VALIDATION REPORT

YUEXI DAYAN SMALL HYDROPOWER PROJECT

Report No: QT-CDM10-07 - 07/108

Formatiert: Englisch (Großbritannien)

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2008-08-27	Project No.: QT-CDM10-07 - 07/108
Approved by: Mr. Rainer Winter	Organisational unit: TÜV NORD JI/CDM Certification Program
Client: Carbon Asset Management Sweden AB	Client ref.: Mr. Niels von Zweigbergk (President & CEO)

Summary/Opinion:

The Carbon Asset Management Sweden AB has commissioned the TÜV NORD JI/CDM Certification Program (CP) to validate the project: "Yuexi Dayan Small Hydropower Project" with regard to the relevant requirements of the UNFCCC for CDM project activities, as well as criteria for consistent project operations, monitoring and reporting. UNFCCC criteria include article 12 of the Kyoto Protocol, the modalities and procedures for CDM (Marrakech Accords), the simplified modalities and procedures for small scale CDM project activities of annex II to decision 21/CP.8 and the relevant decisions by COP/MOP and CDM Executive Board.

The project activity exports the electricity power from a renewable energy source to the Central China Power Grid (CCPG). The project intends to reduce GHG emissions to the extent of equivalent electricity generated by fossil fuels based power plants of CCPG.

A risk based approach has been followed to perform this validation. In the course of the pre-validation, 11 Corrective Action Requests (CARs) and 10 Clarification Requests (CRs) were raised and successfully closed.

The review of the project design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and review of comments by parties, stakeholders and NGOs have provided TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.

In detail the conclusions can be summarised as follows:

- The project is in line with all relevant host country criteria (China) and all relevant UNFCCC requirements for CDM. Project activity approval has been obtained from DNA of China vide the Letter of Approval (HCA) dated 26/08/2007 and the letter of approval from Sweden DNA (LOA) dated 02/09/2007.
- The project additionality is sufficiently justified in the PDD.
- The monitoring plan is transparent and adequate.
- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 352,247 tCO_2e is most likely to be achieved within the 1st renewable crediting period (Oct. 2008-Sep 2015).

The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation.

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Report title: *Yuexi Dayan Small Hydropower Project*	
Work carried out by: Mr. Yong Jun LI, Mr. Martin Saalmann	
Work verified by: Mr. Rainer Winter	

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Indexing terms

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Gelöscht: 1

Abbreviations

BAU	Business as usual
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CCPG	Central China Power Grid
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
CP	Certification Program
CR	Clarification Request
DNA	Designated National Authority
EB	CDM Executive Board
EIA	Environmental Impact Assessment
GHG	Greenhouse gas(es)
HCA	Host Country Approval
IRR	Internal Rate of Returns
LoA	Letter of Approval
LYHD	Yuexi County Liyuan Hydropower Development Co. Ltd.
MP	Monitoring Plan
NCV	Net Calorific Value
NDRC	Chinese National Development and Reform Committee (DNA of China)
ODA	Official Development Assistance
PDD	Project Design Document
PLF	Plant Load Factor
PP	Project Proponent
QC/QA	Quality control/Quality assurance
SSC	Small-Scale
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation Verification Manual

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1 INTRODUCTION

Carbon Asset Management Sweden AB has commissioned the TÜV NORD JI/CDM Certification Program (CP) to validate the project:

"Yuexi Dayan Small Hydropower Project."

with regard to the relevant requirements for CDM project activities.

1.1 Objective

The purpose of this validation is to have an independent third party assess the project design. In particular the project's baseline, the monitoring plan (MP), and the project's compliance with

- the requirements of Article 12 of the Kyoto Protocol; the CDM modalities and procedures as agreed in the Marrakech Accords under decision 17/CP.7; the annex to the decision; subsequent decisions made by COP/MOP & CDM Executive Board,
- other relevant rules, including the host country (China) legislation and sustainability criteria

are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders on the quality of the project and its intended generation of certified emission reductions (CERs).

1.2 Scope

The validation scope is given as an independent and objective review of the project design, the project's baseline study and monitoring plan (based on AMS ID / Version 11: Grid connected renewable electricity generation), which are included in the PDD and other relevant supporting documents.
The items covered in the validation are described below:

- **UNFCCC & Host Country Criteria**
  - UNFCCC/Kyoto Protocol requirements, in particular, the requirements of the CDM as set out in decision 17/CP.7 (Marrakech Accords), the present annex, and relevant decisions by COP/MOP & CDM Executive Board
  - Host country requirements / criteria

- **CDM Project Description**
  - Project design
  - Project boundaries
  - Predicted CDM project GHG emissions

- **Project Baseline**
  - Baseline methodology
  - Baseline GHG emissions

- **Monitoring Plan**
  - Monitoring methodology
  - Indicators/data to be monitored and reported
  - Responsibilities

- **Background investigation and follow up interviews**

- **Stakeholder consultation**
  - Publishing the PDD on TUV NORD website
  - Review of comments

- **Draft validation reporting with CARs & CRs, if any**

- **Final validation reporting.**

The information included in the PDD and the supporting documents were reviewed against the requirements and criteria mentioned above. The TÜV NORD JI/CDM CP has, based on the recommendations in the Validation and Verification Manual[/VVM/], employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of CERs. The validation is based on the information made available to TÜV NORD JI/CDM CP and on the contract conditions. TÜV NORD JI/CDM CP can not be held liable by any entities for making its validation opinion based on any false or misleading information supplied to it during the course of validation.

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

1.3 GHG Project Description

1.3.1 Project Scope

The considered GHG project can be classified as a CDM project in the sector given in Table 1-1 (according to List of Sectoral Scopes of UNFCCC).

Table 1-1: Project Scope(s)

No.	Project Scope
1	Energy industries (renewable - / non-renewable sources)

1.3.2 Project Parties

People's Republic of China and Sweden are the two parties involved in the project activity.

1.3.3 Project Entities

The following entities are involved in the developing of the project:

Project Proponent 1	Yuexi County Liyuan Hydropower Development Co. Ltd Dayan Village, Banqiao town, Yuexi County Yuexi County Liangshan State People's Republic of China
Contact person:	Jiankang XU General Manager Tel No: (86) 834 7613129 Fax No:(86) 834 7613129 Email: lysd2005@163.com
Project Proponent 2	Carbon Asset Management Drottninggatan 92-94 Stockholm- 11136 Sweden
Contact Person:	Niels von Zweigbergk President & CEO Tel No: (46) 8506 26396 Fax No: (46) 8346080

1.3.4 Project location

The project, located on river Dayan, comprises of two stages-Stage II and III. Stage II is located upstream of stage III.

Water from Dayan River is diverted through Stage II to generate electricity, and the tail water is diverted through Stage III.
The details of the project location are given in table 1-2:

Table 1-2: Project Location

Host Country	Peoples Republic of China
Region:	Sichuan Province
Project location address:	Dayan River, Banqiao town Yuexi County south of Sichuan Province People's Republic of China

Stage II	
Latitude: *Intake gate*	28°49'42" N
Longitude: *Intake gate*	102°29'23.3" E
Latitude: *Power House*	28°48'16" N
Longitude: *Power House*	102°30'25" E
Stage III	
Latitude: *Intake gate*	28°48'16" N
Longitude: *Intake gate*	102°30'25" E
Latitude: *Power House*	28°49'29" N
Longitude: *Power House*	102°29'24" E

1.3.5 Technical project description

The Yuexi Dayan Small Hydropower Project is a run-of-river hydropower project located on river Dayan, which is a small branch of Dadu river in Sichuan Province of P.R. China. The project comprises two small power plants with capacity of 2 x 0.8 MW (Stage II) and 2 x 6.3 MW (Stage III) respectively.

The water of the river will be diverted through the two stages to generated electricity. The water flows through pipes, driving the turbines on the project sites.

Stage II

The expected net power generation of Stage II is 6,319 MWh per year. The rated water head is 120 m and the rated water flow is estimated to be 0.82*2 m^3/s. The following civil works are implemented: an intake gate, a penstock, a powerhouse, a power evacuation system and a tailrace canal.

Gelöscht: 1

Gelöscht: 1.76

The key parameters for Stage II of the Dayan Small Hydropower Project are given in tables 1-3:

Table 1-3: **Key parameters of the Dayan Small Hydropower Project (Stage II)**

Turbine	
Type:	HLD54-WJ-60A
Quantity:	2
Rated Rotation Speed:	1000 rpm
Rated Power:	860 kW
Rated Water Head:	120 m
Rated Flow:	0.82*2 m^3/s
Generators	
Type:	SFW800-8/1180
Quantity:	2
Rated Power:	800 kW x 2
Construction Starting date :	06/04/2007

Gelöscht: 1.0

Gelöscht: 1.76

Gelöscht: 6

Stage III

The expected net power generation of Stage III is 45,316 MWh per year. The rated water head is 508 m and the rated water flow is estimated to be 1.48*2 m^3/s. The following civil works are implemented: an intake gate, a penstock, a powerhouse, a power evacuation system and a tailrace canal.

Gelöscht: 525

Gelöscht: 2.96

The key parameters for Stage III of the Dayan Small Hydropower Project are given in tables 1-4:

Table 1-4: Key parameters of the Dayan Small Hydropower Project (Stage III)

Turbine	
Type:	CJA237-W-120/2x11
Quantity:	2
Rated Rotation Speed:	750 rpm
Rated Power:	6564 kW
Rated Water Head:	508 m
Rated Flow:	1.48*2 m^3/s
Generators	
Type:	SFW6300-8/2150
Quantity:	2
Rated Power:	6300 kW x 2
Construction Starting date:	01/07/2006

Gelöscht: 25.0

Gelöscht: 2.96

The electricity generated from Stage II and Stage III will be jointly connected to Yuexi Power Grid via Naituo Transformer Substation at 35kV and then connected to CCPG.

The project's net electricity exported to the grid is expected to be 51,635 MWh annually and the estimated emission reduction within the 1st renewable crediting period (Oct. 2008 – Sep. 2015) is 352,247 tCO_{2e}.

Gelöscht: Aug

Gelöscht: J

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Gelöscht: 429

2 VALIDATION TEAM

The Validation team was led by **Mr. Yong Jun Li**, TUV NORD – Shanghai, China. Mr. Li, Dipl. in Environment Technology, is a TÜV-CERT Lead auditor for ISO 9001/14001 and OHSAS 18001. Currently he is In-charge-CDM Manager for TÜV NORD China operation. He is an appointed assessor for JI/CDM certification program of TÜV NORD.

For this validation he was assisted by:

Formatiert: Nummerierung und Aufzählungszeichen

- **Mr. Martin Saalmann**, TÜV NORD CERT GmbH, is an appointed JI/CDM Expert in the JI/CDM Certification Program of TÜV NORD.

The validation report is verified by:

Mr. Rainer Winter. He works at TÜV NORD as ISO 9001/ 14001 Auditor and environmental verifier for EMAS. He is also an approved emission verifier within the European Emission Trading Scheme. Mr. Winter is an authorized JI/CDM assessor and is global leader of the TÜV NORD JI/CDM CP.

3 METHODOLOGY

The validation of the project was carried from July '07 to Aug. '08. It was divided into two phases: the pre-validation and the validation phase. The pre-validation consisted of the following three phases:

Gelöscht: March

- A desk review of the PDD (incl. annexes) and supporting documents with the use of a customised validation protocol according to the Validation and Verification Manual[VVM];
- Back ground investigation and follow-up interviews with personnel of the project proponent, the consultant, legal authorities and other stakeholders;
- Reporting of validation findings taking into account the public comments received on TUV NORD website.

The draft validation report includes Corrective action and Clarification Requests (CAR and CR) identified in the course of this validation.

A **Corrective Action Request** is established if

- mistakes have been made in assumptions or the project documentation which directly will influence the project results,
- the requirements deemed relevant for validation of the project with certain characteristics have not been met or

- there is a risk that the project would not be registered by the UNFCCC or that emission reductions cannot be verified and certified.

A **Clarification Request** is issued where information is insufficient, unclear or not transparent enough to establish whether a requirement is met.

The final validation started after issuance of proposed corrective action (CA) of these CAR and CR by the project proponent. The validator has assessed the proposed CA with a positive result and after the closure of these CAR and CR the project proponent has issued the final version of the PDD. On the basis of this the final validation report and opinion were issued.

3.1 Validation Protocol

In order to ensure consideration of all relevant assessment criteria, a validation protocol was used. The protocol shows, in a transparent manner, criteria and requirements, means of verification and the results from pre-validating the identified criteria. The validation protocol serves the following purposes:

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

The validation protocol consists of three tables: Table 1 (Mandatory Requirements); Table 2 (Requirement Checklist); and Table 3 (Resolution of Corrective Action and Clarification Request) as described in Figure 1.

The completed validation protocol is enclosed in the annex to this report, identifying 11 Corrective Action Requests and 10 Clarification Requests.

Validation Protocol Table 1: Mandatory Requirements			
Requirement	***Reference***	***Conclusion***	***Cross reference***
The requirements the project must meet.	*Gives reference to the legislation or agreement where the requirement is found.*	*This is either acceptable based on evidence provided (**OK**), or a **Corrective Action Request (CAR)** of risk or non-compliance with stated requirements. The corrective action requests are numbered and presented to the client in the Validation report.*	*Used to refer to the relevant checklist questions in Table 2 to show how the specific requirement is validated. This is to ensure a transparent Validation process.*

Validation Protocol Table 2: Requirement checklist				
Checklist Question	***Reference***	***Means of verification (MoV)***	***Comment***	***Draft and/or Final Conclusion***
The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organised in seven different sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.	*Gives reference to documents where the answer to the checklist question or item is found.*	*Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.*	*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.*	*This is either acceptable based on evidence provided (**OK**), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question (See below). **Clarification** is used when the validation team has identified a need for further clarification.*

Validation Protocol Table 3: Resolution of Corrective Action and Clarification Requests			
Draft report clarifications and corrective action requests	***Ref. to checklist question in table 2***	***Summary of project owner response***	***Validation conclusion***
If the conclusions from the draft Validation 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 2 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 2, under "Final Conclusion".*

Figure 1: Validation protocol tables

3.2 Review of Documents

The draft PDD submitted by Carbon Asset Management Sweden AB in July 2007 and supporting background documents related to the project design and baseline were reviewed.

Furthermore, the validation team used additional documentation by third parties like host party legislation, technical reports referring to the project design or to the basic conditions and technical data.

The documents that were considered during the validation process are given in chapter 7 of this report. They are listed as follows:

- Documents provided by the project proponent (Table 7-1)
- Background investigation and assessment documents (Table 7-2)
- Websites used (Table 7-3).

In order to ensure the transparency of the decision making process, the reference codes listed in tables 7-1 to 7-3 are used in the validation protocol and – as far applicable – in the report itself.

3.3 Follow-up Interviews

On 27th August 2007, the TÜV NORD JI/CDM CP performed the on-site interviews with the project proponent, project consultant and local stakeholders to confirm selected information and to resolve issues identified in the document review.

The key interviewee and main topics of the interviews are summarised in Table 3-1.

Table 3-1 Interviewed persons and interview topics

Interviewed Persons / Entities	Interview topics
Project proponent representatives	- Chronological description of the project activity - Technical details of the project realisation and Project Design Report - Host Government Approval / Annex I country approval (Sweden) - Approval procedures and status - Quality management system - Monitoring and measurement equipment - Crediting period and its starting date - Project activity starting date - Power purchase agreement with grid - Sustainable development benefits because of project

Interviewed Persons / Entities	Interview topics
	- Analysis of local stakeholder consultation - Operational data – technical specification (capacity of turbine), startup power supply, water availibility, plant load factor. - Training & competency of the staff members w.r.t project management, monitoring and reporting - Debundling
Project consultant representatives	- Editorial aspects of PDD - Methodology selection aspects - Baseline study, leakage and additionality - Details of emission reduction calculation
Local Stakeholders	- Stakeholder survey and consultation - Socio-economic issues / benefits because of project - Status of implementation of agreements

3.4 Resolution of Clarification and Corrective Action Requests

In order to remedy any mistakes, problems or any other outstanding issues which needed to be clarified for positive conclusion on the project design, CARs and CRs were raised.

In this validation report 11 CARs and 10 CRs are raised.

The CARs / CRs are documented in Annex and addressed in section 4.

3.5 Public Stakeholder Comments

The PDD was made publicly available through TÜV NORD JI/CDM CP website www.global-warming.de. Comments on the PDD were invited within 30 days, i.e. 20/07/2007 to 19/08/2007.

No comments were received. In case comments would have been received, they would have also been made publicly available on this web site.

3.6 Finalising the report

The draft validation report was submitted to the project proponents. After reviewing the revised and resubmitted project documentation; resolving the CRs & CARs raised and outstanding concerns TÜV NORD JI/CDM CP issues this final validation report and opinion.

4 VALIDATION FINDINGS

In the following protocol the findings from the desk review of the draft PDD, visits, interviews and supporting documents are summarised.

The results are shown in table 4-1:

Table 4-1: Summary of CAR and CR issued

Validation topic [1)]	No. of CAR	No. of CR
General description of project activity (A) - Project boundaries - Participation requirements - Technology to be employed - Contribution to sustainable development	4	3
Project baseline (B) - Baseline Methodology - Baseline scenario determination - Additionality determination - Calculation of GHG emission reductions Project emissions Baseline emissions Leakage - Emission reductions - Monitoring Methodology - Monitoring of Project emissions Baseline emissions Leakage Sustainable development indicators / environmental impacts - Project management planning	5	5
Duration of the Project / Crediting Period (C)	-	1
Environmental impacts (D)	-	-
Stakeholder Comments (E)	2	1
SUM	**11**	**10**

[1)] The letters in brackets refer to the validation protocol

For an in depth evaluation of all validation items it should be referred to the validation protocol (Annex). Annex also includes all CARs and CRs (Table 3).

4.1 Participation Requirements

P.R. of China as a non Annex I party meets all relevant participation requirements. In the Letter of Host Country Approval[/HCA/] dated 26/08/2007, the Chinese DNA, Chinese National Development and Reform Committee confirmed the voluntary participation of LYHD as project participant in the CDM project activity.

Sweden as the Annex 1 party meets all the relevant participation requirements. In the Letter of Approval[/LOA/] dated 02/09/2007, the Swedish DNA, Swedish Energy Agency, Department of Energy system Analysis and Climate Change, confirmed the voluntary participation of Carbon Asset Management Sweden, AB as the purchaser in the CDM project activity as well as confirmed that public funding is not used for the purchase of the Certified Emission Reductions from the project.

4.2 Project design

The objective of this 14.2 MW bundled hydro power project is to reduce GHG emissions by replacing electricity of the CCPG which predominantly uses fossil fuels. The project activity is estimated to reduce GHG emissions equivalent to 50,321tCO_2e annually.

Gelöscht: 347tCO_2e

The proposed CDM project is a bundled project activity and comprises two run-of-river small power plants with capacity of 2 x 0.8 MW (Stage II) and 2 x 6.3 MW (Stage III) respectively owned by the LYHD. The electricity is generated by state-of-art high-water head turbine generators. No technology transfer is involved in the project activity.

In terms of sustainable development, various social, economic and environmental benefits are achieved. Direct and indirect employment was obtained through implementation and operation of the project activity. Besides GHG mitigation, the project activity also leads to SO_2, NO_x reduction.

To convert the kinetic energy of water into mechanical energy and subsequently into electrical energy, water from the river was led through barrage, tunnel, pressure adjustment well and then led into pressure pipe to form the high water head. Then water from the pressure pipe flows into the powerhouse and drives the turbines and generators to generate electricity. According to the EIA approval from the host country, the technology used in the project activity is environmentally safe and sound. The feasibility of technology has been approved by the local development and reform committee.

The project design does reflect current good practices. In the host country approval of China, it's stated that LYHD has to comply with the following conditions:

- LYHD shall not sell the CERs to any agency/ company/ organization which purchases the CERs using ODA Funds

- LYHD is permitted to transfer CERs to Carbon Asset Management Sweden AB which is authorized by Sweden Government.

Based on the financial information furnished by the project participant, no ODA contributes to financing of the project./IM01/

In the course of the project validation, the following - CAR A1, CAR A2, CAR A3, CAR A4, and CR A1, CR A1.1, CR A2 regarding the project design and the correct completion of the PDD - were raised and successfully closed out.

For an in depth evaluation of all validation items it should be referred to the validation protocol (Annex). Annex also includes all CARs and CRs (Table 3).

4.3 Baseline and Additionality

The selected baseline methodology is in line with the approved baseline methodology AMS I.D. – Grid connected renewable electricity generation (Version 11 dated 18. May 2007).

As prescribed in small scale type I.D. baseline methodology, the emission baseline will be the kWh produced/ displaced by the renewable generating unit multiplied by an emission coefficient of the grid (measured in kg CO_2e/kWh).

In this project, the grid emission coefficient is calculated by “combined margin method” consisting of the combination of “operating margin (OM)” and “build margin (BM)” according to the procedures prescribed in the approved methodology ACM0002, version 6. Thus emission reductions for this project activity will be the amount of electricity (kWh) supplied to the grid multiplied with the emission coefficient of CCPG.

The calculation of the gird emission factor is according to ACM0002. The operating margin as well as the built margin are determined ex-ante and thus remain fixed throughout the crediting period.

This approach does not call for reviewing the grid emission co-efficient every year. All the required data for baseline emission coefficient are sourced from China Energy Statistical Yearbook and China Electric Power Yearbook.

The ER_y of the project activity during the crediting period is the difference between the baseline emission (BE_y), project emission (PE_y) and leakage (L_y).

Baseline emission: BE_y is calculated by multiplying the electricity baseline emission factor or grid emission factor (EF_y) and the electricity exported to the CCPG (EG_y).

The grid emission factor (EF_y) is determined ex-ante and estimated as a combined margin (CM), consisting of the weighted average of operating margin (EF_{OM}) and build margin (EF_{BM}) factors.

The calculation method of the OM and BM is derived from the guidance of OM and BM calculation issued by Chinese DNA in Aug. 2007.

$EF_{OM,y}$ calculation: Due to the fact that low-cost must-run resources constituting less than 50% of the total grid generation, the simple OM emission factor ($EF_{OM,y}$) calculation method is chosen; the OM factor is calculated as generation-weighted average emissions per electricity unit (tCO_2/MWh) of all generating sources serving the system (not including the low-cost and must-run power plants) of three years average data (2003-2005). The $EF_{OM,y}$ is calculated to be 1.2899 tCO_{2e}/MWh.

***$EF_{BM,y}$* calculation:** Due to the data unavailability at the power plant level in China and according to the deviation approaches for $EF_{BM,y}$ calculation in the 22nd CDM EB meeting, the build margin is calculated as following:

1) the capacity addition from the years 2002-2005 is chosen, which exceed 20% (24.59%) of the total installed capacity.

2) according to the data in <Chinese Energy Statistical Yearbook 2006>, the weighted averages of the newly added coal based capacity, newly added gas based capacity and newly added oil based capacity are used to calculate $EF_{BM,y}$.

The $EF_{BM,y}$ is calculated as 0.6592 tCO_{2e}/MWh.

In accordance with ACM0002, weight factors of $w_{OM} = w_{BM} = 0.5$ have been used and the resultant grid emission factor (EF_y) works out as 0.97455 tCO_{2e}/MWh.

The calculation of EF_y is currently and publicly available and published by the Chinese DNA (national development and reform committee) on its web-site/GEF/.

The validation team is convinced of the result of the emission coefficient calculation. It is deemed to be adequate and transparent.

The annual electricity delivered to the grid is approximately 6,319 MWh from Stage II and 45,316 MWh from Stage III, as defined in the project feasibility study.

Altogether the project activity reduces emissions of 50,321 tCO_{2e}/yr and 352,247 tCO_2e over the 1st renewable crediting period (7 years).

Gelöscht: Due to the reason that the latest IPCC 2006 values were partly not applied in the published data of the Chinese DNA the OM and BM calculation was modified as following:¶
1) The emission factor of coke was changed from 25.8 tC/TJ to 29.2 tC/TJ, according to the value provided in IPCC 2006.¶
2) The emission factor of refinery dry gas was changed from 18.2 tC/TJ to 15.7 tC/TJ, according to the value provided in IPCC 2006.

Gelöscht: 3) Due to no applicable values of emission factor or NCV defined in IPCC 2006 for "other coking products", the CO_2 emission for the 15 thousands tons of "other coking products" in Hunan province in year 2005 was ignored.¶

Gelöscht: 29086

Gelöscht: 8

Gelöscht: 97507

Gelöscht: 347

Gelöscht: 429

Additionality:

The additionality was demonstrated acc. to § 28 of the simplified modalities and procedures for small-scale CDM project activities in connection with attachment A to appendix B as a barrier analysis./SMP/

The argument presented in the PDD to justify the additionality is summarised in table 4-2. This table also includes the assessment of the validation team.

Table 4-2: Additionality assessment

Step[1)]	Argument PP	Assessment of the validation team
d	Other barriers: Finance access: Due to the low profit expectations, the PP was failed to receive the bank loan and several shareholders retired from investment.	☐ Argument not justified ☐ Argument not convincing ☐ Argument justified but not a decisive barrier ☒ Argument justified / significant barrier
Assessment of the validation team		☒ **project is additional** ☐ **project is not additional**

1) Classification acc. to Attachment A to Appendix B of the simplified modalities and procedures a) investment barrier; b) technological barrier; c) barrier due to prevailing practice; d) other barriers

The additionality is evidenced by providing sufficient evidences regarding attachment A to appendix B as follows:

Other barriers

Due to the moderate financial forecast compared to the project risk the bank refused to provide a loan for the project activity. The project participant submitted a statement from the bank which includes a confirmation that the bank loan was rejected./ADD-6/

Subsequently three shareholders rejected the investment and resigned from joined project./ADD-7/

Facing the lack of financial sources the remaining project owners considered CDM benefits before taking the decision to implement the project. On the fifth general meeting of shareholders on May 6, 2006, the project proponent decided to participate in CDM activity/ADD-9/ and signed CDM development cooperation agreement with the CDM professional to develop the project as CDM project/ADD-8/. Considering CDM revenues, four new shareholders joined in the proposed project activity on June 08, 2006 by providing up-front financing and 25 % of the total shares were transferred to the new shareholders/ADD-10/.

The installed capacity of the Dayan Stage Ⅱ was changed from 1.85 MW to 1.6 MW and that of Dayan Stage Ⅲ was adjusted to 10 MW to 12.6 MW due to bad geological condition. Details can be found in Preliminary Design Report of Installed Capacity Regulation for Dayan Stage Ⅲ dated November 2006 and the Preliminary Design Report of Installed Capacity Regulation for Dayan Stage Ⅱ dated April 2007. Both reports have been approved by local authority.

The regulation of installed capacity does not make the financial status better. Based on the Preliminary Design Report of Installed Capacity Regulation, and the Power Purchase Agreement for Yuexi Dayan Small Hydropower Project dated March 6, 2007, IRR of Dayan Stage Ⅱ is 6.21 % and IRR of Dayan Stage Ⅲ is 7.59 %, both below benchmark value 10 %. Sensivitity analysis using total investment, annual

Gelöscht: Then the construction activities started on July 1, 2006 for Stage III and on April 6, 2007 for Stage II./SD/

Gelöscht: The

Gelöscht: is

Gelöscht: documents referenced

Gelöscht: was

Gelöscht: were submitted to the validator.

Gelöscht: It

Gelöscht: They were

Gelöscht: was

Gelöscht: checked and found to be convincing as evidence for the above mentioned barrier.¶

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electricity output, electricity tariff and operational cost shows that when the sensitive parameters vary by -10% to +10%, the IRR of the two sub-projects are always below benchmark.

Thus, conclusion is made that without CDM the project faces financial barrier before the capacity regulation and is still financially unacceptable after the capacity regulation.

All related evidences were submitted to the validator. They were checked and found to be convincing as evidence for the above mentioned barrier.

However in the course of the project validation CAR B3, CAR B4 regarding the additionality and baseline were raised and successfully closed out.

Please refer to Table 3 of Validation Protocol for Corrective Action Requests (CARs) and Clarification Requests (CRs).

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Evidence of Management Decision

The information and description provided in the section above clearly indicate that CDM was seriously considered before implementation of the project.

The detailed timeline of events carried out for implementing the project activity, including the events on CDM consideration is provided in the latest PDD. The time table is validated and all related evidences have been checked by DOE.

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4.4 Crediting Period

The starting date of the crediting period as mentioned in the PDD under Section C.2. is 01/08/2008 or a date not earlier than the date of registration. The intended crediting period of the project is for a renewable period of seven years i.e. starting from the date of registration (in 2008) up to 2015. The starting date of the project activity as mentioned in the PDD under Section C.1 and verified by the validation team is 01/07/2006 which is indicated in the project construction permission issued by local authority./SD/ The project life time (21 years for both Stages), indicated in the Section C.1.2 of the PDD was verified by the validation team with the turbine and generator purchasing contract, which is longer than the 1st crediting period of 7 years ending in 2015.

4.5 Monitoring Plan

The project applies the monitoring methodology AMS ID: Grid connected renewable electricity generation: Version 11 (18/05/2007) for small scale CDM project activities.

The project category is renewable electricity generation for a grid system having installed capacity less than 15 MW. The proposed CDM project falls under category I.D. – Grid connected renewable electricity generation.

The project methodology consists of metering the electricity supplied by the project activity to the grid and the electricity imported from the Grid.

The OM and BM are calculated as fixed factors for the renewable crediting period by choosing data based on ex-ante data published by Chinese DNA.

The procedure for calibration, accuracy and maintenance of monitoring equipment are clearly mentioned as per QA/QC procedure of PDD.

Nevertheless CR B3, CR B4 were raised related to the monitoring plan and tables in the PDD and were successfully closed.

Please refer to Table 3 of Validation Protocol for Corrective Action Request (CARs) and Clarification Request (CRs).

4.6 Calculation of GHG Emissions

Methodologies for calculating emission reductions are documented. The project intends to reduce carbon dioxide (CO_2) emissions by generating electricity from a run-of-river hydroelectric project, which would be exported to the CCPG.

Project emission: The proposed project is a run-of-river hydropower project, the project emission is zero.

Leakage: The technology introduced is not transferred to or from an other project activity. Thus leakage can be ignored.

The emission reduction calculation was reviewed by the validation team. All underlying data/ values are transparent presented and assessed to be adequate.

However, CAR B5 was raised and successfully closed.

Please refer to Table 3 of Validation Protocol for Corrective Action Request (CARs) and Clarification Request (CRs).

4.7 Environmental Impacts

Social and environmental impacts of the project have been sufficiently addressed. No adverse environmental impacts as well as transboundary impacts have been envisaged from this project activity.

4.8 Comments by Local Stakeholders

LYHD informed various stakeholders such as local governmental officials, local residents and related employees about the project details through questionnaires and meetings which were conducted in July and August 2006.

A summary of the comments received and a note on how due account was taken of the concerns raised in the above public consultation are included in PDD. All the comments are positive.

5 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

According to the modalities for the validation of CDM projects, TÜV NORD JI/CDM CP published the draft PDD on its website www.global-warming.de on 20/07/2007 and invited comments within 30 days, until 19/08/2007 by parties, stakeholders and UNFCCC accredited non-governmental organisations. No comment was received.

6 VALIDATION OPINION

The Carbon Asset Management Sweden AB has commissioned the TÜV NORD JI/CDM Certification Program (CP) to validate the project: "Yuexi Dayan Small Hydropower Project" with regard to the relevant requirements of the UNFCCC for CDM project activities, as well as criteria for consistent project operations, monitoring and reporting. UNFCCC criteria include article 12 of the Kyoto Protocol, the modalities and procedures for CDM (Marrakech Accords), the simplified modalities and procedures for small scale CDM project activities of annex II to decision 21/CP.8 and the relevant decisions by COP/MOP and CDM Executive Board.

The project activity exports the electricity power from a renewable energy source to the Central China Power Grid (CCPG). The project intends to reduce GHG emissions to the extent of equivalent electricity generated by fossil fuels based power plants of CCPG.

A risk based approach has been followed to perform this validation. In the course of the pre-validation, 11 Corrective Action Requests (CARs) and 10 Clarification Requests (CRs) were raised and successfully closed.

The review of the project design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and review of comments by parties, stakeholders and NGOs have provided TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.

In detail the conclusions can be summarised as follows:

- The project is in line with all relevant host country criteria (China) and all relevant UNFCCC requirements for CDM. Project activity approval has been obtained from DNA of China vide the Letter of Approval (HCA) dated 26/08/2007 and the letter of approval from Sweden DNA (LOA) dated 02/09/2007.
- The project additionality is sufficiently justified in the PDD.
- The monitoring plan is transparent and adequate.
- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 352,429 tCO_2e is most likely to be achieved within the 1st renewable crediting period (Aug. 2008-July 2015).

The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation.

Essen, 2008-08-27

Gelöscht: 4

Gelöscht: 08

Rainer Winter

TÜV NORD JI/CDM Certification Program

7 REFERENCES

Table 7-1: Documents provided by the project proponent

Reference	Document
/ADD/	1. Document No (SL16-95) for Economic Evaluation Code for Small Hydropower Projects issued by Ministry of Water Resources 2. The Regulated Preliminary Design Report by Development & Reform Commitment & Water Conservancy of Yuexi County dated 29 April, 2007 (Document No: Yue Fa Gai [2007] 48) 3. MoM of Stakeholders, Yuexi County Liyuan Hydropower Development Co. Ltd, dated 06 May 2006 4. The Regulated Preliminary Design Report by Development & Reform Commitment & Water Conservancy of Yuexi County dated 05 February, 2007 (Document No: Liang Fa Gai Jiao Neng [2007] 49) 5. Report on the Verification of Capital, Sichuan Jinda Accounting Firm, and reference number. Yan zi [2006] 282 6. Evidence rejection of Bank loan 7. The decision of the third general meeting of shareholders, Yuexi County Liyuan Hydropower Development Co. Ltd. on Feb. 25, 2006. 8. Agreement on CDM project development cooperation signed between Yuexi County Liyuan Hydropower Development Co. Ltd and Sangzhi Nanfang Hydro Development Co. Ltd. on June 02.2006 9. The decision of the fifth general meeting of shareholders, Yuexi County Liyuan Hydropower Development Co. Ltd. on May 06, 2006 10. The decision of the sixth general meeting of shareholders, Yuexi County Liyuan Hydropower Development Co. Ltd. on June 08, 2006
/AGT/	Agreement in-between the two project proponents for the CDM project activity
/DPR/	Detailed Project Report extracts for • Lifetime of the project activity • Source of funding for the project • Technical details of the project realisation, hydrology, geology, environmental considerations, power potential (turbine, generator) • Proof of tentative commissioning date
/EIA/	Environmental Impact assessment for Yuexi Dayan Small Hydropower project, Yuexi County, Sichuan Province. (dt. stage II 22/12/2006.Stage III April 2006)
/GD/	• Power generation data references viz. China Electric Yearbook 2002-06 • Electricity meter installation technical management code Dl/T448-2000, JJG 597-89

Reference	Document
/HCA/	Host Country Approval
/LOA/	Swedish DNA Approval
/LSC/	Sample survey conducted and response documents
/PHT/	Photographs of progress of construction activity at the project site
/PO/	Turbine Supplier, Generator Supplier contract
/PPA/	Power purchase agreement between Central China Power Grid (CCPG) and Yuexi County Liyuan Hydropower Development Co. Ltd
/SC/	• Environmental clearance document No- Yue Huan Han [2007]14 approved by Environmental Protection Bureau Yuexi County dated 08-02-2007. • Environmental clearance document No- Liang Huan Han [2006]72 approved by Environmental Protection Bureau Liangshan State dated 25-04-2006. • Compensatory afforestation payments made (if any)
/SD/	Proof for project activity starting date (01/07/2006)
/XCS/	Supporting Excel calculation sheets Baseline & emission reduction

Table 7-2: Background investigation and assessment documents

Reference	Document
/ACM0002/	Consolidated baseline methodology for grid-connected electricity generation from renewable sources (Version 06: 19 May 2006)
/AMS ID/	"Grid-connected renewable electricity generation" (Version 11), EB 31
/CPM/	TÜV Nord JI / CDM CP Manual (incl. CP procedures and forms)
/GCSCP/	UNFCCC: Guidelines for completing the simplified project design document (CDM-SSC-PDD) and the form for submissions on methodologies for small-scale CDM project activities (F-CDM-SSC-Subm)
/GEF/	Official data sources for Grid Emission Factor (CCPG Grid) published by the Chinese DNA.

Reference	Document
/IPCC-GP/	IPCC Good Practice Guidance & Uncertainty Management in National Greenhouse Gas Inventories, 2000
/IPCC-RM/	Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual
/KP/	Kyoto Protocol (1997)
/MA/	Decision 17/CP. 7 (Marrakesh – Accords & Annex to decision 17/CP.7)
/PDD/	Project Design Document entitled "Yuexi Small Hydropower Project" Version 01 (hosted for public comments during 20/07/07 to 19/08/07) Project Design Document entitled "Yuexi Dayan Small Hydropower Project" (Version 3)
/SMP/	Simplified modalities and procedures for small–scale clean development mechanism project activities (Annex II to Decision 21/CP.18)
/TA/	Tool for the demonstration and assessment of additionality (Ver 3)
/VVM/	IETA, PCF Validation and Verification Manual (V.4)

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Table 7-3: Websites used

Reference	Link	Organisation
/dna/	http://cdm.ccchina.gov.cn/english/index.asp	DNA of China
/cam/	http://www.tricorona.se/cam/	Carbon Asset Management Sweden AB
/ipcc/	www.ipcc-nggip.iges.or.jp	IPCC publications
/unfccc/	http://cdm.unfccc.int	UNFCCC

Tabelle 7-4: List of interviewed persons

Reference	MoI[1]		Name	Organisation / Function
/IM01/	V	☒ Mr.	Shan Jianchu	Yuexi County Liyuan

Reference	MoI[1]		Name	Organisation / Function
		☐ Ms		Hydropower Development Co. Ltd / director
/IM01/	V	☒ Mr. ☐ Ms	Xu Jiankang	Yuexi County Liyuan Hydropower Development Co. Ltd / director
/IM02/	V	☒ Mr. ☐ Ms.	Li Hongjiang	Hydropower management bureau Yuexi county/ director
/IM02/	V	☒ Mr. ☐ Ms.	Xu mingping	Yuexi County/ major
/IM02/	V	☒ Mr. ☐ Ms.	Fei Jiawei	Ban qiao village, Yuexi county/ major
/IM03/	T	☐ Mr. ☒ Ms.	Liu Hongyu	Hunan university, environment college/ project consulter

1) Means of Interview: (**T**elephone, **E**-Mail, **V**isit)

ANNEX

Validation Protocol

ANNEX: VALIDATION PROTOCOL

Table 1: Mandatory Requirements for (CDM) Project Activities

Requirement	Reference	Darft Concl.	Final Concl.
Parties			
The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3.	Kyoto Protocol Art.12.2	~~CAR A2~~	OK
The project shall assist non-Annex I Parties in contributing to the ultimate objective of the UNFCCC.	Kyoto Protocol Art.12.2.	~~CAR A2~~	OK
The project shall have the written approval of voluntary participation from the designated national authority of each Party involved.	Kyoto Protocol Art. 12.5a, CDM Modalities and Procedures §40a	~~CAR A2~~	OK
The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof.	Kyoto Protocol Art. 12.2, CDM Modalities and Procedures §40a	~~CAR A2~~	OK
In case public funding from Parties included in Annex I is used for the project activity, these Parties shall provide an affirmation that such funding does not result in a diversion of official development assistance and is separate from and is not counted towards the financial obligations of these Parties.	Decision 17/CP.7, CDM Modalities and Procedures Appendix B, § 2	Public funding from Annex I countries is not included in project financing	OK
Parties participating in the CDM shall designate a national authority for the CDM.	CDM Modalities and Procedures §29	Both parties, i.e. China and Sweden have designated a national authority	OK

Requirement	Reference	Darft Concl.	Final Concl.
		for CDM.	
The host Party and the participating Annex I Party shall be a Party to the Kyoto Protocol.	CDM Modalities §30/31a	Both parties have ratified the Kyoto Protocol	OK
The participating Annex I Party's assigned amount shall have been calculated and recorded.	CDM Modalities and Procedures §31b	OK	
The participating Annex I Party shall have in place a national system for estimating GHG emissions and a national registry in accordance with Kyoto Protocol Article 5 and 7.	CDM Modalities and Procedures §31b	OK	
Additionality			
Reduction in GHG emissions shall be additional to any that would occur in the absence of the project activity, i.e. a CDM project activity is additional if anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the registered CDM project activity.	Kyoto Protocol Art. 12.5c, CDM Modalities and Procedures §43	~~CAR B3~~ ~~CAR B4~~	OK
Forecast emission reductions and environmental impacts			
The emission reductions shall be real, measurable and give long-term benefits related to the mitigation of climate change.	Kyoto Protocol Art. 12.5b	~~CAR B2~~	OK
Environmental impacts			
Documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts, shall be submitted, and, if those impacts are considered significant by the project participants or the Host Party, an environmental impact assessment in accordance with procedures as required by the Host Party shall be carried out.	CDM Modalities and Procedures §37c	OK	

Requirement	Reference	Darft Concl.	Final Concl.
Stakeholder involvement			
Comments by local stakeholders shall be invited, a summary of these provided and how due account was taken of any comments received.	CDM Modalities and Procedures §37b	~~CAR E1~~ ~~CAR E2~~	OK
Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days, and the project design document and comments have been made publicly available.	CDM Modalities and Procedures §40	OK, the project was published on the UNFCCC website for 30 days.	
Other			
The baseline and monitoring methodology shall be previously approved by the CDM Executive Board.	CDM Modalities and Procedures §37e	OK	
A baseline shall be established on a project-specific basis, in a transparent manner and taking into account relevant national and/or sectoral policies and circumstances.	CDM Modalities and Procedures §45c,d	~~CAR B1~~	OK
The baseline methodology shall exclude to earn CERs for decreases in activity levels outside the project activity or due to force majeure.	CDM Modalities and Procedures §47	OK	
The project design document shall be in conformance with the UNFCCC CDM-PDD format.	CDM Modalities and Procedures Appendix B, EB Decision	OK, the latest version of the SSC PDD is used.	
Provisions for monitoring, verification and reporting shall be in accordance with the modalities described in the Marrakech Accords and relevant decisions of the COP/MOP.	CDM Modalities and Procedures §37f	OK	
Requirements for small-scale projects only			

Requirement	Reference	Darft Concl.	Final Concl.
The proposed project activity shall meet the eligibility criteria for small scale CDM project activities set out in § 6 (c) of the Marrakech Accords and shall not be a debundled component of a larger project activity.	Simplified Modalities and Procedures for Small Scale CDM Project Activities §12a,c	OK	
The proposed project activity shall confirm to one of the project categories defined for small scale CDM project activities and use the simplified baseline and monitoring methodology for that project category.	Simplified Modalities and Procedures for Small Scale CDM Project Activities §22e	OK	
If required by the host country, an analysis of the environmental impacts of the project activity is carried out and documented.	Simplified Modalities and Procedures for Small Scale CDM Project Activities §22c	OK	

Table 2: Requirements Checklist

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
A. General Description of Project Activity *The project design is assessed.*					
A.1. Project Boundaries *Project Boundaries are the limits and borders defining the GHG emission reduction project.*					
A.1.1. Are the project's spatial boundaries (geographical) clearly defined?	/PDD/ (A 4.1.4), (B.3.)	DR	The project physical location description is correctly stated in section A.4.1.4 of the PDD. The unique identification of the project activity w.r.t to Longitude and Latitude is provided. Furthermore the project boundary also includes all power plants connected physically to the electricity system that the CDM project is connected to. As described under B.3. of the PDD the Chinese Central Power Grid is also part of the project boundary.	OK	
A.1.2. Are the project's system boundaries (components and facilities used to mitigate GHGs) clearly defined?	/PDD/ (A.4.)	DR	The project's system boundaries are described clearly in PDD section A.4.2. However the auxiliary equipments like (penstock, intake gate etc.) involved in the project activity should be part of the presented information in the PDD section A.4.2.	~~CAR A1~~	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
A.2. Participation Requirements *Referring to Part A, Annex 1 and 2 of the PDD as well as the CDM glossary with respect to the terms Party, Letter of Approval, Authorization and Project Participant.*					
A.2.1. Which Parties and project participants are participating in the project?	/PDD/ (A.3.), (Annex 1)	DR	The following parties are involved in the project activity: China (Host Party) and Sweden. The project participants are: Yuexi County Liuyan Hydropower Development Co. Ltd. and Carbon Asset Management Sweden AB (according to the draft PDD). However the company name provided in section A.3. of the PDD does not match with the name of the one provided in Annex 1. Clarification and revision is requested.	~~CR A1~~	OK
A.2.2. Have all involved Parties provided a valid and complete letter of approval and have all private/public project participants been authorized by an involved Party?	/PDD/ (A.3.) /LOA/ /HCA/	DR, I	In accordance with the CDM M&P at the time of making the PDD public at the stage of validation a Party involved may or may not have provided its approval. At the time of requesting registration the approval of the Parties involved is required. At the time of the (pre-) validation the letters of approval of all involved parties are pending (China, Sweden).	~~CAR A2~~	OK
A.2.3. Do all participating Parties fulfil the participation requirements as follows:	/LOA/ /unfccc/	DR	All parties have ratified the Kyoto Protocol (China: Ratification 2002-08-30, Sweden: Ratification 2002-05-31). A DNA in all countries is established.	~~CAR A2~~	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
– Ratification of the Kyoto Protocol – Voluntary participation – Designated a National Authority			The voluntary participation is stated in the LOAs which are pending. Please refer to A.2.2.		
A.2.4. Potential public funding for the project from Parties in Annex I shall not be a diversion of official development assistance.	/PDD/ (A-4.4) /IM01/ /DPR/	DR I	Public funding from an Annex I - country is not used to finance the project activity.	OK	
A.3. Technology to be employed *Validation of project technology focuses on the project engineering, choice of technology and competence/ maintenance needs. The validator should ensure that environmentally safe and sound technology and know-how is used.*					
A.3.1. Does the project design engineering reflect current good practices?	/PDD/ (A.4.2.) /DPR/ /PO/	DR, I	Yes, the project is a run-of-river hydro-power project. The emission reductions result due to the displacement of the grid based power. In PDD section A.4.2 description of the technology is	OK	

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			provided in condensed form. The technology is environmentally safe and sound and technology is of indigenous origin.		
A.3.2. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	/PDD/ (A.4.2.) /DPR/ /PO/	DR	Yes, The project uses state of the art technology.	OK	
A.3.3. Does the project make provisions for meeting training and maintenance needs?	/PDD/ (B.7.2.) /IM01/	DR, I	Yes, training and maintenance needs are provided by the project proponents.	OK	
A.4. Contribution to Sustainable Development *The project's contribution to sustainable development is assessed.*					
A.4.1. Has the host country confirmed that the project assists it in achieving sustainable development?	/HCA/		So far the Chinese DNA has not issued the LOA, in which the contribution to sustainable development is addressed and confirmed.	~~CAR A2~~	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
A.4.2. Will the project create other environmental or social benefits than GHG emission reductions?	/PDD/ (A.2.) /IM02/	DR I	The view of project participant on the contribution of the project activity towards sustainable development is briefly described in section A.2. The project creates mainly economic benefits in addition to social benefits to the rural population.	OK	
Small scale project activity *Is it assessed whether the project qualifies as small-scale CDM project activity*					
A.4.3. Does the project qualify as a small scale CDM project activity as defined in paragraph 6 (c) of decision 17/CP.7 on the modalities and procedures for the CDM?	/PDD/, (B.2.) /AMS I.D./ /SMP/	DR	Yes, the total installed capacity of the proposed project is 14.2 MW and thus under the limit of 15 MW. Furthermore hydropower is a renewable energy source. Hence it meets the requirements.	OK	
A.4.4. Is the small scale project activity not a debundled component of a larger project activity?	/PDD/ A.4.5 /IM01/	DR, I	No, the project is not a de-bundled component of a large hydropower project activity, as justified in PDD section A.4.5. During on-site interview it was confirmed that the project meets the criteria of debundling. The project activity consists of a bundle of two hydropower projects (Stage II and III). A Stage I hydropower project does also exists, but it is not registered nor started a request for registration by the same project participant. During on-site visit the information was provided that a different owner of the Stage I project activity plans to propose this project for	OK	

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			CDM. The project participant and owner of Stage II and III confirmed in written form that the project activity is not a fragmentation of a larger project activity. However, a detailed description thereof should be included in section A.4.5. to ensure as much transparency as possible.	~~CR A1.1~~	OK
A.5. General Topics					
A.5.1. Has the PDD been duly filled.	/PDD/	DR	The value provided for rated flux in Stage III of table 1 on page 6 doesn't match with the value provided in A.2. Correction is necessary.	~~CR A2~~	OK
A.5.2. Has all necessary information been made available to the validator.	/PDD/	DR I	Several documents which are necessary to provide a final assessment of the project activity are missing. Please refer to table 5-1 of the draft validation report. As the project activity is a bundle of two hydropower plants, the corresponding bundling form should be filled and submitted to the validator. In section B.8. should be indicated if (or if not) the person/ entity determined the baseline scenario is a project participant	~~CAR A3~~ ~~CAR A4~~ ~~CR B5~~	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
B. Project Baseline *The validation of the project baseline establishes whether the selected baseline methodology is appropriate and whether the selected baseline represents a likely baseline scenario.*					
B.1. Baseline Methodology *It is assessed whether the project applies an appropriate baseline methodology.*					
B.1.1. Does the project apply an approved methodology and the correct version thereof?	/PDD/ (B.1, B.4.) /AMS ID/	DR	Yes, AMS ID, Ver. 11 is applicable for the project activity. This version is valid for requesting registration till 2008-04-09.	OK	
B.1.2. Are the applicability criteria in the baseline methodology all fulfilled?	/PDD/ (B.2.), /AMS ID/	DR	The project fulfils the applicability criteria as per AMS ID. Hydropower is a renewable energy source and the generated electricity is distributed to a grid which is supplied by fossil fuel fired power plants.	OK	

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
B.2. Baseline Scenario Determination *The choice of the baseline scenario will be validated with focus on whether the baseline is a likely scenario, and whether the methodology to define the baseline scenario has been followed in a complete and transparent manner.*					
B.2.1. What is the baseline scenario?	/PDD/ (B.4.) /AMS ID/	DR	The baseline description as provided in the PDD is not sufficient. Revision is necessary.	~~CAR B1~~	OK
B.2.2. What other alternative scenarios have been considered and why is the selected scenario the most likely one?	/PDD/ (B.4.) /AMS ID/	DR	According to AMS I.D. (Ver. 11) it is not necessary to consider alternative scenarios. It is clearly indicated that the baseline is the kWh produced by the renewable energy facilities times the emission coefficient of the applicable electricity grid.	OK	
B.2.3. Has the baseline scenario been determined according to the methodology?	/PDD/ (B.4.), /ACM0002/	DR	Baseline description provided in the PDD is not sufficient.	~~CAR B1~~	OK
B.2.4. Has the baseline scenario been determined using conservative	/PDD/ (B.4.), /ACM0002/ /AMS ID/		Baseline description provided in the PDD is not sufficient.	~~CAR B1~~	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
assumptions where possible?					
B.2.5. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?	/PDD/ (B.5.)	DR	The relevant national policies and circumstances relevant to the baseline of the proposed project activity are to be described in PDD section B.5 as indicated in the PDD guidelines. Hence revision is necessary.	~~CR B1~~	OK
B.2.6. Is the baseline scenario determination compatible with the available data and are all literature and sources clearly referenced?	/PDD/ (B.5.) /dna/	DR	The baseline scenario data is based on information provided by the Chinese DNA. This data is referenced in the PDD. However, the data used is not the latest.	~~CAR B2~~	OK
B.2.7. Have the major risks to the baseline been identified?	/PDD/ (B.4.)	DR	No major risks were identified nor to be expected.	OK	
B.3. Additionality Determination *The assessment of additionality will be validated with focus on whether the project itself is not a likely baseline scenario.*					
B.3.1. Is the project additionality assessed according to the methodology?	/PDD/ (B.5.), /AMS ID/ /TA/ /ADD/	DR	Yes, in section B.5 of the PDD the additionality is justified with a financial barrier according to attachment A to appendix B of the simplified modalities and procedures.	OK	

CHECKLIST QUESTION		Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
B.3.2.	Are all assumptions stated in a transparent and conservative manner?	/PDD/ (B.5.) /TA/ /ADD/	DR	During interview and subsequent discussions evidences could not be provided to substantiate the assumptions and values in the IRR calculation. Thus this should be deleted and a more detailed description and evidences should be provided regarding the lack of financial resources in section B.5. of the PDD.	~~CAR B3~~	OK
B.3.3.	Is sufficient evidence provided to support the relevance of the arguments made?	/PDD/ (B.5.) /TA/ /ADD/	DR	Kindly refer to B.3.2. above.	~~CAR B3~~	OK
B.3.4.	If the starting date of the project activity is before the date of validation, has sufficient evidence been provided that the incentive from the CDM was seriously considered in the decision to proceed with the project activity?	/PDD/ (B.5.) /SD/ /TA/ /ADD/	DR I	The validation is conducted after the start of the project activity. Thus a confirmation and a justification according to why and when the management decision was taken should be included in section B.5.	~~CAR B4~~	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
B.4. Calculation of GHG Emission Reductions – Project emissions *It is assessed whether the project emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified.*					
B.4.1. Are the calculations documented according to the approved methodology and in a complete and transparent manner?	/PDD/ (B.6.) /AMS ID/	DR	According to AMS I.D. project emissions must not be considered.	N/A	
B.4.2. Have conservative assumptions been used when calculating the project emissions	/PDD/ (B.6.) /AMS ID/	DR	N/A	N/A	
B.4.3. Are uncertainties in the project emission estimates properly addressed?	/PDD/ (B.6.) /AMS ID/	DR	N/A	N/A	

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
B.5. Calculation of GHG Emission Reductions – Baseline emissions *It is assessed whether the baseline emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified.*					
B.5.1. Are the calculations documented according to the approved methodology and in a complete and transparent manner?	/PDD/ (B.6.) /ACM0002/ /AMS ID/ /dna/	DR	The description of the methodological choices in B.6.1. immediately cites ACM0002 without referring to the applied methodology AMS ID; nor is the choice of using combined margin justified as required under step 9 of AMS ID. Furthermore the Grid Emission Factor should be revised as per the latest OM & BM calculation available on the China DNA web-site (version August). Kindly refer to CAR B2.	~~CR B2~~ ~~CAR B2~~	OK OK
B.5.2. Have conservative assumptions been used when calculating the baseline emissions	/PDD/ (B.6.) /ACM0002/ /AMS ID/ /dna/	DR	Please refer to CAR B2 in section B.2.6.	~~CAR B2~~	OK
B.5.3. Are uncertainties in the baseline emission estimates properly	/PDD/ (B.6.)	DR	No uncertainties are expected in estimating the baseline emissions.	OK	

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
addressed?					
B.6. Calculation of GHG Emission Reductions – Leakage *It is assessed whether leakage emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified.*					
B.6.1. Are the leakage calculations documented according to the approved methodology and in a complete and transparent manner?	/PDD/ (B.6.) /ACM0002/ /AMS ID/	DR	Leakage is not applicable as the energy generating equipment is not transferred from another activity.	N/A	
B.6.2. Have conservative assumptions been used when calculating the leakage emissions?	/PDD/ (B.6.) /ACM0002/ /AMS ID/	DR	Not applicable since leakage is not considered.	N/A	
B.6.3. Are uncertainties in the leakage emission estimates properly addressed?	/PDD/ (B.6.) /ACM0002/ /AMS ID/	DR	Not applicable since leakage is not considered.	N/A	

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
B.7. Emission Reductions *The emission reductions shall be real, measurable and give long-term benefits related to the mitigation of climate change.*					
B.7.1. Are the emission reductions real, measurable and give long-term benefits related to the mitigation of climate change.	/PDD/ (B.6.)	DR	The CARs/CRs given in section B have to be closed satisfactorily before forming an opinion. Furthermore the values for electricity generation in section B.6.3. don't match the values provided in previous sections. Revision is necessary.	~~Not yet OK~~ ~~CAR B5~~	OK
B.8. Monitoring Methodology *It is assessed whether the project applies an appropriate baseline methodology.*					
B.8.1. Is the monitoring plan documented according to the approved methodology and in a complete and transparent manner?	/PDD/ (B.7.) /ACM0002/	DR	The methodology applied is AMS ID / ACM0002. However, in section B.7.1, the main data source meter is installed at Naituo transformer substation which contradicts section B.7.2 point 2 stating that the metering of electricity would be at Naituo booster station. Please clarify where the monitoring and metering of electricity generated from the project activity will take place.	~~CR B3~~	OK
B.8.2. Will all monitored data required for verification and issuance be kept for two years after the end of the crediting period or	/PDD/ (B.7.) /ACM0002/	DR	Yes, the data will be archived two years after the end of the crediting period.	OK	

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
the last issuance of CERs, for this project activity, whichever occurs later?					
B.9. Monitoring of Project Emissions *It is established whether the monitoring plan provides for reliable and complete project emission data over time.*					
B.9.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the greenhouse gas emissions within the project boundary during the crediting period?	/PDD/ (B.7.)	DR	As project emissions are zero, this is not applicable.	N/A	
B.9.2. Are the choices of project GHG indicators reasonable and conservative?	/PDD/ (B.7.)	DR	As project emissions are zero, this is not applicable.	N/A	
B.9.3. Is the measurement	/PDD/	DR	As project emissions are zero, this is not applicable.	N/A	

CHECKLIST QUESTION		Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
	method clearly stated for each GHG value to be monitored and deemed appropriate?	(B.7.)				
B.9.4.	Is the measurement equipment described and deemed appropriate?	/PDD/ (B.7.)	DR	As project emissions are zero, this is not applicable.	N/A	
B.9.5.	Is the measurement accuracy addressed and deemed appropriate? Are procedures in place on how to deal with erroneous measurements?	/PDD/ (B.7.)	DR	As project emissions are zero, this is not applicable.	N/A	
B.9.6.	Is the measurement interval identified and deemed appropriate?	/PDD/ (B.7.)	DR	As project emissions are zero, this is not applicable.	N/A	
B.9.7.	Is the registration, monitoring, measurement and reporting procedure defined?	/PDD/ (B.7.) /IM01/	DR I	As project emissions are zero, this is not applicable.	N/A	
B.9.8.	Are procedures identified	/PDD/	DR	As project emissions are zero, this is not applicable.	N/A	

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
for maintenance of monitoring equipment and installations? Are the calibration intervals being observed?	(B.7.)				
B.9.9. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	/PDD/ (B.7.)	DR	As project emissions are zero, this is not applicable.	N/A	
B.10. Monitoring of Baseline Emissions *It is established whether the monitoring plan provides for reliable and complete baseline emission data over time.*					
B.10.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining baseline emissions during the crediting period?	/PDD/ (B.7.) /ACM0002/	DR	Yes, in section B.7. the procedures are clearly described. Electricity exports and imports will be measured. The difference results in the emission reductions. However, CR B3 should be closed out.	~~CR B3~~	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
B.10.2. Are the choices of baseline GHG indicators reasonable and conservative?	/PDD/ (B.7.) /ACM0002/	DR	Yes, the only considered GHG is CO_2.	OK	
B.10.3. Is the measurement method clearly stated for each baseline indicator to be monitored and also deemed appropriate?	/PDD/ (B.7.) /ACM0002/	DR	Clarification is necessary where monitoring and metering of electricity generated from the project activity will take place.	~~CR B3~~	OK
B.10.4. Is the measurement equipment described and deemed appropriate?	/PDD/ (B.7.) /ACM0002/	DR	Clarification is necessary where monitoring and metering of electricity generated from the project activity will take place.	~~CR B3~~	OK
B.10.5. Is the measurement accuracy addressed and deemed appropriate? Are procedures in place on how to deal with erroneous measurements?	/PDD/ (B.7.) /ACM0002/ /GD/	DR	Yes, in section B.7.2. it is clearly indicated, that a back-up meter will be installed. The procedure how to react on erroneous measurements is described under point 3.	OK	
B.10.6. Is the measurement interval for baseline data identified and deemed appropriate?	/PDD/ (B.7.) /ACM0002/ /GD/	DR	No, it should be indicated in B.7.1. that the measurements of the meters are conducted continuously.	~~CR B4~~	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
B.10.7. Is the registration, monitoring, measurement and reporting procedure defined?	/PDD/ (B.7.)	DR	Yes, a CDM manager will be appointed who will be responsible for registration, monitoring, measurement and reporting. The meter readings will be conducted by the project developer and the grid company by the end of each month.	OK	
B.10.8. Are procedures identified for maintenance of monitoring equipment and installations? Are the calibration intervals being observed?	/PDD/ (B.7.) /GD/	DR	Yes, procedures are identified and described in PDD section B.7.2. and Annex 4. The meters will be calibrated at least once a year.	OK	
B.10.9. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	/PDD/ (B.7.)	DR	Yes, data will be recorded electronically and on a daily basis by filling in paper forms. The data will be archived in hardcopy and electronic form. Further information is provided in section B.7. and in Annex 4 of the PDD.	OK	
B.11. Monitoring of Leakage *It is assessed whether the monitoring plan provides for reliable and complete leakage data over time.*					
B.11.1. Does the monitoring plan provide for the collection	/PDD/ (B.7.)	DR	As leakage is not to be considered, monitoring is not necessary.	N/A	

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
and archiving of all relevant data necessary for determining leakage?					
B.11.2. Are the choices of project leakage indicators reasonable and conservative?	/PDD/ (B.7.)	DR	See comment above.	N/A	
B.11.3. Is the measurement method clearly stated for each leakage value to be monitored and deemed appropriate?	/PDD/ (B.7.)	DR	See comment above.	N/A	
B.12. Monitoring of Sustainable Development Indicators/ Environmental Impacts *It is assessed whether choices of indicators are reasonable and complete to monitor sustainable performance over time.*					
B.12.1. Is the monitoring of sustainable development indicators/ environmental impacts warranted by legislation in the host country?	/PDD/ (B.7.)	DR	No, the monitoring of sustainability indicators is not necessary according to Chinese legislation.	OK	

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
B.12.2. Does the monitoring plan provide for the collection and archiving of relevant data concerning environmental, social and economic impacts?	/PDD/ (B.7.)	DR	See comment above.	N/A	
B.12.3. Are the sustainable development indicators in line with stated national priorities in the Host Country?	/PDD/ (B.7.)	DR	See comment in B.12.1.	N/A	
B.13. Project Management Planning *It is checked that project implementation is properly prepared for and that critical arrangements are addressed.*					
B.13.1. Is the authority and responsibility of overall project management clearly described?	/PDD/ (B.7.)	DR	Yes, according to PDD B.7.2 "1. Monitoring Organization" a CDM Manager will be appointed who has the overall responsibility for the monitoring system. Other employees will get clear responsibilities in the monitoring procedures. The persons will be appointed before the operation starts.	OK	
B.13.2. Are procedures identified for training of monitoring personnel?	/PDD/ (B.7.)	DR	Yes, the CDM manager will be responsible to train the staff. The training schedules will be developed and organized before starting of operation in timely manner.	OK	

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
B.13.3. Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	/PDD/ (B.7.)	DR	No emergencies are envisaged leading to higher GHG emissions.	OK	
B.13.4. Are procedures identified for review of reported results/data?	/PDD/ (B.7.)	DR	Yes, the meter readings will be checked by back-up meters readings and review of invoices.	OK	
B.13.5. Are procedures identified for corrective actions in order to provide for more accurate future monitoring and reporting?	/PDD/ (B.7.)	DR	Yes, procedures are described in section B.7.2. and the Annex 4 of the PDD.	OK	
C. Duration of the Project/ Crediting Period *It is assessed whether the temporary boundaries of the project are clearly defined.*					

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
C.1. Are the project's starting date and operational lifetime clearly defined and evidenced?	/PDD/ (C.1.) /SC/	DR	The expected operational lifetime is 21 years. But the starting date of the project activity as indicated in section C.1.1. is not matching the information provided during on-site visit and according to what is indicated under B.5. of the PDD. Thus revision is necessary.	~~CR C1~~	OK
C.2. Is the start of the crediting period clearly defined and reasonable?	/PDD/ (C.2.)	DR	Yes, the starting date of the renewable crediting period is 2008-05-01.	OK	
D. Environmental Impacts *Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the validator.*					

CHECKLIST QUESTION		Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
D.1.	Has an analysis of the environmental impacts of the project activity been sufficiently described?	/PDD/ (D.1.) /EIA/	DR	Yes, several topics of the EIA are summarized in section D.1. of the PDD. The effects of the project activity are addressed appropriately.	OK	
D.2.	Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	/PDD/ (D.1.) /EIA/ /SC/	DR I	Yes, an environmental impact assessment is stipulated by the host party. The EIA for both projects was approved by the Environmental Protection Bureau.	OK	
D.3.	Will the project create any adverse environmental effects?	/PDD/ (D.1.) /EIA/	DR	Yes, adverse environmental impacts are expected from the project mainly during construction time, e.g. production of waste water, influence from noise etc. But these impacts are assessed as not significant.	OK	
D.4.	Are transboundary environmental impacts considered in the analysis?	/PDD/ (D.1.) /EIA/	DR	No transboundary effects are expected.	OK	
D.5.	Have identified environmental impacts been addressed in the project design?	/PDD/ (D.2.)	DR	Yes, in section D.1. several environmental impacts are addressed, e. g. impacts on water, air etc.	OK	
D.6.	Does the project comply	/PDD/ (D.1.)	DR	Yes, the project activity is approved by the Chinese government.		

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
with environmental legislation in the host country?					
For Small- scale projects					
D.7. Does host country legislation require an analysis of the environmental impacts of the project activity?			Refer to D.2	OK	
D.8. Does the project comply with environmental legislation in the host country?			Refer to D.6	OK	
D.9. Will the project create any adverse environmental effects?			Refer to D.3	OK	
D.10. Have environmental impacts been identified and addressed in the PDD?			Refer to D.5	OK	
E. Stakeholder Comments *The validator should ensure that stakeholder comments have been invited with appropriate media and that due account has been taken of*					

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
any comments received.					
E.1. Have relevant stakeholders been consulted?	/PDD/ (E.1.) /LSC/	DR	Yes, questionnaires were sent to 50 stakeholders. However, section E.1. should include a description how these stakeholders were identified and how they were invited. This is not described in the PDD. A revision of section E.1 is necessary.	~~CAR E1~~	OK
E.2. Have appropriate media been used to invite comments by local stakeholders?	/PDD/ (E.1.) /LSC/	DR	Refer to section E.1.	~~CAR E1~~	OK
E.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?			The Chinese regulation doesn't include requirements for stakeholder consultation processes.	OK	
E.4. Is a summary of the stakeholder comments	/PDD/ (E.2.)	DR	A summary of the comments received is provided in the PDD. However, stakeholders should be identified in	~~CAR E2~~	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
received provided?			section E.2. which was not done. Thus correction is necessary. Further information should be provided which negative comments the project proponents received.		
E.5. Has due account been taken of any stakeholder comments received?	/PDD/ (E.3.)		As negative comments have been received, the project participant should clearly describe how due account was taken according to these.	~~CR E1~~	OK

Table 3: Resolution of Corrective Action and Clarification Requests

Draft report clarification requests and corrective action requests by validation team	Ref. To checklist question in table 2	Summary of project owner response	Validation team conclusion
CAR A1 The auxiliary equipments like (penstock, intake gate etc.) involved in the project activity should be part of the presented information in the PDD section A.4.2.	A.1.2.	The auxiliary equipments like (penstock, dam, tunnel etc.) involved in the project activity have been presented in the revised PDD section A.4.2.	The correction made in the revised PDD is adequate.
CAR A2 At the time of the (pre-) validation the letters of approval of all involved parties are pending (China, Sweden).	A.2.2., A.2.3., A.4.1.	The letter of approval (LOA) of Sweden has been provided to TUV NORD. The LOA of Chinese DNA has been prepared and provided to TUV NORD.	The HCA from Chinese DNA and LOA from Sweden DNA were submitted.
CAR A3 Several documents which are necessary to provide a final assessment of the project activity are missing. Please refer to table 5-1 of the draft validation report.	A.5.2.	All of the documents related to table 5-1 have been provided to TUV NORD.	All the pending documents were submitted to and reviewed by TÜV NORD
CAR A4 As the project activity is a bundle of two hydropower plants, the corresponding bundling form should be filled and submitted to the validator.	A.5.2.	The bundling form of the proposed project has been submitted to the validator.	The bundling form of the proposed project has been submitted and reviewed by TÜV NORD
CAR B1 The baseline description as provided in the PDD is not sufficient. Revision is necessary.	B.2.1., B.2.3., B.2.4.,	The baseline description as provided in the PDD has been accredited in the revised PDD.	The correction made in the revised PDD is adequate.
CAR B2 The baseline scenario data is based on information provided by the Chinese DNA. This data is referenced in the PDD. However, the data used is not the latest.	B.2.6., B.5.1., B.5.2.	The latest data provided by the Chinese DNA for baseline emission calculation have been adopted in the revised PDD.	The correction (including the modification of IPCC values) made in the revised PDD, is adequate.

Draft report clarification requests and corrective action requests by validation team	Ref. To checklist question in table 2	Summary of project owner response	Validation team conclusion
CAR B3 During interview and subsequent discussions evidences could not be provided to substantiate the assumptions and values in the IRR calculation. Thus this should be deleted and a more detailed description and evidences should be provided regarding the lack of financial resources in section B.5. of the PDD.	B.3.2., B.3.3.	The IRR calculation has been deleted and a detailed description of the financial barrier was provided. The series of events showing that the project lacked access to financial resources and which led to the project considering the CDM is given in the revised PDD.	The revision made in the PDD is appropriate. It provides a more detailed description of the financial barrier. This barrier was assessed as convincing (refer to section B.4.3. of this report). Therefore the CAR is closed.
CAR B4 The validation is conducted after the start of the project activity. Thus a confirmation and a justification according to why and when the management decision was taken should be included in section B.5.	B.3.4.	The CDM has been under consideration before the starting of the project. The related documents have been provided to TUV NORD.	The correction made in the revised PDD is adequate and convincing. CAR is closed.
CAR B5 Furthermore the values for electricity generation in section B.6.3. don't match with the values provided in previous sections. Revision is necessary.	B.7.1.	The value of the electricity generation in section B.6.3. has been corrected in the revised PDD.	The correction made in the revised PDD is adequate. CAR is closed.
CAR E1 Section E.1. should include a description how these stakeholders were identified and how they were invited. This is not described in the PDD. A revision of section E.1 is necessary.	E.1., E.2.	A detailed description of the stakeholder consultation has been given in the revised PDD.	The correction made in the revised PDD is adequate. CAR is closed.
CAR E2 Stakeholders should be identified in section E.2. which was not done. Thus correction is necessary. Further information should be provided which negative comments the project proponents received.	E.4.	The stakeholders have been identified in the revised PDD.	The correction made in the revised PDD is adequate. CAR is closed.

Draft report clarification requests and corrective action requests by validation team	Ref. To checklist question in table 2	Summary of project owner response	Validation team conclusion
CR A1 The company name provided in section A.3. of the PDD does not match with the name of the one provided in Annex 1. Clarification and revision is requested.	A.2.1.	The company name in Annex 1 has been corrected in the revised PDD.	OK. Correction in compliance with requirements. CR is closed.
CR A1.1 A detailed description that the debundling conditions are met should be included in section A.4.5. to ensure as much transparency as possible.	A.4.4.	More details about the debundling condition of the project have been provided in the revised PDD.	The revised PDD includes the required information now. CR is closed.
CR A2 The value provided for rated flux in Stage III of table 1 on page 6 doesn't match with the value provided in A.2. Correction is necessary.	A.5.1.	It has been corrected in the revised PDD.	The correction made in the revised PDD is adequate.
CR B1 The relevant national policies and circumstances relevant to the baseline of the proposed project activity are to be described in PDD section B.5 as indicated in the PDD guidelines. Hence revision is necessary.	B.2.5.	It has been corrected in the revised PDD.	The policies and circumstances are now considered. CR is closed.
CR B2 The description of the methodological choices in B.6.1. Immediately cites ACM0002 without referring to the applied methodology AMS ID; nor is the choice of using combined margin justified as required under step 9 of AMS ID.	B.5.1.	It has been corrected in the revised PDD.	The correction made in the revised PDD is adequate.
CR B3 In section B.7.1 of the PDD it is indicated that the main data source meter is installed at Naituo transformer substation which contradicts to section B.7.2 point 2 stating the metering of electricity would be at Naituo booster station. Clarification is necessary were	B.8.1., B.10.1., B.10.3., B.10.4.,	It has been corrected in the revised PDD.	The corrections made are appropriate as it is now clearly indicated where metering will be conducted.

Draft report clarification requests and corrective action requests by validation team	Ref. To checklist question in table 2	Summary of project owner response	Validation team conclusion
monitoring and metering of electricity generated from the project activity will take place.			
CR B4 It should be indicated in B.7.1. that the measurements of the meters are conducted continuously.	B.10.6.	It has been corrected in the revised PDD.	The corrections are now in accordance with the methodology. Hence CR is closed.
CR B5 In section B.8. should be indicated if (or if not) the person/ entity determined the baseline scenario is a project participant.	A.5.1.	It has been corrected in the revised PDD.	A revision including the required information was conducted.
CR C1 The starting date of the project activity as indicated in section C.1.1. is not matching with the information provided during on-site visit and according to what is indicated under B.5. of the PDD. Thus revision is necessary.	C.1.	The starting date has been corrected in the revised PDD.	The revision is in accordance to the information provided to the validator.
CR E1 As negative comments have been received, the project participant should clearly describe how due account was taken according to these.	E.5.	It has been clearly described about how the negative comments were considered in the revised PDD.	The PDD now includes the concerns of some stakeholders and how due account was taken by the project participant.

CERTIFICATES

TÜV NORD

CERTIFICATE OF APPOINTMENT

Mr. Dipl-Ing. Rainer Winter

born on 1963-02-21

satisfies the requirements as specified in the TÜV NORD JI/CDM CP directives and is hereby appointed as

TÜV NORD JI/CDM Senior Assessor

The present appointment will terminate on 2010-07-05
Certification registration No. 04 02 154-03

Essen, 2007-07-06

Deputy of TÜV NORD JI/CDM Certification Program
of TÜV NORD CERT GmbH

TÜV NORD

CERTIFICATE OF APPOINTMENT

Mr. Martin Saalmann

born on 1976-02-23

satisfies the requirements as specified in the TÜV NORD JI/CDM CP directives and is hereby appointed as

TÜV NORD JI/CDM Expert

The present appointment will terminate on 2009-06-14
Certification registration No. 06 06 15 - 22

Essen, 2006-06-15

Head of TÜV NORD JI/CDM Certification Program
of TÜV NORD CERT GmbH

Seite 4: [31] Gelöscht msaalmann 29.08.2008 11:54:00

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