provided? — Yes Has this value been verified? — Yes Choice of data correctly justified? — Yes Measurement method correctly described? — Yes	☑	☑
B.6.2.7. Parameter Title: emission coefficient of each fuel	1, 2	Data Checklist — Yes / No Title in line with methodology? — Yes Data unit correctly expressed? — Yes	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Appropriate description of parameter? Yes Source clearly referenced? Yes Correct value provided? Yes Has this value been verified? Yes Choice of data correctly justified? Yes Measurement method correctly described? Yes		
B.6.2.8. Parameter Title: electricity generation of each power source	1, 2	Data Checklist / Yes / No Title in line with methodology? Yes Data unit correctly expressed? Yes Appropriate description of parameter? Yes Source clearly referenced? Yes Correct value provided? Yes Has this value been verified? Yes Choice of data correctly justified? Yes Measurement method correctly described? Yes	☑	☑
B.6.2.9. Parameter Title: surface area of full reservoir level (for new hydroelectric activities only)	1, 2	Data Checklist / Yes / No	See CAR 12 and CR3	☑

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<table>
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<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 Corrective Action Request No.12 and Clarification Request No. 3
</td><td></td><td></td></tr>
<tr><td>B.6.2.10. Parameter Title:
fraction of time with low costs /must run plant at the margin
(for simple adjusted OM only)</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>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?</td><td>NA</td></tr>
<tr><td>Has this value been verified?</td><td>NA</td></tr>
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<tr><td>Measurement method correctly described?</td><td>NA</td></tr>
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<tr><td>B.6.2.11. Parameter Title:
electricity imports</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>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?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Choice of data correctly justified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table></td><td>☑</td><td>☑</td></tr>
<tr><td>B.6.2.12. Parameter Title:
CO_2 emission coefficient of fuels used in connected grids</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>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></table></td><td>☑</td><td>☑</td></tr>
</table>

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Measurement method correctly described? Yes		
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	No, as the projection is calculated with the installed capacity and the future monitoring will be directly measured.	☑	☑
B.6.3.2. Are the GHG calculations documented in a complete and transparent manner?	1, 2	**Clarification Request No. 4.** Please provide the surface area of full reservoir level and calculate the power density. Clarify if there is leakage occurring.	CR4	☑
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	**Clarification Request No. 5.** Please clarify this issue. And see CAR 2	CR5	☑
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 consistent. Nevertheless see CR3	See CR3	☑
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 according to the PDD template.	☑	☑
B.6.4.3. If the project activity involves more than one component, is separate table included for each of the component.	1, 2	See CAR 4	See CAR4	☑
B.6.4.4. Do these values comply with small-scale criteria for every year?	1, 2	Yes, as the calculations are based on the capacity installed of 15 MW.	See CAR11	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Nevertheless see CAR 11		
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 CAR 7	See CAR 7	☑
B.6.4.6. Is the data provided in this section in consistency with data as presented in other chapters of the PDD?	1, 2	Yes, the data is consistent with section A.4.3 and B.6.	☑	☑
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 in chapter B.7.1 considered to be complete with regard to the requirements of the applied methodology?	1, 2	Yes. The $EG_{s,y}$ Electricity supplied to the grid by the project activity and the $PE_{g,y}$ Electricity used by the project activity are the parameters that shall be monitored and recorded. The electricity connected to the grid is automatically measured and recorded electronically. The measurement data for the electricity will be recorded electronically. To ensure the accuracy of data, electricity sales invoices by the local grid company will also be obtained as an additional check.	☑	☑
B.7.1.1.1. Parameter Title: Electricity generated by the renewable technology	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></table>	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Correct value provided for estimation? — Yes Has this value been verified? — Yes Measurement method correctly described? — Yes Correct reference to standards? — Yes Indication of accuracy provided? — Yes QA/QC procedures described? — Yes QA/QC procedures appropriate? — Yes		
B.7.1.1.2. Amount of biomass input (if applicable)	1, 2	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.7.1.1.3. Amount of fossil fuel (if applica-	1, 2		☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
ble)		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.7.2. *Description of the monitoring plan*				
B.7.2.1. Is the operational and management structure clearly described and in compliance with the envisioned situation?	1, 2	Yes. The structure is clearly described in the PDD. **Clarification Request No. 6.** Please clarify how to distinguish the generation electricity by the purchased hydro power 3*0.63MW and the generation electricity by the new installed capacity 15MW, and how to allocate the monitoring meters.	CR6	☑
B.7.2.2. Are responsibilities and institutional arrangements for data collection and archiving clearly provided?	1, 2	Yes. In the chapter B.7.2 the monitoring information is clearly provided.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
B.7.2.3. Does the monitoring plan provide current good monitoring practice?	1, 2	Yes. The monitoring plan provides current good monitoring practice. **Corrective Action Request No.13.** To increase transparency, please indicate the accuracy of the metering instruments in the second table in B.7.1.	CAR13	☑
B.7.2.4. If applicable: Does annex 4 provide useful information enabling a better understanding of the envisioned monitoring provisions?	1, 2	Yes. Annex 4 describes the tasks and responsibility of CMO in detail. And it is indicated that CMO will get the support from Beijing Tianqing Power International CDM Consulting, Co., Ltd.,	☑	☑
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, the baseline was determined on 26/04/2007	☑	☑
B.8.1.2. Has dd/mm/yyyy format been used to indicate the date.	1, 2	Yes, the correct format is used.	☑	☑
B.8.1.3. Is this consistent with the time line of the PDD history?	1, 2	Yes. The completion date of the PDD is consistent with the date of the baseline determined.	☑	☑
B.8.1.4. Is the information on the person(s) / entity (ies) responsible for the application of the baseline and monitoring methodology provided consistent with the actual situation?	1, 2	Yes. Mr. Alex Yang, General Manager and his staffs of Beijing Tianqing Power International CDM Consulting, 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 not project participants.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD 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, 2	The operational lifetime is expected to be 20 years. The starting date is on 01/11/2006	☑	☑
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	Yes. The correct format has been used. See CAR7	See CAR7	☑
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	8 , 13	Yes, EIA is a must in P. R. China for new hydro power projects. The EIA of the proposed project was approved by the Guangxi Zhuang Autonomous Region Environment Protection Bureau in Apr. 21, 2005.. The documents have been reviewed by the DOE.	☑	☑
D.1.2. Has the analysis of the environmental impacts of the project activity been sufficiently described?	1, 2 32, 33	Yes. The analysis of the environmental impacts of the project activity involved noise, waste solid substance, water, gas, ecological environment among others. **Corrective Action Request No.14.** There are some affected people that have been relocated due to the projects implementation. Please provide detailed information	CAR14	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		in the PDD. The summary of compensation for resettlement or occupied lands should be delivered to the validator. The evidence for taking into consideration the minimum ecological flow should be delivered to the validator.		
D.1.3. Will the project create any adverse environmental effects?	1, 2 8 , 13	No. the project will not create any great adverse environmental effects.	☑	☑
D.1.4. Were transboundary environmental impacts identified in the analysis?	1, 2 8 , 13	NA	☑	☑
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 8 , 13	According 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 8 , 13	Yes, the project is in conformity with the environmental legislation of P. R. China and the EIA has been approved by the 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	A special stakeholder consultation meeting for the parties interested in the project was organized at 9:00A.M. on December 24, 2006 at Nandan County to investigate opinions of all the potential stakeholders, such as local residents.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		The relevant evidences have been reviewed by the validator.		
E.1.2. Have appropriate media been used to invite comments by local stakeholders?	1, 2	Yes, the relevant stakeholders have been consulted via questionnaires bulletin and the website of www.tqcdmchina.com on December 21, 2006.	☑	☑
E.1.3. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	1, 2	According to EIA regulation the stakeholder consultation should be carried out during EIA. The stakeholder consultation has been carried out during EIA process.	☑	☑
E.1.4. Is the undertaken stakeholder process that was carried out described in a complete and transparent manner?	1, 2	Yes. In chapter E.1 it 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	Yes. In the chapter E.2 a summary is provided.	☑	☑
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	According to the statistical results, no action will be taken to solve the comments received.	☑	☑
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, both sections are consistent.	☑	☑
F.1.2. Is the information on all private participants and directly involved Parties pre-	1, 2	Yes. The information about Nandan Hongyuan Hydropower Exploitation Co., Ltd. and RWE Power AG. is presented.	☑	☑

Feldfunk

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
sented?				
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	There is no public funding necessary; all costs are covered equity by bank loans and private investment.	☑	☑
F.2.2. If necessary: Is an affirmation available that any such funding from Annex-I-countries does not result in a diversion of ODA?	1, 2	See F.2.1	☑	☑
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 baseline information has been provided in the annex 3. Nevertheless see Corrective Action Request No. 11	Open	☑
F.3.2. Is the data provided verifiable? Has sufficient evidence been provided to the validation team?	1, 2	See F.3.1	Open	☑
F.3.3. Does the additional information substantiate / support statements given in other sections of the PDD?	1, 2	See F.3.1	Open	☑
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	Yes. Annex 4 described the tasks and responsibility of CMO in detail. And it is indicated that CMO will get the support from Beijing Tianqing Power International CDM Consulting, Co., Ltd.,	☑	☑
F.4.2. Is the information provided verifi-	1, 2	Yes. It has been verifiable by the validator during audit. The train-	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
able? Has sufficient evidence been provided to the validation team?		ing plan has been provided to the validator and has been reviewed.		
F.4.3. Do the additional information and / or documented procedures substantiate / support statements given in other sections of the PDD?	1, 2	Yes. it is consistent with the statements in chapter B.7.	☑	☑

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			
The available PDD is indicated as version 3, and was completed on 31/05/2007. **Corrective Action Request No.1.** The completing date should be written in dd/mm/yyyy format. Please extend this correction for the rest of the PDD. Also, as the present GSP PDD is entitled version 3 please include a revision history of the document for the sake of transparency,.	A.1.2	PDD Version: 3.0 Date: 26/11/2007	☑ The first response from DOE: The format has been revised in A.1 , B.5 and C.1.1, C.2.1.1 The version history should be consistent with and include the GSP version of the PDD. Revised.
The type of the hydropower, the capacity, the location, the annual electricity and the connection system are described in the PDD. **Corrective Action Request No.2.** According to the approval of the preliminary design report, dated on July 3rd 2006, Guangxi Zhuang Autonomous Region water power department, the total installed capacity of the proposed project is 16.89MW, in which the new installed capacity is 15MW and the built 2 level hydropower station 3*0.63MW will be purchased. Please describe this information in the PDD. The purchasing contract should be delivered to the validators.	A.2.1	We have added the relevant content in the A.4.2 The installed capacity of the proposed project is 15MW, but not 16.89MW. According to the programming of Nava River, the project and Naba 2nd level hydropower station are two-level developing projects, which have been programmed at the same time. Therefore, the project has no any impact on the Naba 2nd level hydropower station. Naba 2nd level hydropower station with a total installed capacity of 3*0.63MW was purchased by the project owner on Sep. 2006, and the Naba 2nd level hydropower station have generated power in 2004. We have explained this issue in the section A.4.2. And we have delivered the purchasing contract of Naba 2nd level hydropower station to DOE.	☑ The transfer agreement has been provided and indicated in the IRL as No. 30. The supplementary information has been added in to A.2 of the revised PDD. The first response from DOE: As there is no capacity indicated in the agreement, the approval of the Naba 2nd hydro power station should be provided to the DOE. Not received about the purchasing contract of Naba 2nd

			level hydropower station.
Corrective Action Request No.3. The description of the project location in chapter A.2: The station is located on the banks of the Gui River. It is inconsistent with the actual situation. Please revise and correct it.	A.2.1	We have revised the section A.4.1.4. The proposed project is located in Naba River, which is on the border of Naba Village, Nandan County, Hechi City, Guangxi Zhuang Autonomous Region, P.R. China.	☑ The first response from DOE: The structure of the proposed project and the location of Naba 2nd hydro power station and their relationship should be more clearly indicated in the revised PDD. As the project involves reservoir, it is not a type of run-of river. Please revise this issue in the PDD.
Corrective Action Request No.4. To increase transparency, please clearly describe the GPS data of both the powerhouse and the dam site.	A.4.1.1	According to the EIA of the project, we have added the exact location of the dams and powerhouse. Manaohe dam is located in the Manao river, which is a branch of Naba river, its exact location is at latitude 25°12'35"N and longitude 107°22'24"E. Wangzhuanhe dam is located in Wangzhuan river, which is another branch of Naba river, its exact location is at latitude 25°11'52"N and longitude 107°22'43"E .The powerhouse is located in the left bank of Naba river, its exact location is at latitude 25°11'46"N and longitude 107°13'15"E.	☑ Revised in A.4.1.4
Corrective Action Request No.5. The information of the turbines and generators described in table A.1 is inconsistent with the purchasing contract. Please revise and correct them.	A.4.2.6	We have revised the table A.1 according to the equipment purchasing contract. Turbines: CJA237-W-120/2×13.5 Generators: SFW5000-10/2150	☑ Revised

Yes. The project owner can count on some experienced experts for properly operating the project after completion of construction. The employees will be sent to another hydropower station which is already in operation for initial training. Moreover, the turbine manufacturing factory will provide direct training to the employees. **Corrective Action Request No.6.** The statement in the chapter A.4.2: There is no need for extensive initial training on operation and maintenance, since the hydropower is a mature and common practice technology in China. It should be revised referring to the training mentioned on-site.	A.4.2.9	The employees of the project was trained in theory before the commissioning of the project, and the training course covers: introduction of basic theory; maintenance and repair of power connection system; computer monitoring of small scale hydropower station; safety operating regulation; distribution regulation; maintenance and repair of turbines and generators, auxiliary equipment and automatization of turbines and generators and so on. Then the project owner will send the workers to another hydropower station for production training.	☑ Revised in A.4.2
Yes. The form is correctly applied. Nevertheless see Corrective Action Request No.7 **Corrective Action Request No.7.** According to the time schedule of the project provided by the project owner the estimated operation date is in Set; 2008. Please revise the starting date of the first crediting period in Table A.2 accordingly. And extend the correction for the rest of the PDD.	A.4.3.1	The project construction started on Dec.22 2006; its completion is expected by Dec.2008. The plant operation start-up is expected by Jan. 2009 And we have corrected the date of the first crediting period.	☑ It is reasonable for the starting date of the crediting period in Jan. 2009.
Corrective Action Request No.8. Criterion 4 should be discussed in the PDD. Please describe why the two projects (i.e. 1st and 2nd level) can be considered separately and how the 1st level project can be differen-	B.2.1.4	According to the programming of Naba River, the project and Naba 2nd level hydropower station are two-level developing projects, which have been programmed at the same time. In addition, according to the EIA of the project, the distance of the powerhouses of	☑ Revised. Evidences were provided (IRL 34, 35).

tiated to the 2nd level project.		the two hydropower stations is about 20m. Therefore, the proposed project is a new grid-connected power plant, and the project activity does not involve the addition of renewable energy generation units at an existing renewable power generation facility. In China, programming of a river is made by the local government, and then the local government will decide the project owner through inviting public bidding. Before 2004, when the government made the programming of the Naba River, local government only confirmed the programme of two levels developing, the project owner had not been confirmed yet. Furthermore, the Naba 2nd Project comfirmed project owner in 2003, therefore they developed this project firstly. In 2006, the Naba 1st project was decided to be developed by the project owner. In China, this situation is common. For example, some rivers have been programmed in 1990s, but the hydropower stations have not been decided to develop till now.	
Yes. Project boundary of the proposed project is the project connected to the China Southern Power Grid. According to Chinese DNA advice, the China Southern Power Grid includes Guangdong Province, Guizhou Province, Yunnan Province and Guangxi Autonomous Region. Nevertheless see CAR 9 **Corrective Action Request No.9.** The statement in the chapter B.3: "In this specific case, the station will be connected to the Yunnan Grid" is inconsistent with the actual situation. It should be connected to the	B.3.1	We have revised this issue. The station will be connected to the Guangxi Grid and, finally, to the Southern Grid.	☑

Guangxi grid. Please revise this. Please extend the correction for the rest of the PDD.			
Corrective Action Request No.10. The calculation table of IRR in English in PDF and excel format should be delivered to the DOE. The data source of the IRR calculation table should be translated to English and be delivered to the DOE.	B.5.17	We have delivered the IRR calculation sheet both in PDF and Excel to the DOE.	☑ The first response from DOE: In the attachment I didn't find the required documents. According to the approval of PDR, dated on July 3 2006, the IRR is 11.37%, and the supplementary financial report of PDR, dated on April 2006, the IRR is 7.84%. Please clarify why they are inconsistent. the proof of serious (beyond any doubt) CDM consideration when decision was made to implement the project should be provided, otherwise this project is no additionality.
The OM and BM published by the Chinese DNA on Dec. 15th, the IPCC 1996 values were adopted for the calculation of the emission factor according to the methodology's advice. **Corrective Action Request No.11.** Since the start of GSP new emission factors were published by the NDRC in August 2007. According to the methodology, the latest	B.6.1.5	I have revised section B.6 and Annex 3 of PDD in calculation of the emission factor.	☑

available data shall be used. Therefore please revise section B.6 and Annex 3 accordingly and provide the spreadsheet of the revised emission factor calculation to the assessment team.			
Yes. Almost all parameters are presented in the chapter B.6.2 of the PDD. **Corrective Action Request No.12.** The parameters indicated in the following tables with "no" should be included into the PDD.	B.6.2.1	I have added the parameters in the PDD section B.6.2	☑
Yes. The monitoring plan provides current good monitoring practice. **Corrective Action Request No.13.** To increase transparency, please indicate the accuracy of the metering instruments in the second table in B.7.1.	B.7.2.3	The accuracy of the meter is 0.2S. And we have added this information to section B.7 of the PDD.	☑
Yes. The analysis of the environmental impacts of the project activity involved noise, waste solid substance, water, gas, ecological environment among others. **Corrective Action Request No.14.** There are some affected people that have been relocated due to the projects implementation. Please provide detailed information in the PDD. The summary of compensation for resettlement or occupied lands should be delivered	D.1.2	We have added the ecological flow and land occupied in the section D of the PDD. The project owner should be responsible to guarantee the ecological water according to the Environment Impact Assessment. Thus, there is a hole constructed on the dam to guarantee the ecological water flow of 0.34m3/s. This project involves no immigrants, and the permanent occupied land is 3.7571ha [1], all of which were wild land.	☑ The evidences have been provided and verified. They are indicated in the IRL No. 32, 33.

[1] Statement of Land occupied statistic issued by local Land and Resources Bureau

to the validator. The evidence for taking into consideration the minimum ecological flow should be delivered to the validator.			
CRs			
Clarification Request No. 1. In the feasibility study phase there is FSR and its approval and in the preliminary design phase the PDR and its approval; it has been detected that there inconsistencies among the two. Therefore please indicate the data sources described in the PDD and extend the clarification to the rest of the PDD.	A.2.1	I have added the data source in the table B.2.	☑
Clarification Request No. 2. The PDD does not mention the characteristics of the main transformer. Please provide this information to the validator.	A.4.2.6	We have added the information of the main transformer in the PDD according to the Primary Design Report.	☑
Clarification Request No. 3. According to the EB 38, and the timeline provided by the PP, we can see Primary Design Report of the project wrote by Guangxi Liuzhou Hydropower Reconnaissance Institution is written on Nov. 2005. And then there is a supplementary financial assessment report dated on April of 2006, a budgetary report about the proposed project also dated on April of 2006. It is not clear for audit team what is the relationship between of them. The most important thing is, in the approval of	B.5.13	In China, programming of a river is made by the local government, and then the local government will decide a project owner through invite public bidding. Before 2004, when the government made the programming of the Naba River, the project owner had not confirmed yet, just confirmed the program of two levels developing by the local government. Some company could consign the institute had aptitude to make the Preliminary Design Report in order to assess the project, if the project was financial then the company would acquired the develop right from the government, and the government would approve the project to develop by the	According to the evidences you provided, CDM consideration is weak – it basically can be understood as intention to apply the CDM, but not as a serious CDM consideration to overcome the economic burden of the project. Hence, Please demonstrate the serious CDM consideration when making the invest-

PDR dated on July 3 2006 (the date is latter compared with the date of the supplementary financial assessment report and the budgetary report).it is no evidence to show the authorized government knew, assessed and approved the increased investment mentioned in the supplementary financial assessment report and the budgetary report. Hence we think it can't be acceptable that the data from the budgetary report is applied to calculate IRR. According to the result of IRR in the PDR, it is 12.60%, more than the benchmark IRR 10%. Hence, it is no additionality for this project. The above mentioned issue should be clarified. In addition, please explain why the project would not be released in spite of existing "river planning" and although 2nd level has been installed obviously without requiring CDM revenues.		company.	ment decision. The timeline of the project with respect to the early CDM consideration was explained to the DOE. ☑
Clarification Request No. 4. Please provide the surface area of full reservoir level and calculate the power density. Clarify if there is leakage occurring.	B.6.3.2	According to AMS-I.D (version 11), greenhouse gas emissions from the project activity are zero. In addition, the surface area of Manao River reservoir at the full water level is 44,200m2, and that of Wangzhuan River reservoir is 31,800m2, therefore the power density of the two reservoirs is 339.4W/m2 and 471.7 W/m2 respectively, both of which are far more than 10W/m2. Hence $PE_y = 0$.	☑ The first response from DOE: Please indicate the data source of the surface area of full reservoir level.
Clarification Request No. 5.	B.6.3.3	There is a Naba 2nd level hydropower station with a total installed capacity of 3*0.63MW purchased by the	The first response from DOE: If there is more than one

Please clarify this issue. And see CAR 2		project owner on Sep. 2006, and the Naba 2nd level hydropower station have generated power in 2004, it will not register for CDM project.	component of the project activity, then, are emission reduction calculations provided separately for each component? This issue should be clarified. ☑
Yes. The structure is clearly described in the PDD. Nevertheless see CR 5 **Clarification Request No. 6.** Please clarify how to distinguish the generation electricity by the purchased hydro power 3*0.63MW and the generation electricity by the new installed capacity 15MW, and how to allocate the monitoring meters.	B.7.2.1	We have revised the section B.7.2. We have added meter location of the project in the PDD, and in the PDD we have explained how to distinguish the generation of the Naba 1st and 2nd level Hydropower Stations.	The first response from DOE: In A scheme and in the two diagrams of meters there is no description for M3 or M3a, For more transparency please revise the issues. ☑ revised
Open Issue: Pls. deliver the LoA issued by China and the DNA of investment party, as well as the MoC countersigned by all parties to the DOE before raising the request for registration.			LoA from buyer is still missing, but will be delivered once this report is finalized.

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

Clarifications and / or corrective action requests by validation team	Id. of CAR/CR	Explanation of Conclusion for Denial
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Annex 2: Information Reference List

Reference No.	Document or Type of Information
1.	PDD for CDM project "Guangxi Zhuang Autonomous Region Nandan Naba 1st Level Hydropower Station", version 02, July 10 2007
2.	Consolidated baseline methodology for AMS-I.D. "Grid-connected renewable electricity generation", version 11
3.	Tool for Appendix B of the simplified modalities and procedures for small-scale CDM project activities, version 06
4.	Participant list of on-site interview, signed on July16 2007.
5.	On-site interviews at the office of Beijing Tianqing Power International CDM Consulting Co., Ltd in Beijing, conducted on July 16, 2007 by auditing team of TÜV SÜD: Validation team: Mr. Carl Zhou CDM Auditor, Jiangsu TÜV Product Service Ltd., Shenzhen Branch Interviewed persons: Miss Fan Ting — Beijing Tianqing Power International CDM Consulting Co., Ltd — Assistant Miss Wang Ting — Beijing Tianqing Power International CDM Consulting Co., Ltd — Assistant Mr. Jiang Dongkui — Beijing Tianqing Power International CDM Consulting Co., Ltd — Documentation Dept. manager Mr. Lu Yongsheng — Nandan Hongyuan Hydropower Exploitation Co., Ltd. — Board Chairman Mr. Jiang Xu — Nandan Hongyuan Hydropower Exploitation Co., Ltd. — leader of the finance dept.
6.	PDR, November,2005, Liuzhou Water Conservancy and Electricity Survey and Design Institute, Guangxi Zhuang Autonomous Region
7.	Additional Financial Report to the PDR, April,2006, Liuzhou Water Conservancy and Electricity Survey and Design Institute, Guangxi Zhuang Autonomous Region
8.	EIA, March, 2005, Environmental Protection Institute of Chihe City
9.	Report on Promotion of Electricity in Countryside by Hydropower in Dandan County, Guangxi Zhuang Autonomous Region (June 2005).
10.	Economic Evaluation Code for Small Hydropower Projects, P.R.China Industry Standard, standard no. SL16-1995(The financial benchmark IRR of total investment is 10 %.)
11.	Feasibility Study Report Approval, September 26th, 2005, Development and Reform Commission of Chihe City
12.	Preliminary Design Report Approval, July 3rd, 2006, Bureau of Water Resource of Guangxi Zhuang Autonomous Region
13.	EIA Approval, April 21st, 2005, Environmental Protection Bureau of Guangxi Zhuang Autonomous Region
14.	Certificate of the electricity price, July, 2nd, 2004, Price Bureau Guangxi Zhuang Autonomous Region, No.(2004)222. The price of the proposed project is 0.260yuan/kwh

Reference No.	Document or Type of Information
15.	Purchase Contract of Generator Sets, July 9, 2007, Liuzhou Jiuyuan Turbines Co., Ltd.
16.	Questionnaires, meeting record, sign-in record and newspaper bulletin of the stakeholders' meeting
17.	Evidence of the Capital Source
18.	Business License, August, 23rd, 2004.
19.	Compensation Agreement, November, 2006.
20.	Water and Soil Conservation Approval, October, 26th, 2005, Bureau of Water Resource of Hechi City
21.	Directorate Agreement , June 12th, 2006, Nandan County Hongyuan Hydropower Development Co., Ltd.
22.	The evidence for consideration CDM before construction of the project.
23.	IRR calculation table
24.	The time schedule of the proposal project, including the evidence of starting construciton
25.	Grid connection agreement ,dated on June 6,2007,Nandan County Hongyuan Hydropower Development Co.,Ltd.
26.	Training plan for operation maintenance people, Nandan County Hongyuan Hydropower Development Co.,Ltd.
27.	Approval of the Nandan Naba 1st Level Hydropwer project,dated on Oct.28 2004,Development and Reform Commission of Hechi city.
28.	Approval of the lands occupied due to the Naba Hydropower project (31 Dec 2006), People's Government of Guangxi Zhuang Autonomous Region.
29.	The letter of using woodland, dated on March,8 2005, Forestry Department of Nandan.
30.	Transfer agreement betw. Nandan Hongyuan Hydropower Exploitation Co., Ltd and Nandan County Naba hydro power station, Sep 23 2006.
31.	Technical administrative code of electric energy metering (DL/T448 - 2000)
32.	The compensation table for occupied lands.
33.	The design evidence for ensuring eco-flow.
34.	Approval of Naba River Development Program, 28 July 2003, Hechi City Water Resources Department
35.	Developing Right Approval of the Naba 1st Level Project, 26 June 2006.
36.	Evidence of the tunnel length of Naba 1st Level Project
37.	PDR of Naba 2nd Level Project (including IRR and length of pressure pipe).
38.	Approval of grid price of Shaoping Hydropower Station, Price Bureau of Guangxi Province, April 12, 2002
39.	Evidence of grid price in Guangxi Province, *http://www.np.gov.cn/public/displayDocument.jsp?did=12198886330111*, May 9, 2008

Reference No.	Document or Type of Information
40.	China Statistical Yearbook 2003, compiled by National Bureau of Statistics of China, China Statistics Press; China Statistical Yearbook 2004, 2005, 2006 and 2007, from web source *http://www.stats.gov.cn*
41.	Balance sheet, by Nandan Hongyuan Hydropower Exploitation Co., Ltd., August 31, 2008
42.	Payroll record of some employees, Nandan Hongyuan Hydropower Exploitation Co., Ltd., August 2008