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Validation Report

Sindicatum Carbon Capital Ltd.

**VALIDATION OF THE CDM-PROJECT:
GUIZHOU QINGSHUIHE GELIBRIDGE HYDROPOWER
PROJECT**

REPORT NO. 600500250

2010, September 29

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

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Subject: Validation of a CDM Project: Guizhou Qingshuihe Gelibridge Hydropower 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: Sindicatum Carbon Capital Ltd. 33 Duke Street London W1U 1JY, United Kingdom	Project Site: Qingshuihe River, Maoyun Village in Kaiyang County Guizhou Province in China. GPS coordinates: Dam: 27°0'30"N and 107°12'22"E Powerhouse: 27°0'33"N and 107°12'2"E

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Applied Methodology / Version: ACM0002 / Version 09	Scope(s): 1 Technical Area(s): 1.1
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First PDD Version: Date of issuance: not indicated Version No.: not indicated Starting Date of GSP 01-02-2007 REPEAT – GSP Version: Date of issuance: 01-04-2009 Version No.: 4 Starting Date of GSP 03-04-2009	Final PDD version: Date of issuance: 25-09-2010 Version No.: 09
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Estimated Annual Emission Reduction: 387,570 tCO₂e

Assessment Team Leader: Dr. Sven Kolmetz Assessment Team Members: Carl Zhou, Minglong Charles Huang (no longer with TÜV) Karin Wagner Trainees: -	Veto Person: Johann Thaler; Sebastian Randig Responsible Certification Body Members: Rachel Cuyun Zhang
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Summary of the Validation Opinion:

- ☒ The review of the project design documentation and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM. Hence TÜV SÜD will recommend the project for registration by the CDM Executive Board in case letters of approval of all Parties involved will be available before the expiring date of the applied methodology(ies) or the applied methodology version respectively.
- ☐ The review of the project design documentation and the subsequent follow-up interviews have not provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. Hence TÜV SÜD will not recommend the project for registration by the CDM Executive Board and will inform the project participants and the CDM Executive Board on this decision.

Abbreviations

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

Table of Contents	Page
1 INTRODUCTION	5
1.1 Objective	5
1.2 Scope	5
2 METHODOLOGY	7
2.1 Appointment of the Assessment Team	8
2.2 Review of Documents	9
2.3 Follow-up Interviews.....	9
2.4 Further cross-check.....	10
2.5 Resolution of Clarification and Corrective Action Requests	10
2.6 Internal Quality Control.....	10
3 SUMMARY	12
3.1 Approval	12
3.2 Participation.....	12
3.3 Project design document.....	13
3.4 Project description	13
3.5 Baseline and monitoring methodology	13
3.5.1 Applicability of the selected methodology	13
3.5.2 Project boundary.....	14
3.5.3 Baseline identification	14
3.5.4 Algorithm and/or formulae used to determine emission reductions.....	15
3.6 Additionality	16
3.6.1 Prior consideration of the clean development mechanism	17
3.6.2 Identifications of alternatives	18
3.6.3 Investment analysis	18
3.6.4 Barrier analysis	26
3.6.5 Common practice analysis.....	26
3.7 Monitoring plan.....	27
3.8 Sustainable development	28
3.9 Local stakeholder consultation	28
3.10 Environmental impacts	28
4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS.....	29
5 VALIDATION OPINION	30

Annex 1: Validation Protocol

Annex 2: Information Reference List

1 INTRODUCTION

1.1 Objective

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

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

Guizhou Qingshuihe Gelibridge Hydropower Project

1.2 Scope

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

- The Kyoto Protocol, in particular § 12 and modalities and procedures for the CDM
- Decision 2/CMP1 and Decision 3/CMP.1 (Marrakech Accords)
- Further COP/MOP decisions with reference to the CDM (e.g. decisions 4 – 8/CMP.1)
- Decisions and specific guidance by the EB published under <http://cdm.unfccc.int>
- Guidelines for Completing the Project Design Document (CDM-PDD), and the Proposed New Baseline and Monitoring Methodology (CDM-NM)
- Baselines and monitoring methodologies (including GHG inventories)
- Management systems and auditing methods
- Environmental issues relevant to the sectoral scope applied for
- Applicable environmental and social impacts and aspects of CDM project activity
- Sector specific technologies and their applications
- Current technical and operational knowledge of the specific sectoral scope and information on best practice

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

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

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

2 METHODOLOGY

The project assessment applies standard auditing techniques to assess the correctness of the information provided by the project participants. The assessment is based on the "Clean Development Mechanism Validation and Verification Manual" Version 01 (EB44, Annex 3). The work starts with appointment of team covering the technical scope(s), sectoral scope(s), technical area(s) and relevant host country experience for evaluating the CDM project activity. Once the project is made available for the stakeholder consultation process, members of the team carry out the desk review, follow-up actions, resolution of issues identified and finally preparation of the validation report. The prepared validation report and other supporting documents then undergo an internal quality control by the CB "climate and energy" before submission to the CDM-EB.

In order to ensure transparency, assumptions are clear and explicitly stated; the background material is clearly referenced. TÜV SÜD developed a methodology-specific protocol customised for the project. The protocol shows, in a transparent manner, criteria (requirements), the discussion of each criterion by the assessment team and the results from validating the identified criteria. The validation protocol serves the following purposes:

It organises, details and clarifies the requirements a CDM project is expected to meet;

It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation and any adjustment made to the project design.

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

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

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

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

In case of a denial of the project activity more detailed information on this decision will be presented in table 3.

Validation Protocol Table 3: Unresolved Corrective Action and Clarification Requests		
Clarifications and corrective action requests	Id. of CAR/CR	Explanation of the Conclusion for Denial
<i>If the final conclusions from table 2 results in a denial the referenced request should be listed in this section.</i>	<i>Identifier of the Request.</i>	<i>This section should present a detail explanation, why the project is finally considered not to be in compliance with a criterion with a clear reference to the requirement which is not complied with.</i>

2.1 Appointment of the Assessment Team

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

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

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

Name	Qualification	Coverage of sectoral scope	Coverage of technical area	Host country experience
Dr. Sven Kolmetz	ATL	☒	☒	☒
Carl Zhou	-			
Minglong (Charles) Huang	-			
Karin Wagner	GHG-A			☒

Name	Qualification	Coverage of sectoral scope	Coverage of technical area	Host country experience
	(Validator)			

Dr. Sven Kolmetz is physicist and head of the department “TÜV Carbon Management Service” located in the head office of TÜV SÜD Industrie Service GmbH in Munich, Germany. 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 was an auditor for environmental management systems (according to ISO 14001) at Jiangsu TUV Product Service Ltd. He was based in Shenzhen, China. In his position he was 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. Carl Zhou left the company in 2008.

Minglong (Charles) Huang was a lead auditor for both quality management system (ISO9001) and environmental management systems (ISO 14001) in TÜV SÜD China. He was based in Shenzhen. After receiving GHG auditor training course in Germany, he has already involved in several CDM validation and cases. Minglong Huang left the company in 2009.

Karin Wagner is a lead auditor in the “Carbon Management Service” department of TÜV SÜD Industrie Service GmbH in Munich, Germany. She holds a M.Sc. in geological sciences and has gathered experience in environmental consulting before joining TÜV SÜD. Karin Wagner specializes in the assessment of GHG emission reductions or removals in the sector of mining/mineral production, waste handling and disposal as well as renewable energies.

2.2 Review of Documents

A first version of the PDD was submitted to the DOE in February 2007. This version has been updated based on the latest CDM requirements and was re-submitted to TÜV SÜD in April 2009 and the GSP was repeated with the updated version because of the long time period between the two PDDs and the methodology version update. The PDD versions submitted by the PP and additional background documents related to the project design and baseline were reviewed to verify the correctness, credibility and interpretation of the presented information. Furthermore a cross-check between the information provided and the information from other sources was performed as an 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 February 5, 2008 and April 21-23, 2009 TÜV SÜD performed various interviews and a physical site inspection together with the project stakeholders to confirm and assess the relevant information and to resolve issues identified in the first document review. The table below provides a list of all persons interviewed in this context.

Name	Organisation
Wang Dan	Guizhou CDM technical consultation centre
Ren Jin	Guizhou CDM technical consultation centre

Name	Organisation
Xiong Chang	Guizhou CDM technical consultation centre
Fei Jing	Guizhou Wujiang Qingshuihe Hydropower Development Co. Ltd.
Cheng Guoliang	Guizhou Wujiang Qingshuihe Hydropower Development Co. Ltd.
Wang Yongquan	Guizhou Wujiang Qingshuihe Hydropower Development Co. Ltd.
Ge Haifu	Guizhou Wujiang Qingshuihe Hydropower Development Co. Ltd.
Deng Suqing	Guizhou Wujiang Qingshuihe Hydropower Development Co. Ltd.
Fei Jing	Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd. (General Manager)
Luo Yong	Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd. (Vice General Manager)
Mei Xiao	Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd. (Planner)
Stephanie Kwan	Sindicatum Carbon Capital (Project Officer)
Lei Xiaoyu	Sindicatum Carbon Capital (CDM project assistant)
Gareth Phillips	Sindicatum Carbon Capital (Chief climate change officer)

2.4 Further cross-check

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

2.5 Resolution of Clarification and Corrective Action Requests

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

The final PDD version that was submitted in September 2010 serves as the basis for the final assessment presented herewith. Changes are not considered to be significant with respect to the qualification of the project as a CDM project based on the two main objectives of the CDM, i.e. to achieve a reduction of anthropogenic GHG emissions and to contribute to a sustainable development.

2.6 Internal Quality Control

As final step of a validation the final documentation including the validation report and the protocol have to undergo an internal quality control by the CB "climate and energy", i.e. each report has to be finally approved either by the head of the CB or the deputy. In case one of these two persons is part of the assessment team approval can only be given by the other one.



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

3 SUMMARY

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

3.1 Approval

The project participants are Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd. of the People's Republic of China and Sindicatum Carbon Capital Ltd. of the United Kingdom of Great Britain and Northern Ireland. The host Party, the People's Republic of China and the further participating party, the UK meet the requirements to participate in the CDM.

The DNA of the UK issued a LoA (IRL 36) on 01 February 2010 authorizing Sindicatum Carbon Capital Ltd. as a project participant. The DNA of China also issued a LoA (IRL 35) on 18 January 2008 authorizing Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd. as a project participant. TÜV SÜD received these letters from the project participants directly and considers the provided letters as authentic.

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

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

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

Both LoAs have been issued by the respective Party's DNA, National Development and Reform Commission of the People's Republic of China and the Department of Energy and Climate Change of the UK, respectively.

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

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

3.2 Participation

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

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

3.3 Project design document

The PDD is compliant with relevant form and guidance as provided by UNFCCC. The most recent version of the PDD form was used.

TÜV SÜD considers that the guidelines for the completion of the PDD in their most recent version have been followed. Relevant information has provided by the participants in the applying PDD sections. Completeness was assessed through the checklist included to Annex 1 of this report.

3.4 Project description

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

The project activity is a 150 MW hydro power project located in Guizhou Province, situated on the main stream of Qingshuihe River. The project activity is a new reservoir hydro power station with a flooded area of 2.13 km² and a power density of 70.42 W/m². The project systems consist of two HL234-LJ-335 turbines and two SF75-28/6740 generators, of 75 MW each, thereby aggregating to the installed capacity of 150 MW. The project system further consists of the reservoir, the power house and the pipeline system as well as the switch station. The generated electricity will be exported to the South China Power Grid (SCPG), through the local grid.

The project activity is expected to have an annual power output of 508,000 MWh, with 497,300 MWh supplied to the grid. The difference between the total power generation and the net power supply results from the internal power consumption used for the operation of the plant (the FSR does not consider any internal power consumption or losses in transmission lines, which can be considered as conservative in the additionality context).

The exported electricity from the project displaces the power generated by the existing power plants and likely capacity additions in the SCPG, thereby resulting in an estimated emission reduction of 387,570 tCO₂e annually in the renewable 7-year crediting period.

The project will further contribute to the sustainable development by reducing the power shortages in the area as well as by creating new jobs and a better infrastructure.

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

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

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

3.5 Baseline and monitoring methodology

3.5.1 Applicability of the selected methodology

Compliance with each applicability condition as listed in the chosen baseline and monitoring methodology ACM0002 (Version 09) has been demonstrated.

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

The Methodology specific protocol included to the Annex 1 documents the assessment process, including the steps taken. The results on the compliance check as well as the relevant evidence are explicitly presented in annex 1.

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

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

3.5.2 Project boundary

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

As indicated in the methodology ACM0002 (Version 09), the spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to, which was correctly identified as the South China Power Grid. The GHG and emission source included in the project boundary are the CO₂ emissions from the electricity generation in fossil fuel fired power plants that is displaced due to the project activity and the CO₂ emissions from backup power generation. Methane emission from the reservoir may be included. However, the calculation of the power density (i.e. 70.42 W/m²) indicated that this project emission source can be neglected as per ACM0002.

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

- Feasibility Study Report (FSR; version 1,draft) (IRL 7) and the second, final version (IRL 10), and
- Grid connection approval (IRL 15), and
- Land use approval (IRL 16).

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

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

3.5.3 Baseline identification

In the PDD the following baseline scenario has been defined:

As per the ACM0002 (Version 09) methodology, the baseline is clearly defined for this type of project activity (i.e. installation of a new grid-connected renewable hydro power plant) which is as following.

Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations.

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

- Feasibility Study Report (FSR) (IRL 7, 10; i.e. first draft version and second final version), and
- Prohibition to construct fossil-fuel fired power plants with less than 135 MW (IRL 29), and
- ACM0002 (Version 09).

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

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

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

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

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

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

3.5.4 Algorithm and/or formulae used to determine emission reductions

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

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

Based on the information reviewed it can be confirmed that the sources used are correctly quoted and interpreted in the PDD.

The values presented in the PDD are considered reasonable based on the documentation reviewed, further references and the result of the interviews.

The baseline methodology has been correctly applied following the requirements.

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

Detailed information on the verification of the parameters used in the equations can be found in the annex 1. The algorithms for the determination of the baseline, project and leakage are discussed in the following sections.

3.5.4.1 Baseline Emissions

The calculation of the baseline emissions followed the procedures described in the methodology ACM0002 (Version 09).

The operating margin emission factor (EF_{OM}) was determined based on the simple OM method. The ex-ante option was chosen for this calculation. The calculation of the build margin emission factor (EF_{BM}) was based on modified methods agreed by the EB, because plant specific data are not available in China. The emission factor of the thermal power plants was calculated by the proportion of the emissions of coal, gas and oil times the emission factor of the best available coal, gas and oil power plant as defined and published by the Chinese DNA. The new thermal capacity installation that exceeded 20% in the last years, for which data was available, was finally assessed with this factor.

The baseline calculation was based on the published OM/BM calculation process recently issued by the NDRC (China DNA) at the time of the commencement of this validation (i.e. at the time of the first GSP). A summary of the various PDD versions and the applied values is listed below. TÜV SÜD considers the applied values as appropriate and valid.

(Unit: tCO ₂ e/MWh)	EF-OM	EF-BM	EF-CM (calculated)
Values published by NDRC in 2006	0.9873	0.5714	0.7794
1. GSP PDD	0.9823	0.5714	0.7768 (0.77685)
2. GSP PDD	1.0608	0.6816	0.8712
Final PDD (submitted for registration)	0.9873	0.5714	0.7794

The value for the combined margin emission factor ($EF_{CM} = 0.7784$ tCO₂e/MWh) was determined using the weighted average of the EF_{BM} and EF_{OM} using the default values for the factors as described in the methodology (i.e. 0.5 for hydro plants).

3.5.5 Project emissions

As indicated by the applied methodology, this type of project does not consider project emissions from the reservoir, since the minimum required power density is above the threshold of 10 W/m².

Project emissions from the backup power generation were calculated by the quantity of fuel combusted in the diesel generator multiplied by the respective CO₂ emission coefficient as indicated in the "Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion".

3.5.6 Leakage

Not applicable as indicated by the applied methodology.

3.5.7 Emission Reductions

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

3.6 Additionality

The additionality of the project has been presented in the PDD by applying the first, second and fourth step as indicated in the "Tool for the demonstration and assessment of additionality" (Version 05.2).

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

- Feasibility Study Report (IRL 7, 10, i.e. first draft and second final version), and
- Investment analysis calculations (IRL 30).

On site, the additionality has been discussed principally with Mr. Fei Jing (Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd.) as well as with Stephanie Kwan and Gareth Phillips (Sindicatum Carbon Capital Ltd.). Furthermore some documents have been reviewed on-site (for details see annex 2).

Finally the data, rationales, assumptions, justifications and documentation provided have been checked using local knowledge and sectoral and financial expertise, the same has been cross checked by:

- Approval of FSR (IRL 8), and
- Letter of Intent regarding CDM cooperation (IRL 9), and
- Emission Reduction Purchase Agreement (IRL 12), both indicating the CDM consideration.

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

3.6.1 Prior consideration of the clean development mechanism

The starting date of the project activity is determined by signing the first construction contract in January 2007, when the first real action, i.e. the first commitment to any expenditure was made. In order to confirm this date, the assessment team reviewed the following documents:

- Equipment Purchase Contracts (IRL 26 and 27), signed in June 2007 and June 2008, and
- Project Construction Contracts (IRL 23, 24 and 25), signed in January and May 2007.

In addition, the assessment team cross checked this information with Mr. Fei Jing (Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd.) as well as with Stephanie Kwan and Gareth Phillips (Sindicatum Carbon Capital Ltd.) during various discussions on site.

The starting date of the project activity is determined to be 31 January 2007 which is before 02 August 2008 and also before the GSP. The PPs presented the following documentation to the assessment team for the demonstration of the early CDM consideration:

- Letter of Intent signed with Sindicatum in June 2006 (IRL 9), and
- ERPA (IRL 12) signed in November 2006, and
- Request for proposal and signed order for validation services with TÜV SÜD in November and December 2006, respectively.

The original of the documentation presented was reviewed and cross checked based on interviews with Mr. Fei Jing as well as with Stephanie Kwan and Gareth Phillips, hence the document can be considered appropriate to confirm the prior CDM consideration.

In order to confirm that the PPs have taken real actions to continue the activity as CDM, the following timeline has been reviewed against the respective documents presented in the table below:

Activity	Document	Auditor conclusion
June 2006 Negotiations between Sindicatum and project owner	LoI (IRL 9)	Early CDM consideration

Activity	Document	Auditor conclusion
August 2006 First draft of feasibility study	Version 1 of FRS (IRL 7)	None, as this is no CDM action, but this already indicates the IRR input data
September 2006 Finalization and approval of environmental impact assessment	EIA and its approval (IRL 13, 14)	None, as this is no CDM action
November 2006 ERPA	Copy of ERPA (IRL 12)	Early CDM consideration
November 2006 FSR (version 02)	Copy of FSR (IRL 10)	None, as this is no CDM action, but this also indicates the IRR input data
January 2007 First contracts signed	Copy of contracts (IRL 23, 24)	Project Starting Date
February 2007 First GSP	UNFCCC webpage	Finalization of first PDD version and start of validation work clearly indicates on-going CDM actions.
February 2007 First on-site visit by TÜV SÜD	Participation List	On-going validation work clearly indicates follow-up process on the CDM status.
2007 – 2008 On-going discussions between TÜV SÜD and Sindicatum regarding the CDM validation assessment	E-mails, various PDD versions (version 02, undated and version 03, February 2008)	On-going validation work clearly indicates follow-up process on the CDM status.
April 2009 REPEAT - GSP	UNFCCC webpage	On-going validation work clearly indicates follow-up process on the CDM status.

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

3.6.2 Identifications of alternatives

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

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

3.6.3 Investment analysis

The PPs use the investment analysis to demonstrate the additionality. The financial returns of the proposed project are insufficient to justify the investment.

The parameters used in the financial calculations have been validated based on a review of the sources presented in the PDD, inter alia the feasibility study reports (draft and final, IRL 7 and 10)

(the adopted parameters for the investment analysis include the investment costs, the O&M costs, the annual power generation and supply as well as various taxes).

The power tariff used in the FSR was unrealistic and not supported by any evidence. Its use was dominated by the need to receive FSR approval by the local authorities. Hence, PPs decided to base their additionality discussion on a provable figure which was derived from a power price notice published in April 2005 ([Corrected as informed by the response to the request for review](#); IRL 38).

All these values were confirmed verbally on-site for the FSR (draft, version 1) as well as the tariff notice; furthermore the period of time between the finalization of the FSR (version 1) and the investment decision is only three months therefore it can be confirmed that it is unlikely that the input values have materially changed. Furthermore, the input values were cross-checked with the following documents, further confirming that the applied values are appropriate:

- Engineering investment table (IRL 49) indicating that about 760 Mio RMB were already spent on the construction of this plant, which is higher than the amount estimated in the FSR, given the current status of construction and the remaining costs that will be incurred until the finalization of the hydroplant, which is expected to be at the end of 2009.
- It could be verified that the plant load factor (PLF) of 39% (or 3387 annual full load operation hours) was determined by Hydro China Guiyang Engineering Cooperation (IRL 7), which is a third-party engineering company contracted by the project participant. Hence, TÜV SÜD confirms that the PLF has been defined correctly in the PDD (as per EB48, Annex 11) as well as the resulting input data applied for the IRR calculation.
- A notice of the local price bureau published in 2007 (IRL 43), indicating a similar tariff for a similar project in the area where the same major shareholders and project owner is involved,
- Another power price notice and PPA for two other hydro electric plants in Guizhou province, indicating a gross tariff of 0.2374 RMB/kWh and 0.2184 RMB/kWh, respectively (the IRR with the highest tariff, i.e. 0.2374 RMB/kWh is still below the benchmark with 5.13%).

The project is still under construction, hence no final costs as well as no power sales receipts were available for cross-checking, and no PPA was signed yet. However, the comparison of the other key input parameters, such as O&M costs as well as the annual power generation and net supply to the grid can be considered appropriate based on the comparison with TÜV SÜD's internal database of 250 hydroelectric power plants in China.

TÜV SÜD also considers the application of a fixed tariff as valid and appropriate, as well as in line with Chinese codes and standards to calculate the economic return of a hydropower project. In addition, TÜV SÜD would like to point out that even with a 45% increase in the tariff, the IRR would still remain below the benchmark, and the project would still not be financially attractive. In addition, TÜV SÜD highly expects that in case that the power price increases, O&M costs are also likely to increase as well, since both parameters are mostly linked to inflation. In summary, TÜV SÜD considers the application of fixed values as appropriate and valid.

The FSR further indicates that the "current average price of the Guizhou grid power is 0.2334 RMB/kWh". However, even with the application of this value for the tariff in the investment analysis as a net value, the IRR is still below the benchmark (6.29%) and the project lacks financial attractiveness.

TÜV SÜD would also like to point out, that even with the total amount of power generated (i.e. 508,000 MWh) applied for the investment analysis, the IRR remains below the benchmark and the project is still additional (IRR = 4.97%).

As a result, it can be seen that the parameters are plausible and can be considered acceptable under the project situation.

As outlined in the EB56 meeting report, the Board agreed to register with corrections the project activities “Guizhou Qingshuihe Gelibridge Hydropower Project” (3351), if the project participant and the DOE (TÜV SÜD) submit a revised PDD and the corresponding validation report which incorporate the information submitted in response to the request for review regarding the suitability of input values to the investment analysis, in particular total investment, plant load factor and electricity tariff; (EB56, para 66ac).

The project received a request for review in July 2010, with the following question related to the suitability of the input values:

The DOE shall further justify the suitability of input values to the investment analysis in accordance with paragraph 112(c) of VVM v1.1, in particular, total investment, plant load factor and electricity tariff.

The relevant clarifications are as following:

The parameters applied in the investment analysis for the Guizhou Qingshuihe Gelibridge Hydropower project (hereafter referred to as the “Gelibridge project”), such as the static total investment and operating hours used to determine the plant load factor, were adopted from the project’s Feasibility Study Report (FSR), which was developed by the Hydro China Guiyang Engineering Cooperation, a third party engineering company that specializes in the design and development of hydropower stations in China.

As already outlined in the validation report and the corresponding PDD, the power tariff used in the FSR was unrealistic and not supported by any evidence. Its use was dominated by the need to receive FSR approval by the local authorities. Hence, the project participants decided to base their additionality discussion on a provable figure which was derived from a power price notice published in April 2005.

In accordance with paragraph 112(c) of the VVM v1.1, the DOE has confirmed that the underlying assumptions used in the financial analysis from the FSR and power price notice are appropriate by cross-checking these values against, for example, actual data and data from projects of similar technology, scale, and location. The following sections detail how the DOE has determined its confirmation of the financial analysis parameters 1) static total investment, 2) plant load factor, and 3) electricity tariff.

Total investment

The static total investment applied in the financial analysis of the Gelibridge project is based on the FSR, which indicates that the static total investment is 1006.49 Million RMB over the course of the project lifetime.

At the time of validation, TÜV SÜD cross-checked the FSR value applied in the project’s financial analysis against the project’s engineering investment table dated May 31, 2009, developed by the project owner’s Construction Department which indicates that around three quarters of the static total investment had been spent that date on the construction of the plant. TÜV SÜD confirmed that this is higher than the amount estimated in the FSR, given the status of construction at the time of the cross-check and the remaining costs that would be incurred until the finalization of the hydropower plant.

The engineering investment table as of June 2010 prepared by the project owner’s Finance Department shows that 995.3 Million RMB in static total investment has been spent to date (IRL 53, 54). Although the Station has begun operation as of February 9, 2010, construction of the station has not

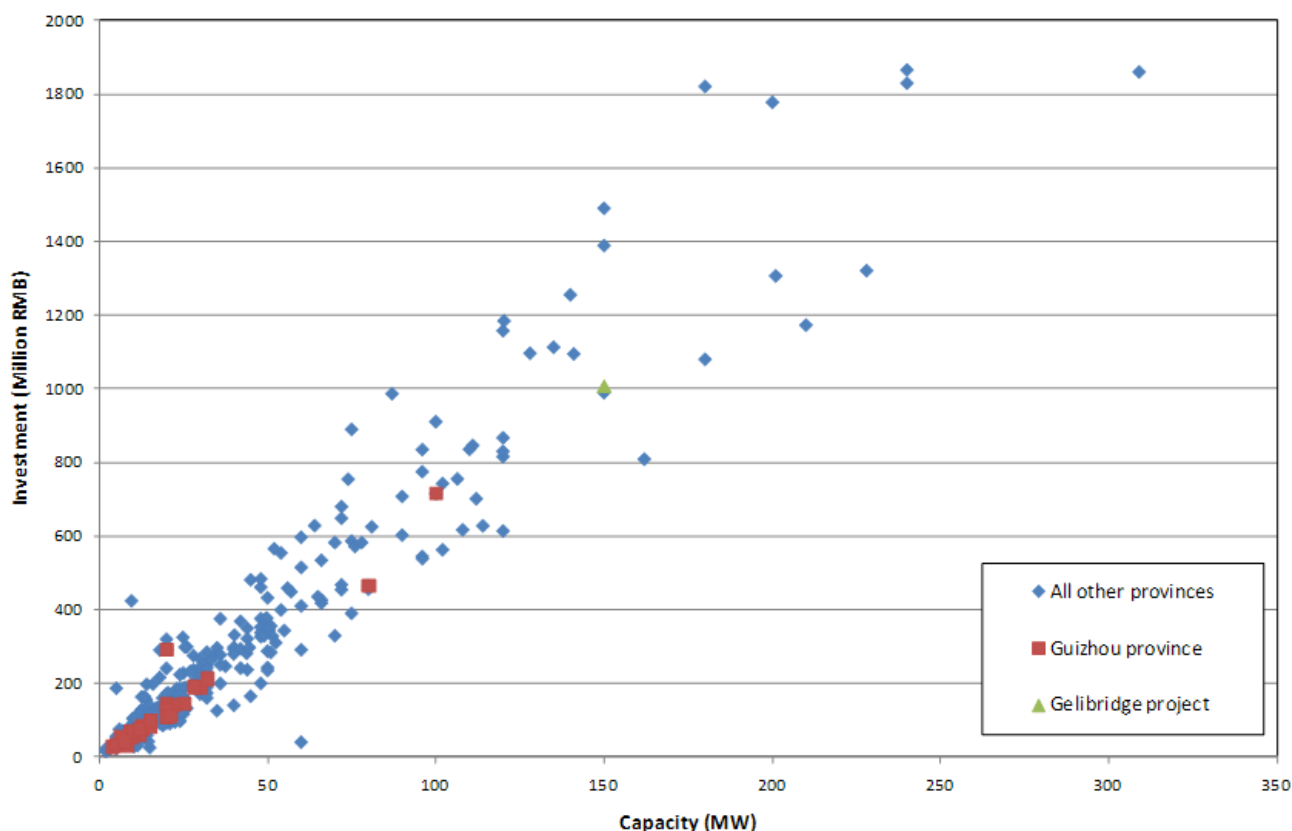
yet been completed, nor have all of the costs been paid due to unfinished construction. The costs to date for the static total investment are 98.89% of the FSR estimate.

The amount spent to date, given that the station has not fully completed construction nor have all payments been made, is within an appropriate range of the FSR estimate. Furthermore, the project owner's estimation of total costs is expected to exceed the FSR estimate. Even with the actual investment spent up to date, the project remains additional with an IRR of 4.8004% compared to the original IRR of 4.796%.

In addition, TÜV SÜD has cross-checked the static total investment for this project against other CDM projects of similar size in a similar location:

- Registered CDM project 2065, which is a 100MW hydropower project in Guizhou Province and similar to the Gelibridge project which is 150MW, has a static total investment of 714.4 Million RMB. On a per MW basis, the static total investment for Project 2065 is 7.144 Million RMB/MW.
- Registered CDM project 1282, which is a 80MW hydropower project in Guizhou Province, has a total investment of 464 Million RMB, or a 5.8 Million RMB/MW installed.

The static total investment as per the FSR for the Gelibridge project is approximately 6.710 Million RMB/MW installed, which is in the middle of the static total investment values of the other hydropower projects of similar size and location. The figure below further illustrates the investment / capacity ratio for various registered CDM projects in China (based on the CDM pipeline xls file provided by UNEP Risoe; IRL 55).



and within an appropriate range of static total investment for other hydropower projects of similar scale and location.

Plant Load Factor

At the time of the Validation Report, the DOE verified the plant load factor (PLF) of 39% based on 3,387 annual full load operation hours as determined by the Hydro China Guiyang Engineering Co-operation, a third-party engineering company contracted by the project participant to conduct the FSR for the project. Hence, TÜV SÜD considers that the PLF has been correctly defined in the PDD as well as in the associated investment analyses spreadsheets according to the available guidelines (i.e. EB48, Annex 11).

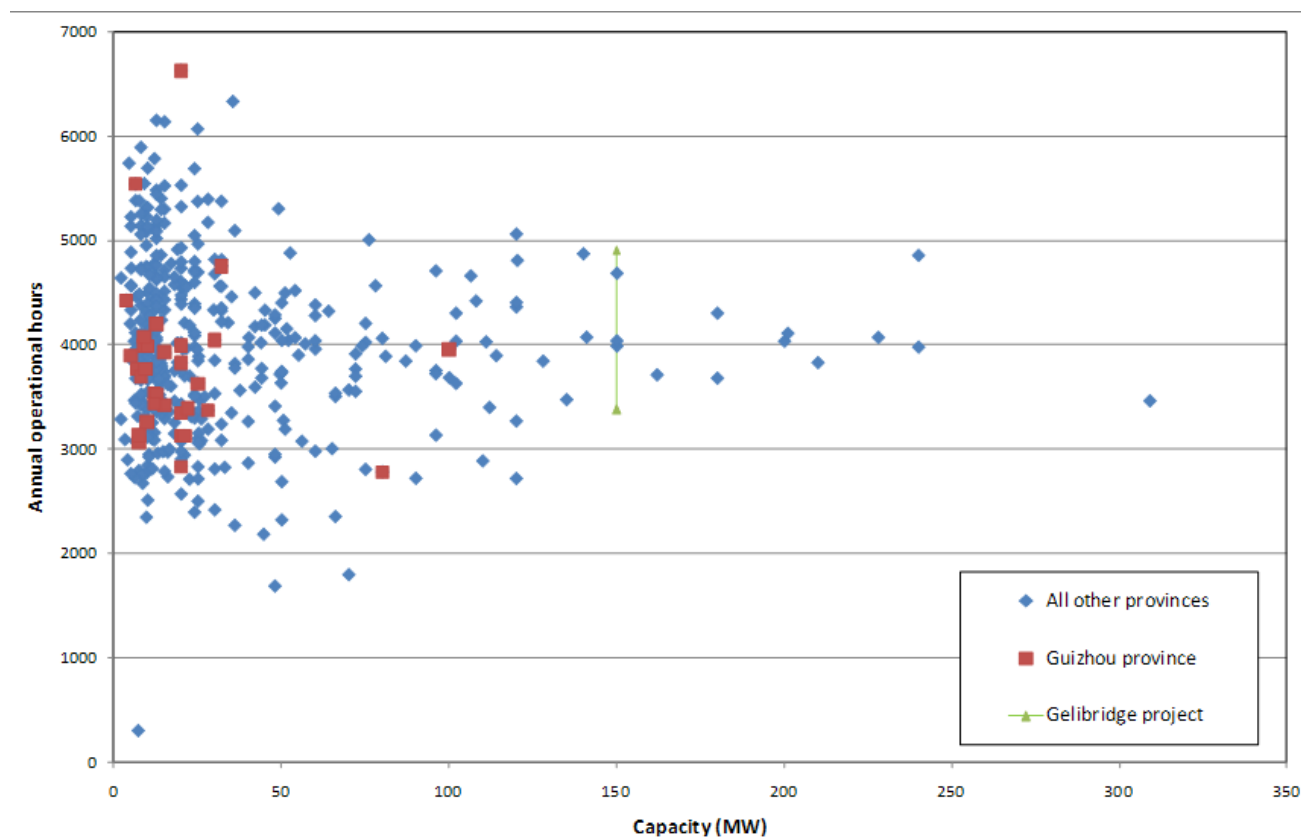
On February 9, 2010, the Gelibridge Station began operation. The Gelibridge Station has operated for 1,242.91 hours between February 9 and June 30, 2010 (122 days), as shown in the hours of operation in the Station's Production Monthly Report from the project owner, Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd. (IRL 56), which could be also further cross-checked by the electricity quantity settlement issued by the Guizhou Price Bureau (IRL 57). Assuming this ratio of number of hours of operation to number of days, the annual operation hours can be estimated as 3,718.542 hours/year (1,242.91 hours / 122 days × 365 days/year). Considering the uncertainty given by the extrapolation and the variation of meteorological conditions this initial result shows an excellent congruence with the original estimation.

TÜV SÜD cross-checked the annual operation hours for this project against other CDM projects of similar size in the same province and of comparable meteorological conditions:

Registered CDM project 1282, as indicated in the PDD and 1st Monitoring Report, had an estimated annual hours of operation of 3,094 hours/year. The facility actually began operation on March 7, 2009. Therefore, the PLF for project 1282 can be calculated as:

$PLF = 3,094 \text{ annual hours of operation} / 8,760 \text{ annual hours} = 35.21\%$.

In addition, the figure below shows the distribution of the annual operating hours compared to the various capacities for all registered hydro projects in China (as per the CDM pipeline xls file provided by UNEP Risoe). The lower green triangle shows the annual operating hours of the proposed project activity, whereas the green vertical line up to the upper green triangle shows the range of potential annual operating hours, under which the project still remains additional with an IRR of below 8%. Hence, TÜV SÜD confirms that the proposed project activity's PLF is fully within the typical range for Chinese hydro plants.



TÜV SÜD again confirms that the PLF has been defined correctly in the PDD (as per EB48, Annex 11) as well as the resulting input data applied for the IRR calculation, and this value is within an appropriate range of PLFs for other hydropower projects of similar scale and location.

Electricity Tariff

The electricity tariff for the Gelibridge project at the time of the investment decision was 0.195 RMB/kWh without VAT (or 0.228 RMB/kWh with a 17% VAT) as per the tariff issued by the Guizhou Price Bureau to the Guizhou Wujiang Hydropower Development Co., Ltd., the largest shareholder of the project owner, Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd., in April 2005. The power tariff used in the FSR was unrealistic and not supported by any evidence. Its use was dominated by the need to receive FSR approval by the local authorities. Hence, the project participants decided to base their additionality discussion on a provable figure which was derived from the power price notice published in April 2005, and which was available to the project owners at the time of investment decision. Hence, the tariff of 0.195 RMB/kWh without VAT was applied to the Gelibridge CDM financial analysis.

During validation, TÜV SÜD compared the tariff applied in the Gelibridge project to other tariffs issued to hydropower projects in Guizhou Province, the same province that the Gelibridge project is located in. As indicated on page 18 of the Validation Report, TÜV SÜD conducted the comparison with:

1. A notice of the local price bureau published in 2007, which indicated a similar tariff for a similar project in the area where the same major shareholders and project owner is involved; and
2. Another power price notice and PPA for two other hydro electric plants in Guizhou province, indicating a gross tariff of 0.2374 RMB/kWh and 0.2184 RMB/kWh, respectively.

In addition to cross-checking the tariff used by the project participants based on a government issued tariff, TÜV SÜD has further cross-checked this value with the following:

- 1) Actual tariff issued to the Gelibridge Station: A Power Purchase Agreement (PPA) for the Gelibridge Station has been issued since the Station has been operational since February 2010 (IRL 56, 57). The PPA issued on March 9, 2010 by the Guizhou Power Grid, to which the Gelibridge Station will upload its electricity, indicated a tariff of 0.2474 RMB/kWh with VAT (or 0.2115 RMB/kWh without a 17% VAT) (IRL 59). When applying the current tariff of 0.2115 RMB/kWh without VAT to the financial analysis, the project IRR (5.48%) is still below the benchmark (8%).
- 2) Tariffs for other hydro projects in Guizhou Province: Further comparison to other hydro projects in Guizhou province is shown in the presented list below, which is based on 1) the Guizhou Province Pricing Bureau's list of hydropower projects for which they issue tariffs (IRL 58) and 2) CDM hydropower projects (large and small scale). The highest tariff is identified with 0.25 RMB/kWh issued to the Guangzhao Power Station by the Guizhou Province Price Bureau in 2009 – a tariff not available at the time of the investment decision for the project in 2006 – would result in an IRR of 6.91%, still well below the benchmark of 8%.
 - a) Tariffs for hydropower projects of similar scale in Guizhou Province: the Guizhou Price Bureau issues tariffs to various projects, including hydropower stations, in Guizhou Province. In 2006 (the same year as the decision to invest in the Gelibridge project), the Guizhou Price Bureau issued tariffs to hydropower stations (IRL 58) in the medium-scale category (total installed capacity between 50 and 300 MW) ranging from 0.195 - 0.212 RMB/kWh without VAT. The tariff of 0.195 RMB/kWh without VAT applied in the Gelibridge project is at the low end of the range of tariffs issued by the Guizhou Price Bureau for medium-scale hydropower projects in the area. However, even with application of the highest tariff issued (0.212 RMB/kWh), the project IRR (5.50%) is still below the benchmark.
 - b) Tariffs for CDM hydropower projects in Guizhou Province: Registered CDM projects 2210 and 2955 have applied tariffs determined in 2006 of 0.197 RMB/kWh without a 17% VAT and 0.236 RMB/kWh without a 6% VAT, respectively, in their financial analyses. Although these tariffs are higher than that applied in the Gelibridge project, the Gelibridge project still remains additional even with the application of these tariffs (4.88% and 6.39% IRRs, respectively).

Name of Company/ Power Station	Capacity (MW)	Year	On-grid tariff (without tax) (RMB/kWh)	2009 On-grid tariff (without tax) (RMB/kWh)
Gelibridge Hydropower Project	150	2004	0.195	0.2115 (from 2010 PPA)
UNFCCC Pipeline (Guizhou Province)				
Project 1282 (Large, Registered)	80.0	Unknown	0.212	
Project 1484 (Large, Registered)	30.0	Apr 2004	0.179	
Project 1486 (Large, Registered)	20.0	Unknown	0.218	
Project 1517 (Large, Registered)	20.0	Unknown	0.187	
Project 1875 (Large, Registered)	32.0	Feb 2004	0.210	
Project 2178 (Large, Registered)	20.0	Unknown	0.186	

Name of Company/ Power Station	Capacity (MW)	Year	On-grid tariff (without tax) (RMB/kWh)	2009 On-grid tariff (without tax) (RMB/kWh)
Project 2210 (Large, Registered)	20.0	Nov 2006	0.197	
Project 1953 (Large, Registered)	25.0	Nov 2005	0.215	
Project 2065 (Large, Registered)	100.0	Dec 2004	0.175	
Project 2136 (Large, Registered)	22.0	Sep 2003	0.198	
Project 2104 (Large, Registered)	20.0	Dec 2003	0.197	
Project 2501 (Large, Registered)	21.0	Jun 2004	0.160	
Project 2955 (Large, Registered)	40.0	Aug 2006	0.236	
Project 1125 (Small, Registered)	12.0	Unknown	0.200	
Project 1193 (Small, Registered)	9.0	Unknown	0.213	
Project 1553 (Small, Registered)	3.8	2004	0.184	
Project 1527 (Small, Registered)	8.0	2005	0.152	
Project 1522 (Small, Registered)	12.7	May 2005	0.214	
Project 1557 (Small, Registered)	7.5	2005	0.184	
Project 1560 (Small, Registered)	9.4	2003	0.174	
Project 1569 (Small, Registered)	9.0	Unknown	0.174	
Project 1785 (Small, Registered)	6.4	2005	0.184	
Project 1809 (Small, Registered)	12.6	2004	0.154	
Project 1799 (Small, Registered)	5.0	2004	0.205	
Project 1452 (Small, Registered)	7.5	2007	0.187	
Project 2207 (Small, Registered)	9.8	Unknown	0.184	
Project 2204 (Small, Registered)	15.0	Oct 2004	0.186	
Project 2359 (Small, Registered)	7.5	Unknown	0.197	
Project 2574 (Small, Registered)	12.0	Jun 2004	0.160	
Project 3292 (Small, Registered)	15.0	Dec 2004	0.184	
Project 3081 (Small, Under review)	10.0	Apr 2004	0.188	
Guizhou Qianyuan Power Corporation Limited				
Yutang Power station	75.0	2006	0.195	0.216
Puding Power Station	84.0	2006	0.212	0.233
Guangzhao Power Station	1,040.0	2006	-	0.250
Yinzidu Power Station	360.0	2006	0.199	0.220
Qingxi Power Station	28.0	2006	-	0.216
China Huadian Corporation				
Wujiang Company (Dongfeng Pow-	1,320.0	2006	0.179	0.203

Name of Company/ Power Station	Capacity (MW)	Year	On-grid tariff (without tax) (RMB/kWh)	2009 On-grid tariff (without tax) (RMB/kWh)
er station, Wujiangdu Power Plant)				
Wujiangdu Expansion	500.0	2006	0.195	0.211
Dongfeng Expansion	125.0	2006	0.195	-
Hongjiadu Power station	600.0	2006	0.195	0.216
Suofengying Power Station	600.0	2006	0.195	0.213
Dahua	200.0	-	-	0.213
Silin	1,000.0	-	-	0.237
Goupitan	3,000.0	-	-	0.237

In summary, the DOE considers the application of the tariff in the financial analysis to be appropriate since it is within an appropriate range of other tariffs for similar projects of similar scale in the same province and within an appropriate range of the current tariff issued to the project. In addition, TÜV SÜD would like to highlight the fact that even with the highest tariff identified in Guizhou Province, the project remains additional.

The benchmark used for the financial comparison has been obtained from “Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects” published by the Chinese State Power Corporation (IRL 31). This value has been checked against the source and the suitability for this project can be confirmed as conservative based on TÜV SÜD’s local and sectoral expertise. The same benchmark is also indicated in the FSR and its economic assessment (IRL 7 and 10), which was officially approved by the local DRC (IRL 8). In summary, it can be confirmed that the benchmark used is adequate for this project.

Further assumptions presented in the financial analysis inter alia lifetime and taxes have been also reviewed and were found appropriate based on the FSR (IRL 7, 10). Hence it can be confirmed that the underlying assumptions are appropriate for this project.

The sensitivity analysis was analyzed in detail and we herewith confirm that the underlying assumptions, parameters and chosen values are appropriate and that the calculations have been performed correctly.

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

3.6.4 Barrier analysis

Barrier analysis was not applied for this project.

3.6.5 Common practice analysis

The region for the common practice analysis has been defined as Guizhou Province in Southern China: The project activity’s technology can be found in different country regions, where different situations can appear. Hence the region has been defined taken into account the kind of technology and the industry type. The assessment team has reviewed the approach presented in the PDD and

can confirm that the relevant parameters as location, infrastructure, economical situation and development has been taken into account in order to define the region to be used for the common practice based on TÜV SÜD's local and sectoral expertise. In summary, the presented region can be considered appropriate for the common practice analysis.

Further on, similar projects were considered as hydropower projects with a capacity between 50 MW and 300 MW and that were installed after 2002, i.e. after the Chinese Power Reform. TÜV SÜD considered the applied capacity range as reasonable, as this is well within the required range (i.e. 150 MW +/- 50%) as indicated in recent request for reviews. The consideration of hydropower projects after 2002 is also deemed appropriate since the investment conditions significantly changed after this reform (IRL 21). In summary, TÜV SÜD considers the defined criteria for similar projects as plausible and appropriate.

The assessment team has reviewed official sources such as the China Water Resources Yearbooks (IRL 37). This information confirms that the list of similar projects discussed in the PDD is complete. Additionally, the team made a further cross check of the information based on the interviews performed during the validation assessment.

Based on the available information, only one similar project could be identified. However, the essential distinction between this project and the proposed project activity could be confirmed by checking with public available information (IRL 20), confirming that this similar project is state-owned and therefore facing a different investment environment.

Hence it can be confirmed that the proposed CDM activity is not a common practice in the defined region.

3.7 Monitoring plan

The monitoring plan presented in the PDD complies with the requirement of the methodology. The assessment team has checked all the parameters presented in the monitoring plan against the requirements of the methodology; no deviations relevant for the project activity were found in the plan. The procedures have been assessed by the assessment team via document review and interviews with the relevant personnel; this information together with a physical site inspection allows the assessment team to confirm that the proposed monitoring plan is feasible within the project design. The major parameters to be monitored have been discussed with the PPs especially regarding the location of the meters, the data management and in general the quality assurance and quality control procedures to be implemented in the context of the project.

The power supplied to the grid and imported from the grid is measured by national standard electricity metering instruments that are calibrated periodically in accordance with manufacturer specifications or national regulations. The bi-directional main meter (indicated with E3 in the PDD) and its back-up meter (indicated with E4 in the PDD) are owned by the grid company, the accuracy is indicated with +/-0.2%.

Cross-check measures include the comparison with the actual power sales receipts/statements as well as additional meter readings installed between the generators and the transformers as well as right after the transformers (owned by the PP).

In addition, the area of the reservoir is annually measured by topographical surveys, maps, satellite pictures, or other methods by an accredited organization or institution as well as the amount of fuel used for the diesel generator on-site that serves as an emergency back-up power supply and the capacity of the plant.

In summary, it is expected that the PPs will be able to implement the monitoring plan and the emission reductions achieved can be reported ex-post and verified.

3.8 Sustainable development

The LoA of the Host country clearly presents a statement that the project contributes to the sustainable development of the host Party.

3.9 Local stakeholder consultation

The relevant local stakeholders have been invited via posting of public bulletins in the area as well as via distributing questionnaires to the local stakeholders. The assessment team reviewed the documentation in order to validate the inclusion of relevant stakeholders and using the local expertise can confirmed that the communication method used to invite the stakeholders can be considered appropriate. The summary of comments presented in the PDD has been cross-checked with the documentation of the stakeholder consultation and it is found to be complete (IRL 28, 45-48). Stakeholders were invited for commenting first in November 2006 and again in April 2007.

The relevant comments presented by the local stakeholders have been taken due account by the PPs, the same has been cross-checked with the information obtained during the interviews.

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

3.10 Environmental impacts

The project participants ordered the Hydro China Guiyang Engineering Cooperation to conduct an environmental impact assessment (EIA) for this project activity (IRL 13). The assessment team made a document review of the information presented. The IRL 14 (EIA approval by Guizhou Province EPB) confirms the correctness of the approach used by the PPs. Hence the PPs followed the requirements of the host country regarding the environmental impacts.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

TÜV SÜD published the project documents on UNFCCC website by installing a link to TÜV SÜD's own website and invited comments by Parties, stakeholders and non-governmental organisations during a period of 30 days.

The following table presents all key information on this process:

webpages: First GSP http://cdm.unfccc.int/Projects/Validation/DB/7FXA32OCFFZDWUEB5DFCC76L79LXOK/view.html http://www.netinform.net/KE/Wegweiser/Guide2_1.aspx?ID=2712&Ebene1_ID=26&Ebene2_ID=763&mode=1	
REPEAT GSP: http://cdm.unfccc.int/Projects/Validation/DB/SQWGBNNJ79LQOZR8B6LIQQUZA5B3QV/view.html http://www.netinform.net/KE/Wegweiser/Guide2_1.aspx?ID=6076&Ebene1_ID=26&Ebene2_ID=1940&mode=1	
Starting date of the global stakeholder consultation process: First GSP: 2007-02-01 REPEAT GSP: 2009-04-03	
Comment submitted by: -	Issues raised: none
Response by TÜV SÜD: -	

5 VALIDATION OPINION

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

Guizhou Qingshuihe Gelibridge Hydropower Project

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

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

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

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

Munich, 29-09-2010



Rachel Cuiyun Zhang
Certification Body "climate and energy"
TÜV SÜD Industrie Service GmbH

Munich, 29-09-2010



Dr. Sven Kolmetz
Assessment Team Leader

Validation of the CDM Project:
Guizhou Qingshuihe Gelibridge Hydropower Project



Industrie Service

Annex 1: Validation Protocol

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Table 1 Conformity of Project Activity and PDD

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
A. General description of project activity					
A.1. Title of the project activity					
A.1.1.	Does the used project title clearly enable to identify the unique CDM activity?	1	Yes, it does. The title indicates the name and the type, i.e. hydro-power.	☒	☒
A.1.2.	Are there any indications concerning the revision number and the date of the revision?	1	Yes, the revision number and date are clearly shown in this chapter.	☒	☒
A.1.3.	Is this consistent with the time line of the project's history?	1	Yes, it is. Version 04 was uploaded for Re-GSP and was the basis for the on-site visit in April 2009.	☒	☒
A.2. Description of the project activity					
A.2.1.	Is the description delivering a transparent overview of the project activities?	1	Yes, it does. The proposed project involves the construction of a 150 MW hydropower project in Guizhou Province, China. This section further contains the descriptions of the current situation, i.e. the situation prior to the implementation of the proposed project as well as the baseline scenario, which equals the current situation.	☒	☒
A.2.2.	What proofs are available demonstrating that the project description is in compliance with the actual situation or planning?	1, 6, 7, 8, 13, 14	Yes, the provided FSR and the EIA report on this project can demonstrate the compliance of the project description. Both documents were also officially approved by the responsible authorities (i.e. by the Guizhou Development & Reform Committee and the Environmental Protection Bureau of Guizhou Province, respectively). Clarification Request No. 1. Please provide a copy including partial English translation of the key message of the following documents:	CL1	☒

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
			- Land Use Approval, and - Grid Connection Approval.		
A.2.3.	Is the information provided by these proofs consistent with the information provided by the PDD?	1, 6, 7, 8, 13, 14	Yes, it is. However, see CL1.	See CL1	☒
A.2.4.	Is all information presented consistent with details provided by further chapters of the PDD?	1, 6, 7, 8, 13, 14	Yes, it is. However, see CL1.	See CL1	☒
A.3. Project participants					
A.3.1.	Is the form required for the indication of project participants correctly applied?	1	Yes, the form required for the project participants is correctly applied.	☒	☒
A.3.2.	Is the participation of the listed entities or Parties confirmed by each one of them?	1, 34, 35, 36	Open Issue: Please deliver the missing LoAs and the MOC. The request for registration will only be made with a complete set of approval letters.	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	Corrective Action Request No.1. The name of the host party is not consistent throughout the PDD: Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd vs. Guizhou Wujiang Qingshuihe Hydro-Power Generation Company Ltd.. Please revise and be consistent.	CAR1	☒
A.4. Technical description of the project activity					
A.4.1. Location of the project activity					
A.4.1.1.	Does the information provided on the location of the project activity allow for a	1	Corrective Action Request No.2. Please provide separate coordinates for the dam / reservoir and	CAR2	☒

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
clear identification of the site(s)?		the powerhouse.		
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, 6, 8, 14	The approval of the FSR and the EIA confirms that the project can be implemented at the indicated site. This has also been confirmed during the site visit. However, see CL1.	See CL1	☒
A.4.2. Category(ies) of project activity				
A.4.2.1. To which category(ies) does the project activity belonging to? Is the category correctly identified and indicated?	1, 2	Yes, the proposed project belongs to the Sectoral Scope 1 – Energy industries (renewable - / non-renewable sources). This has been correctly identified in the PDD.	☒	☒
A.4.3. Technology to be employed by the project activity				
A.4.3.1. Does the technical design of the project activity reflect current good practices?	1, 6, 26	Yes, the equipment will be supplied by a well-known, qualified company. Based on on-site observations and interviews, TÜV SÜD considers the technical design as adequate.	☒	☒
A.4.3.2. Does the description of the technology to be applied provide sufficient and transparent input/ information to evaluate its impact on the greenhouse gas balance?	1	Yes, the project activity uses the water power to generate electricity for the substitution of grid supplied electricity mainly from coal fired power plants. No doubt this project will reduce the GHG emission significantly. However, Corrective Action Request No.3. According to the latest PDD guidelines, this section should include a detailed description of: (a) The scenario existing prior to the start of the implementation of the project activity, with a list of the equipment(s) and systems in operation at that time; and (c) The baseline scenario, as identified in section “B.4 Description of how the baseline scenario is identified and description of the identified baseline scenario”, with an indicative list of the equipment(s) and systems that would have been in place in the absence of the project activity. Further on, the description of the scenarios should include the emissions sources and the greenhouse gases involved in the	CAR3	☒

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		project activity, according to the methodology used; and existing and forecast energy and mass flows and balances of the systems and equipments included in the project activity;		
A.4.3.3. Does the implementation of the project activity require any technology transfer from annex-I-countries to the host country(ies)?	1, 26, 27	No, the equipment will be provided by a domestic supplier.	☒	☒
A.4.3.4. Is the technology implemented by the project activity environmentally safe?	1, 13, 14	Yes, the technology implemented by this project is environmentally safe.	☒	☒
A.4.3.5. Is the information provided in compliance with actual situation or planning?	1, 6	Yes, the provided information is in compliance with the actual situation and planning.	☒	☒
A.4.3.6. Does the project use state of the art technology and / or does the technology result in a significantly better performance than any commonly used technologies in the host country?	1	The project uses state-of-the-art technology for hydropower plants in China.	☒	☒
A.4.3.7. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1, 7	No, the expected lifetime of the plant is longer than the project period.	☒	☒
A.4.3.8. Does the project require extensive initial training and maintenance efforts in order to be carried out as scheduled during the project period?	1, 6	The hired engineering company will provide initial training on operation and maintenance procedures.	☒	☒
A.4.3.9. Is information available on the demand and requirements for training and maintenance?	1	Clarification Request No. 2. Please provide any documents indicating the training measures of the local staff.	CL2	☒
A.4.3.10. Is a schedule available for the implementation of the project and are there any risks for delays?	1, 6	Yes, the schedule on the proposed project is available and was also indicated in the PDD. There appears to be no risk for any delays of the project according to General Manager Mr. Fei.	☒	☒

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
A.4.4. Estimated amount of emission reductions over the chosen crediting period					
A.4.4.1.	Is the form required for the indication of projected emission reductions correctly applied?	1	Yes, the form is correctly applied.	☒	☒
A.4.4.2.	Are the figures provided consistent with other data presented in the PDD?	1	Corrective Action Request No.4. The sum of the annual CERs is different from the one indicated in the PDD. Please revise. Any rounding functions should be applied conservatively.	CAR4	☒
A.4.5. Public funding of the project activity					
A.4.5.1.	Is the information provided on public funding provided in compliance with the actual situation or planning as available by the project participants?	1, 6	Yes, there is no public funding involved.	☒	☒
A.4.5.2.	Is all information provided consistent with the details given in remaining chapters of the PDD (in particular annex 2)?	1	Yes, the statements are consistent within the PDD.	☒	☒
B. Application of a baseline and monitoring methodology					
B.1. Title and reference of the approved baseline and monitoring methodology					
B.1.1.	Are reference number, version number, and title of the baseline and monitoring methodology clearly indicated?	1, 2	Yes, the approved methodology-grid connected electricity generation from renewable sources, ACM0002 Version 09 is applied.	☒	☒
B.1.2.	Is the applied version the most recent one and / or is this version still applicable?	1, 2	Yes, it is version 09, which was released in February 2009. This was the most recent version available at the time of the second GSP.	☒	☒
B.1.3.	If the baseline and monitoring methodology, applied in the original PDD, was with-	1, 2	Not applicable.	☒	☒

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
	drawn after the registration of the CDM project activity and replaced by a consolidated methodology: Is the latest approved version of the respective consolidated methodology used?				
B.1.4.	In the case the registered CDM project activity does not meet the applicability criteria of the options provided in B.1.2. or B.1.3., due to their revision or due to the update of the baseline: Have the project participants either selected another applicable approved methodology or request, through the DOE, a deviation from an approved methodology for the purpose of renewal of the crediting period?	1, 2	Not applicable.	☒	☒
B.1.5.	Does the methodology refer to the following tools with its latest approved versions: - Tool to calculate the emission factor for an electricity system - Tool for the demonstration and assessment of additionality - Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion	1, 2, 3, 4	The most recent version of the tools were applied.	☒	☒
B.2. Justification of the choice of the methodology and why it is applicable to the project activity					
B.2.1.	Is the applied methodology considered the most appropriate one?	1, 2	Yes, the applied methodology ACM0002, Version 09 is considered the most appropriate one. Corrective Action Request No.5. Please revise the PDD based on the following criteria that are in-	CAR5	☒

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD										
		licated with a no.												
Fill in the required amount of sub checklists for applicability criteria as given by the methodology applied and comment at least every line answered with “No”														
B.2.2. Criterion 1: Type of electricity capacity addition by grid-connected renewable power generation The following types are possible: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit.	1, 2	<table><tr><th>Applicability checklist</th><th>Yes / No</th></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Evidences provided in the PDD?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Evidences provided in the PDD?	Yes	Compliance verified?	Yes	☒	☒
Applicability checklist	Yes / No													
Criterion discussed in the PDD?	Yes													
Compliance provable?	Yes													
Evidences provided in the PDD?	Yes													
Compliance verified?	Yes													
B.2.3. Criterion 2 (in the case of hydro plants): -The project activity is implemented in an existing reservoir, with no change in the volume of reservoir or -The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity is greater than 4 W/m2 or -The project activity results in new reservoirs and the power density of the power plant is greater than 4 W/m2.	1, 2	<table><tr><th>Applicability checklist</th><th>Yes / No</th></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Evidences provided in the PDD?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Evidences provided in the PDD?	Yes	Compliance verified?	Yes	☒	☒
Applicability checklist	Yes / No													
Criterion discussed in the PDD?	Yes													
Compliance provable?	Yes													
Evidences provided in the PDD?	Yes													
Compliance verified?	Yes													
B.2.4. Criterion 3 (in the case of modification/retrofit in existing power plants): 5 years of historical data (or 3 years in the	1, 2	<table><tr><th>Applicability checklist</th><th>Yes / No</th></tr><tr><td>Criterion discussed in the PDD?</td><td>N/A</td></tr><tr><td>Compliance provable?</td><td>N/A</td></tr></table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	N/A	Compliance provable?	N/A	☒	☒				
Applicability checklist	Yes / No													
Criterion discussed in the PDD?	N/A													
Compliance provable?	N/A													

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD
case of non hydro project activities) are available		Evidences provided in the PDD?	N/A		
		Compliance verified?	N/A		
B.2.5. Criterion 4: Defined electricity grid boundaries	1, 2	Applicability checklist	Yes / No	☑	☑
		Criterion discussed in the PDD?	Yes		
		Compliance provable?	Yes		
		Evidences provided in the PDD?	Yes		
		Compliance verified?	Yes		
B.2.6. Criterion 5: Approved inclusion in other methodologies (if applied only)	1, 2	Applicability checklist	Yes / No	☑	☑
		Criterion discussed in the PDD?	N/A		
		Compliance provable?	N/A		
		Evidences provided in the PDD?	N/A		
		Compliance verified?	N/A		
B.2.7. Criterion 6: Exclusion of fuel switching activities	1, 2	Applicability checklist	Yes / No	☑	☑
		Criterion discussed in the PDD?	Yes		
		Compliance provable?	Yes		
		Evidences provided in the PDD?	Yes		
		Compliance verified?	Yes		
B.2.8. Criterion 7: Exclusion of biomass fired power plants	1, 2	Applicability checklist	Yes / No	See CAR5	☑
		Criterion discussed in the PDD?	No		
		Compliance provable?	No		
		Evidences provided in the PDD?	No		
		Compliance verified?	No		

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD										
B.2.9. Criterion 8: Exclusion of hydro power plants that result in new reservoirs or in the increase in existing reservoirs where the power density of the power plant is less than 4 W/m2.	1, 2	<table><tr><th>Applicability checklist</th><th>Yes / No</th></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Evidences provided in the PDD?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Evidences provided in the PDD?	Yes	Compliance verified?	Yes	☒	☒
Applicability checklist	Yes / No													
Criterion discussed in the PDD?	Yes													
Compliance provable?	Yes													
Evidences provided in the PDD?	Yes													
Compliance verified?	Yes													
B.3. Description of the sources and gases included in the project boundary														
Integrate the required amount of sub-checklists for sources and gases as given by the methodology applied and comment on at least every line answered with “No”														
B.3.1. Source: Fugitive Emissions from non-condensable gases contained in geothermal steam (geothermal power plants only) Gas(es): CO ₂ , CH ₄ Type: Project Emissions	1, 2	<table><tr><th>Boundary checklist</th><th>Yes / No</th></tr><tr><td>Source and gas(es) discussed by the PDD?</td><td>N/A</td></tr><tr><td>Inclusion / exclusion justified?</td><td>N/A</td></tr><tr><td>Explanation / Justification sufficient?</td><td>N/A</td></tr><tr><td>Consistency with monitoring plan?</td><td>N/A</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed by the PDD?	N/A	Inclusion / exclusion justified?	N/A	Explanation / Justification sufficient?	N/A	Consistency with monitoring plan?	N/A	☒	☒
Boundary checklist	Yes / No													
Source and gas(es) discussed by the PDD?	N/A													
Inclusion / exclusion justified?	N/A													
Explanation / Justification sufficient?	N/A													
Consistency with monitoring plan?	N/A													
B.3.2. Source: Emissions from combustion of fossil fuels required to operate the power plants (for geothermal and solar power plants only) Gas(es): CO ₂ Type: Project Emissions	1, 2	<table><tr><th>Boundary checklist</th><th>Yes / No</th></tr><tr><td>Source and gas(es) discussed by the PDD?</td><td>N/A</td></tr><tr><td>Inclusion / exclusion justified?</td><td>N/A</td></tr><tr><td>Explanation / Justification sufficient?</td><td>N/A</td></tr><tr><td>Consistency with monitoring plan?</td><td>N/A</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed by the PDD?	N/A	Inclusion / exclusion justified?	N/A	Explanation / Justification sufficient?	N/A	Consistency with monitoring plan?	N/A	☒	☒
Boundary checklist	Yes / No													
Source and gas(es) discussed by the PDD?	N/A													
Inclusion / exclusion justified?	N/A													
Explanation / Justification sufficient?	N/A													
Consistency with monitoring plan?	N/A													
B.3.3. Source:	1, 2		CAR6	☒										

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS		PDD in GSP	Final PDD										
CO2 emissions from backup power generation (for all renewable energy plants)			<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed by the PDD?</td><td>No</td></tr><tr><td>Inclusion / exclusion justified?</td><td>No</td></tr><tr><td>Explanation / Justification sufficient?</td><td>No</td></tr><tr><td>Consistency with monitoring plan?</td><td>No</td></tr></table> Corrective Action Request No.6. As per ACM0002 (Version 09), the following criteria should be discussed: For all renewable energy plants, CO2 emissions from backup power generation.		Boundary checklist	Yes / No	Source and gas(es) discussed by the PDD?	No	Inclusion / exclusion justified?	No	Explanation / Justification sufficient?	No	Consistency with monitoring plan?	No		
Boundary checklist	Yes / No															
Source and gas(es) discussed by the PDD?	No															
Inclusion / exclusion justified?	No															
Explanation / Justification sufficient?	No															
Consistency with monitoring plan?	No															
B.3.4.	Source: Emissions from the reservoir (hydro power plants only) Gas(es): , CH ₄ Type: Project Emissions	1, 2	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed by the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>		Boundary checklist	Yes / No	Source and gas(es) discussed by the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	☒	☒
Boundary checklist	Yes / No															
Source and gas(es) discussed by the PDD?	Yes															
Inclusion / exclusion justified?	Yes															
Explanation / Justification sufficient?	Yes															
Consistency with monitoring plan?	Yes															
B.3.5.	Source: Emissions from electricity generation in fossil fuel fired power plants that is displaced due to the project activity Gas(es): CO ₂ Type: Baseline Emissions	1, 2	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed by the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>		Boundary checklist	Yes / No	Source and gas(es) discussed by the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	☒	☒
Boundary checklist	Yes / No															
Source and gas(es) discussed by the PDD?	Yes															
Inclusion / exclusion justified?	Yes															
Explanation / Justification sufficient?	Yes															
Consistency with monitoring plan?	Yes															
B.3.6.	Source: Emissions from electricity generation in fossil fuel fired power plants of any connected electricity system Gas(es): CO ₂ Type: Baseline Emissions	1, 2	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed by the PDD?</td><td>N/A</td></tr><tr><td>Inclusion / exclusion justified?</td><td>N/A</td></tr><tr><td>Explanation / Justification sufficient?</td><td>N/A</td></tr><tr><td>Consistency with monitoring plan?</td><td>N/A</td></tr></table>		Boundary checklist	Yes / No	Source and gas(es) discussed by the PDD?	N/A	Inclusion / exclusion justified?	N/A	Explanation / Justification sufficient?	N/A	Consistency with monitoring plan?	N/A	☒	☒
Boundary checklist	Yes / No															
Source and gas(es) discussed by the PDD?	N/A															
Inclusion / exclusion justified?	N/A															
Explanation / Justification sufficient?	N/A															
Consistency with monitoring plan?	N/A															

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD										
B.3.7. Source: Emissions from electricity generation in fossil fuel fired power plants of imported electricity (project electricity consumption) Gas(es): CO ₂	1, 2	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed by the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed by the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	☒	☒
Boundary checklist	Yes / No													
Source and gas(es) discussed by the PDD?	Yes													
Inclusion / exclusion justified?	Yes													
Explanation / Justification sufficient?	Yes													
Consistency with monitoring plan?	Yes													
B.3.8. Do the spatial and technological boundaries as verified on-site comply with the discussion provided by the PDD?	1, 2, 6	The spatial extent of the project boundary is in line with the requirements of the applied methodology.	☒	☒										
B.4. Description of how the baseline scenario is identified and description of the identified baseline scenario														
B.4.1. Is it clearly described that the baseline is represented by the combined margin of the grid the activity will be connected to?	1, 2	Yes, the described baseline scenario in the PDD is in line with the requirements of the methodology.	☒	☒										
B.4.2. In case of any modification or retrofit of existing facilities: Is data available to determine the historic production level?	1, 2	Not applicable.	☒	☒										
B.4.3. In case of any modification or retrofit of existing facilities: Have conservative assumptions been applied in order to estimate the point in time when the existing equipment needs to be replaced?	1, 2	Not applicable,.	☒	☒										
Changes required for methodology implementation in 2 nd and 3 rd crediting periods														
B.4.4. Has the continued validity of the baseline	1, 2	Not applicable	☒	☒										

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
been correctly assessed?					
B.4.5.	Have new relevant national and/or sectoral policies and circumstances on the baseline been taken into account (including relevant EB guidance)?	1, 2	Not applicable	☒	☒
B.4.6.	Has the baseline been updated with new data?	1, 2	Not applicable.	☒	☒
B.5. Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the registered CDM project activity (assessment and demonstration of additionality):					
B.5.1.	Is the realisation of the project activity based on an approved, a proposed new methodology or especially on ACM0002?	1, 2	Yes, the realization of the proposed project is based on the ACM0002 version 9.	☒	☒
B.5.2.	In case the project activity started before the validation activity, how is demonstrated that the CDM was seriously taken into account for the decision to start the project?	1, 2	Corrective Action Request No.7. Please include a more detailed description of the past and future timeline of the project including any real actions such as signing the equipment purchase contract, construction contract, FSR issuance, etc. Please clearly define which action can be considered as the first real action when the PP committed to any expenditures. The dates should be indicated with the day, month and year. CDM was considered in May 2006. The FSR was issued in August 2006, i.e. three months later. Please explain how and why you knew already in May 2006 that the project was not financially attractive, although the feasibility study was not finished. In addition, please provide digital copies of the supporting documents including partial English translations for further validation.	CAR7	☒
Step 1 – Identification of alternatives to the project activity					
B.5.3.	Are alternative scenarios defined that provide outputs or services comparable	1, 2, 3	Yes, there were in total 4 alternatives defined.	☒	☒

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
with the proposed CDM project activity?					
B.5.4.	Can be the list of alternatives considered to be complete, why? Is the scenario project activity without being registered as CDM project included?	1, 2, 3	Yes, the list can be considered as complete. The proposed project activity without CDM is also included. However, Clarification Request No. 3. Please clarify why the renewable energy resources are only limited to wind and solar, but no geothermal, etc.? In addition, please provide evidences to demonstrate the lack of these resources in this region.	CL3	☒
B.5.5.	In case several different facilities, technologies, outputs or services are present in the project, are separately alternative scenarios for each of them included? Have realistic combinations been considered as project scenario?	1, 2, 3	Not applicable.	☒	☒
B.5.6.	Describe why the alternative scenarios are credible and realistic (technology, practices, services, status of implementation)?	1, 2, 3	There is only one credible and realistic scenario, which is the existing scenario prior to the implementation of the proposed project activity.	☒	☒
B.5.7.	Do the alternative scenarios comply with mandatory laws and regulations?	1, 2, 3, 29	Only one scenario (# 2) does not comply with the Chinese law (i.e. it is prohibited to construct a coal-fired power plant of less than 135 MW).	☒	☒
B.5.8.	If a scenario does not comply with the mandatory laws and regulations, it is clearly demonstrate that the law and/or regulation is systematically not enforced in the country?	1, 2, 3, 29	TUV SUD confirms that this law is enforced in China.	☒	☒
Step 2 – Investment analysis (could be optional if step 3 is used)					
B.5.9.	Is the analysis method identified appropriately?	1, 2, 3	Yes, the benchmark analysis was identified.	☒	☒
B.5.10.	In case of Option I (<u>simple cost analysis</u>):	1, 2,	Not applicable.	☒	☒

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
Is it demonstrated that the activity and the alternatives identified in step 1 produce no economic benefits other than CDM income? Is the project activity more costly than at least one alternative?	3			
B.5.11. In case of Option II (<u>investment comparison analysis</u>): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost) and reflects this indicator no economical and financial attractiveness or feasibility at all?	1, 2, 3	Not applicable.	☒	☒
B.5.12. In case of use of IRR, it is clearly demonstrated why is equity of project IRR used?	1, 2, 3, 31	The reference for the benchmark indicates a project IRR benchmark, and a project IRR was calculated for the proejct.	☒	☒
B.5.13. In case of Option III (<u>benchmark analysis</u>): Is the most suitable financial/economic indicator clearly identified (project or equity IRR)?	1, 2, 3, 31	Yes, the most suitable indicator has been defined.	☒	☒
B.5.14. How is it demonstrated that the financial/economic analysis (benchmark) represents standard returns in the market, considers the specific risk of the project type, but is not linked to the subjective profitability expectation or risk profile of a particular project developer (Option II and Option III)?	1, 2, 3, 30, 31	Clarification Request No. 4. Please provide a copy and a partial English translation of the key info of the FSR that has been taken for the IRR calculation. What is the IRR in the FSR? The project is already partially implemented, hence please provide third party documents to further cross-check on the investment costs and the tariff for further validation (i.e. how much money has been spent on the project so far, what is the typical tariff for the region). In addition, please clarify why the PP decided to implement the project with CDM although CDM will not help to overcome the benchmark?	CL4	☒

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
B.5.15. In case of company internal benchmark, is it clearly demonstrate that there is only one potential project developer and that the benchmark has been consistently used in the past (Option II and Option III)?	1, 2, 3	Not applicable.	☒	☒
B.5.16. In case of Option II or Option III: Is the calculation of financial figures for this indicator correctly done for all alternatives (Option II) and the project activity (Option)?	1, 2, 3	The calculation of the financial figures is correctly done for the project activity. No analysis has been performed for any alternatives, since this is not mandatory.	☒	☒
B.5.17. In case of Option II or Option III: Is the analysis presented in a transparent manner including publicly available proofs for the utilized data?	1, 2, 3	Yes, however, see CL4.	See CL4	☒
B.5.18. Are all assumptions and input data clearly presented, documented, evidenced and consistent with the rest of the PDD?	1, 2, 3	See CL4.	See CL4	☒
B.5.19. Does the sensitivity analysis shows that the conclusion of financial/economical attractiveness is robust to reasonable variations in the critical assumptions?	1, 2, 3	Yes, the result of the analysis clearly demonstrates that the financial result of the project is robust to reasonable variations. The range of 10% has been accepted based on the latest EB guidance on the investment analysis. Corrective Action Request No.8. The variations of the total power production should be included in the sensitivity analysis.	CAR8	☒
B.5.20. How is demonstrate that this variations have been adequately taken (range is adequate)?	1, 2, 3	The range is 10%, which is in line with latest EB guidance.	☒	☒
Step 3 – Barriers analysis (is mandatory if step 2 is not used or does not shows additionality)				
B.5.21. Is a complete list of barriers developed that prevent the implementation of the proposed project and the different	1, 2, 3	Not applicable	☒	☒

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
alternatives to occur?					
B.5.22.	Is transparent and documented evidence provided on the existence and significance of these barriers?	1, 2, 3	Not applicable	☒	☒
B.5.23.	Is it transparently shown that the execution of at least one of the alternatives is not prevented by the identified barriers?	1, 2, 3	Not applicable	☒	☒
B.5.24.	How is confirmed that the CDM does alleviate the barriers presented?	1, 2, 3	Not applicable	☒	☒
Step 4 – Common practice analysis (is to complement based on the information given in step1 and reinforce step2 / step3)					
B.5.25.	Have other activities in the host country / region similar to the project activity been identified and are these activities appropriately analyzed by the PDD?	1, 2, 37	Yes, similar projects were identified as hydroprojects in the same province (i.e. Guizhou), and with a capacity between 50-300 MW. Since the current range for similar projects is typically the project capacity +/- 50%, the given range in the PDD has been accepted by TÜV SÜD.	☒	☒
B.5.26.	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?	1, 2, 37, 38	Only one project has been defined, however, this project is state-owned and is therefore facing a different environment. Corrective Action Request No.9. The provided link in the PDD on page 14 does not work. Please revise.	CAR9	☒
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, 4	The calculation of the emission reduction is applied according to the steps described in ACM0002 (Version 09) and the EF tool: -Calculation of the Operation Margin Emission Factor, and -Calculation of Build Margin Emission Factor, and	☒	☒

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		-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, 4	Yes, it is.	☒	☒
B.6.1.3. Are the formulae required for the determination of project emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1, 2	Corrective Action Request No.10. As per Version 09 of ACM0002, please discuss the project emissions for this project. Is there any backup power equipment installed on site?	CAR10	☒
B.6.1.4. Are the formulae required for the determination of baseline emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1, 2	Yes, the formulae to calculate the baseline emissions are correctly presented and applied.	☒	☒
B.6.1.5. Is the choice of options to determine the emissions factor (OM, BM) justified in a suitable and transparent manner?	1, 2, 4	Clarification Request No. 5. From which source have the values for the EF-OM and EF-BM been taken?	CL5	☒
B.6.1.6. Are the six steps as defined per the "Tool for calculation of emission factor for electrical systems" correctly applied by the project participants?	1, 2, 4	Yes, the six steps are correctly applied.	☒	☒
B.6.1.7. In case of alternative weighing factors for the Combined Margin: Is the quantification of the alternative weighing factor justified in a suitable and transparent manner?	1, 2, 4	Not applicable, the standard factors are applied as per ACM0002 (Version 09).	☒	☒
B.6.1.8. In case of alternative weighing factors for the Combined Margin: Is the guidance for	1, 2, 4	Not applicable, the standard factors are applied as per ACM0002	☒	☒

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
the PDD concerning the acceptability of alternative weights considered in the discussion?		(Version 09).		
B.6.1.9. Are the formulae required for the determination of leakage emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1, 2	As per ACM0002 (Version 09), no leakage has to be determined for this type of project activity.	☒	☒
Tool to calculate project or leakage CO2 emissions from fossil fuel combustion				
B.6.1.10. Is the formula required for the determination of CO2 project emissions from fossil fuel combustion correctly presented, enabling a complete identification of parameter to be used and / or monitored	1, 2	Yes, project emission from the diesel back-up generator are taken into account accordingly.	☒	☒
B.6.1.11. Is option A (preferred approach) or option B chosen for the determination of the CO2 emission coefficient COEF _{i,y} and is COEF _{i,y} correctly determined?	1, 2	Option B is chosen.	☒	☒
B.6.1.12. Are formulae required for the determination of emission reductions correctly presented?	1, 2	Yes.	☒	☒
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, 4	Yes, a list is presented in the PDD. However, Corrective Action Request No.11. The list is not quite complete and/or correct. In addition, please only discuss the parameters that are relevant for this project.	CAR11	☒
B.6.2.2. Is the choice of ex-ante or ex-post vintage of OM and BM factors clearly specified in the PDD?	1, 2, 4	Yes, the ex-ante calculation of the emission factors was chosen.	☒	☒

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD																		
Fill in the required amount of sub checklists for monitoring parameter and comment any line answered with “No”																						
B.6.2.3. Parameter Title: GWP_{CH_4} Global warming potential of methane valid for the relevant commitment period (tCO2/tCH4)	1, 2, 4	Not applicable. Please clarify for which equation this value is applied for this specific project activity.	See CAR11	☒																		
B.6.2.4. Parameter Title: $EG_{historical}$ (only applicable to modification/retrofit of an existing grid-connected renewable power plant/unit). Average of historical electricity delivered by the existing facility to the grid (MWh)	1, 2, 4	Not applicable. Please clarify for which equation this value is applied for this specific project activity.	See CAR11	☒																		
B.6.2.5. Parameter Title: $DATE_{BaselineRetrofit}$ (only applicable to modification/retrofit of an existing grid-connected renewable power plant/unit) Point in time when the existing equipment would need to be replaced in the absence of the project activity.	1, 2, 4	Not applicable.	☒	☒																		
B.6.2.6. Parameter Title: EF_{Res} (only applicable to hydro-power plants with reservoir). Default emission factor for emissions from reservoirs (kgCO2e/MWh)	1, 2, 4	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	☒	☒
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: CAP_{BL} (W) (only applica-	1, 2, 4	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr></table>	Data Checklist	Yes / No	☒	☒																
Data Checklist	Yes / No																					

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD
ble to modification/retrofit of an existing grid-connected renewable power plant/unit). Installed capacity of the hydro power plant before the implementation of the project activity. For new hydro power plants, this value is zero.		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	Yes		
B.6.2.8. Parameter Title: A _{BL} (only applicable to hydropower plant projects with reservoir). Area of the reservoir measured in the surface of the water, before the implementation of the project activity, when the reservoir is full (m2). For new reservoirs, this value is zero (m ²).	1, 2	Data Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	Yes		
B.6.2.9. Parameter Title: Emission factor of the grid (EF _{CM} in tCO ₂ /MWh).	1, 2	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		

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD																		
		Measurement method correctly described?	Yes																				
B.6.2.10. Parameter Title: $FC_{i,m,y}$, $FC_{i,y}$, $FC_{i,j,y}$, $FC_{i,k,y}$, $FC_{i,n,y}$ and $FC_{i,n,h}$ Amount of fossil fuel type i consumed by power plant / unit m,j,k or n (or in the project electricity system in case of $FC_{i,y}$) in year y or hour h (mass or volume unit).	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	☒	☒
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.6.2.11. Parameter Title: $NCV_{i,y}$ Net calorific value (energy content) of fossil fuel type i in year y (GJ / mass or volume unit)	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	☒	☒
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Data unit correctly expressed?	Yes																						
Appropriate description of parameter?	Yes																						
Source clearly referenced?	Yes																						
Correct value provided?	Yes																						
Has this value been verified?	Yes																						
Choice of data correctly justified?	Yes																						
Measurement method correctly described?	Yes																						
B.6.2.12. Parameter Title: $EF_{CO_2,i,y}$ and $EF_{CO_2,m,i,y}$ CO2 emission factor of fossil fuel type i in year y (tCO2/GJ)	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	☒	☒												
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Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD 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.6.2.13. Parameter Title: EG _{m,y} , EG _y , EG _{j,y} , EG _{k,y} and EG _{n,h} Net electricity generated and delivered to the grid by power plant / unit m,j,k or n (or in the project electricity system in case of EG _y) in year y or hour h (MWh)	1, 2	Data Checklist	Yes / No		
		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.6.2.14. Parameter Title: EG _{PJ,h} Electricity displaced by the project activity in hour h of year y (in MWh) (only applicabe for the dispatch data OM)	1, 2	Data Checklist	Yes / No		
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided?	N/A		
		Has this value been verified?	N/A		
		Choice of data correctly justified?	N/A		
		Measurement method correctly described?	N/A		

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD																		
B.6.2.15. Parameter Title: $\eta_{m,y}$ Average net energy conversion efficiency of power unit m in year y	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Choice of data correctly justified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided?	N/A	Has this value been verified?	N/A	Choice of data correctly justified?	N/A	Measurement method correctly described?	N/A	☒	☒
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Source clearly referenced?	N/A																					
Correct value provided?	N/A																					
Has this value been verified?	N/A																					
Choice of data correctly justified?	N/A																					
Measurement method correctly described?	N/A																					
B.6.2.16. Parameter Title: AP_J (only applicable to hydropower plant projects with reservoir). Area of the reservoir measured in the surface of the water, after the implementation of the project activity, when the reservoir is full.	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Choice of data correctly justified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided?	N/A	Has this value been verified?	N/A	Choice of data correctly justified?	N/A	Measurement method correctly described?	N/A	☒	☒
Data Checklist	Yes / No																					
Title in line with methodology?	N/A																					
Data unit correctly expressed?	N/A																					
Appropriate description of parameter?	N/A																					
Source clearly referenced?	N/A																					
Correct value provided?	N/A																					
Has this value been verified?	N/A																					
Choice of data correctly justified?	N/A																					
Measurement method correctly described?	N/A																					
B.6.2.17. Parameter Title: fraction of time with low costs /must run plant at the margin (for simple adjusted OM only)	1, 2, 4	Not applicable.	☒	☒																		
B.6.3. Ex-ante calculation of emission reductions																						

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
B.6.3.1. Is the projection based on the same procedures as used for future monitoring?	1, 2	Yes, it is.	☒	☒
B.6.3.2. Are the GHG calculations documented in a complete and transparent manner?	1, 2	Yes, they are.	☒	☒
B.6.3.3. Is the calculation of the operating margin and build margin emission factors documented electronically in a spreadsheet with the relevant information as defined per the "Tool for calculation of emission factor for electrical systems"? Has this spreadsheet been submitted to the validation team?	1	See CL5.	See CL5	☒
B.6.3.4. Is the data provided in this section consistent with data as presented in other chapters of the PDD?	1	Yes, the data provided in this section is consistent with the data presented in other chapters of the PDD.	☒	☒
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, since power will be produced by a clean, renewable energy source.	☒	☒
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. Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period?	1, 2	Yes, the project is in line with the envisioned time schedule for the project's implementation and the indicated crediting period.	☒	☒
B.6.4.4. Is the data provided in this section in consistency with data as presented in other chapters of the PDD?	1, 2	Yes, the data is consistent.	☒	☒

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD																								
B.7. Application of the monitoring methodology and description of the monitoring plan																												
B.7.1. Data and parameters monitored																												
B.7.1.1. Is the list of parameters presented by chapter B.7.1 considered to be complete with regard to the requirements of the applied methodology?	1, 2	Yes, the monitoring parameters were indicated, however, Corrective Action Request No.12. Please include or revise all parameters that are indicated with a "No" in the followign rows.	CAR12	☑																								
Integrate the required amount of sub-checklists for monitoring parameter and comment on any line answered with "No"																												
B.7.1.2. Parameter Title: EGy Electricity supplied by the project activity to the grid (in MWh)	1, 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	Yes	Correct reference to standards?	Yes	Indication of accuracy provided?	Yes	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	Yes	☑	☑
Monitoring Checklist	Yes / No																											
Title in line with methodology?	Yes																											
Data unit correctly expressed?	Yes																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	Yes																											
Correct value provided for estimation?	Yes																											
Has this value been verified?	Yes																											
Measurement method correctly described?	Yes																											
Correct reference to standards?	Yes																											
Indication of accuracy provided?	Yes																											
QA/QC procedures described?	Yes																											
QA/QC procedures appropriate?	Yes																											
B.7.1.3. Parameter Title: TEGy Total electricity produced by the project activity, including the electricity supplied to the grid and the electricity supplied to internal loads, in year y (in MWh).	1, 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>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 for estimation?</td><td>No</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided for estimation?	No	See CAR12	☑												
Monitoring Checklist	Yes / No																											
Title in line with methodology?	No																											
Data unit correctly expressed?	No																											
Appropriate description of parameter?	No																											
Source clearly referenced?	No																											
Correct value provided for estimation?	No																											

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD
		Has this value been verified?	No		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		
		QA/QC procedures appropriate?	No		
B.7.1.4. Parameter Title: $EG_{\text{existing},y}$ Actual, measured electricity supplied to the grid by existing units in year y (MWh)	1, 2	Not applicable.		☒	☒
B.7.1.5. Parameter Title: $EF_{\text{grid},\text{CM},y}$ Combined margin CO2 emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (tCO2/MWh)	1, 2	Not applicable, as this protocol refers to the ex-ante determination of CM.		☒	☒
B.7.1.6. Parameter Title: $PEFC_{j,y}$ CO2 emissions from fossil fuel combustion in process j during the year y (tCO2/yr). Calculated as per the latest version of the "Tool to calculate project or leakage CO2 emissions from fossil fuel combustion" where j stands for the processes required for the operation of the solar/geothermal power plant and/or backup power generation	1, 2	Monitoring Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided for estimation?	Yes		
		Has this value been verified?	Yes		
		Measurement method correctly described?	Yes		
		Correct reference to standards?	Yes		
		Indication of accuracy provided?	Yes		
		QA/QC procedures described?	Yes		
		QA/QC procedures appropriate?	Yes		
B.7.1.7. Parameter Title: Cap_{PJ} (only applicable to	1, 2			☒	☒

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD																								
hydropower plant projects) Installed capacity of the hydro power plant after the implementation of the project activity (W).		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	Yes	Correct reference to standards?	Yes	Indication of accuracy provided?	Yes	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	Yes			
Monitoring Checklist	Yes / No																												
Title in line with methodology?	Yes																												
Data unit correctly expressed?	Yes																												
Appropriate description of parameter?	Yes																												
Source clearly referenced?	Yes																												
Correct value provided for estimation?	Yes																												
Has this value been verified?	Yes																												
Measurement method correctly described?	Yes																												
Correct reference to standards?	Yes																												
Indication of accuracy provided?	Yes																												
QA/QC procedures described?	Yes																												
QA/QC procedures appropriate?	Yes																												
B.7.1.8. Parameter Title: A_{PJ} (only applicable to hydropower plant projects with reservoir) Area of the reservoir measured in the surface of the water, after the implemenation of the project activity, when the reservoir is full (m²).	1, 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	Yes	Correct reference to standards?	Yes	Indication of accuracy provided?	Yes	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	Yes		☒	☒
Monitoring Checklist	Yes / No																												
Title in line with methodology?	Yes																												
Data unit correctly expressed?	Yes																												
Appropriate description of parameter?	Yes																												
Source clearly referenced?	Yes																												
Correct value provided for estimation?	Yes																												
Has this value been verified?	Yes																												
Measurement method correctly described?	Yes																												
Correct reference to standards?	Yes																												
Indication of accuracy provided?	Yes																												
QA/QC procedures described?	Yes																												
QA/QC procedures appropriate?	Yes																												
B.7.1.9. Parameter Title: $w_{Main,CO2}$ Average mass fraction of CO ₂ in the	1, 2	Not applicable.		☒	☒																								

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
produced steam tCO ₂ /t steam (for geothermal projects only)				
B.7.1.10. Parameter Title: w_{Main,CH_4} Average mass fraction of CH ₄ in the produced steam (tCH ₄ /t steam). for geothermal projects only)	1, 2	Not applicable.	☒	☒
B.7.1.11. Parameter Title: $M_{S,y}$ Quantity of steam produced during the year y. (for geothermal projects only)	1, 2	Not applicable.	☒	☒
Parameters related to the "Tool to calculate project or leakage CO ₂ emissions from fossil fuel combustion"				
B.7.1.12. Parameter Title: Quantity of fuel type i combusted in process j during the year y ($FC_{i,j,y}$)	1, 2	Monitoring Checklist	Yes / No	☒
		Title in line with methodology?	Yes	
		Data unit correctly expressed?	Yes	
		Appropriate description of parameter?	Yes	
		Source clearly referenced?	Yes	
		Correct value provided for estimation?	Yes	
		Has this value been verified?	Yes	
		Measurement method correctly described?	Yes	
		Correct reference to standards?	Yes	
		Indication of accuracy provided?	Yes	
		QA/QC procedures described?	Yes	
		QA/QC procedures appropriate?	Yes	
B.7.1.13. Parameter title: Weighted average mass fraction of carbon in fuel type i in year y ($W_{C,i,y}$)	1, 2	Not applicable.	☒	☒
B.7.1.14. Parameter title: Weighted average density of fuel type i in year y ($\rho_{i,y}$)	1, 2	Not applicable.	☒	☒

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD																								
B.7.1.15. Parameter title: Weighted average net calorific value of fuel type i in year y (NCVi,y)	1, 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	Yes	Correct reference to standards?	Yes	Indication of accuracy provided?	Yes	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	Yes	☒	☒
Monitoring Checklist	Yes / No																											
Title in line with methodology?	Yes																											
Data unit correctly expressed?	Yes																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	Yes																											
Correct value provided for estimation?	Yes																											
Has this value been verified?	Yes																											
Measurement method correctly described?	Yes																											
Correct reference to standards?	Yes																											
Indication of accuracy provided?	Yes																											
QA/QC procedures described?	Yes																											
QA/QC procedures appropriate?	Yes																											
B.7.1.16. Parameter title: Weighted average CO2 emission factor of fuel type i in year y (EF _{CO2,i,y})	1, 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	Yes	Correct reference to standards?	Yes	Indication of accuracy provided?	Yes	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	Yes	☒	☒
Monitoring Checklist	Yes / No																											
Title in line with methodology?	Yes																											
Data unit correctly expressed?	Yes																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	Yes																											
Correct value provided for estimation?	Yes																											
Has this value been verified?	Yes																											
Measurement method correctly described?	Yes																											
Correct reference to standards?	Yes																											
Indication of accuracy provided?	Yes																											
QA/QC procedures described?	Yes																											
QA/QC procedures appropriate?	Yes																											
B.7.2. Description of the monitoring plan																												

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
B.7.2.1. Is the operational and management structure clearly described and in compliance with the envisioned situation?	1, 2	Yes, the operational and management structure is clearly described in the PDD. Clarification Request No. 7. According to the general manager's speaking, the proposed plant will be consigned to an operation entity after the commissioning, why it was not described in the PDD?	CL7	☒
B.7.2.2. Are responsibilities and institutional arrangements for data collection and archiving clearly provided?	1	Corrective Action Request No.13. The ownership of the meters should be clearly defined in the PDD. What is the accuracy of these meters?	CAR13	☒
B.7.2.3. Does the monitoring plan provide current good monitoring practice?	1	Yes, cross-check and failure measures are described.	☒	☒
B.7.2.4. If applicable: Does annex 4 provide useful information enabling a better understanding of the envisioned monitoring provisions?	1	No further information is presented in Annex 4.	☒	☒
B.8. Date of completion of the application of the baseline study and monitoring methodology an the name of the responsible person(s)/entity(ies)				
B.8.1. Is there any indication of a date when the baseline was determined?	1	Yes, the baseline was determined on 01/04/2009.	☒	☒
B.8.2. Is this consistent with the time line of the PDD history?	1	Yes, the time of baseline study is consistent with the PDD history in the A1 of the PDD. Corrective Action Request No.14. The format of the day should be in line with the latest PDD requirements.	CAR14	☒
B.8.3. Is the information on the person(s) / entity(ies) responsible for the application of the baseline and monitoring methodology	1	Yes, Gareth Phillips of Sindicatum Carbon Capital Ltd. determined the baseline and monitoring methodology.	☒	☒

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
provided consistent with the actual situation?					
B.8.4.	Is information provided whether this person / entity is also considered a project participant?	1	Yes, Sindicatum Carbon Capital Ltd. is considered as a project participant.	☒	☒
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	The operational lifetime is expected to be 30 years. Regarding the project starting date, please refer to CAR7.	See CAR7	☒
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	Yes, 7 years with potential for 2 renewals is chosen as the crediting period. Corrective Action Request No.15. The starting date of the crediting period is indicated as 01/01/2010. However, the tables indicating the annual and overall emission reductions in the PDD start on 01/12/2009. This should be consistent.	CAR15	☒
D. Environmental impacts					
D.1. Documentation on the analysis of the environmental impacts, including transboundary impacts					
D.1.1.	Has the analysis of the environmental impacts of the project activity been sufficiently described?	1, 13, 14	Yes, the environmental impacts of the proposed project activity during construction and operational period have been clearly described.	☒	☒

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
D.1.2.	Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, has an EIA been approved?	1, 13, 14	Yes, the EIA is a must for the new project in China. The EIA of this project was approved by Guizhou Provincial Environment Protection Bureau. The document has been reviewed.	☒	☒
D.1.3.	Will the project create any adverse environmental effects?	1, 13, 14	The proposed project will create no significant adverse environmental effects according to the EIA report and its approval.	☒	☒
D.1.4.	Were transboundary environmental impacts identified in the analysis?	1, 13, 14	There is no transboundary environmental impact identified in the EIA report and the approval document from the government.	☒	☒
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, 13, 14	According to the EIA and its approval, the environmental impacts are fairly minor.	☒	☒
D.2.2.	Does the project comply with environmental legislation in the host country?	1, 13, 14	Yes, according the PDD and the site investigation, the project complies with the environmental legislation in China. However, Clarification Request No. 8. According to the general manager's info, the compensation standard implemented in this proposed project needs to be provided to the DOE.	CL8	☒
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, 28	Yes, local stakeholders were consulted including the migrant population, locals of the nearby villages, investors, officials, local	☒	☒

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
			farmers, etc.		
E.1.2.	Have appropriate media been used to invite comments by local stakeholders?	1, 28	Yes, a bulletin was posted for one meeting and questionnaires were distributed for another meeting. Clarification Request No. 9. Please provide a copy of the bulletin and the meeting memos for further validation.	CL9	☒
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, 28	There is no such requirement in China.	☒	☒
E.1.4.	Is the undertaken stakeholder process that was carried out described in a complete and transparent manner?	1	Yes, the description in the PDD is appropriate.	☒	☒
E.2. Summary of the comments received					
E.2.1.	Is a summary of the stakeholder comments received provided?	1, 28	Yes, a summary was provided and is also discussed in the PDD.	☒	☒
E.2. Report on how due account was taken of any comments received					
E.2.1.	Has due account been taken of any stakeholder comments received?	1, 28	Yes, the comments from the stakeholders were taken account. For example, the noise control during construction and land occupation, these are properly taken account by the project owner.	☒	☒
F. Annexes 1 - 4					
Annex 1: Contact Information					
F.1.1.	Is the information provided consistent with	1	See CAR1.	See	☒

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
the one given under section A.3?				CAR1	
F.1.2.	Is the information on all private participants and directly involved Parties presented?	1, 2	Yes, the information on all the participants is presented.	☒	☒
Annex 2: Information regarding public funding					
F.1.3.	Is the information provided on the inclusion of public funding (if any) in consistency with the actual situation presented by the project participants?	1, 2	Yes, there is no public funding involved.	☒	☒
F.1.4.	If necessary: Is an affirmation available that any such funding from Annex-I-countries does not result in a diversion of ODA?	1, 2	Not necessary.	☒	☒
Annex 3: Baseline information					
F.1.5.	If additional background information on baseline data is provided: Is this information consistent with data presented by other sections of the PDD?	1	Yes, it is.	☒	☒
F.1.6.	Is the data provided verifiable? Has sufficient evidence been provided to the validation team?	1	Yes, the data is verifiable.	☒	☒
F.1.7.	Does the additional information substantiate / support statements given in other sections of the PDD?	1	Yes, it does.	☒	☒
Annex 4: Monitoring information					
F.1.8.	If additional background information on	1	No further information is provided.	☒	☒

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
monitoring is provided: Is this information consistent with data presented in other sections of the PDD?					
F.1.9.	Is the information provided verifiable? Has sufficient evidence been provided to the validation team?	1, 2	No further information is provided.	☒	☒
F.1.10.	Do the additional information and / or documented procedures substantiate / support statements given in other sections of the PDD?	1, 2	No further information is provided.	☒	☒

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

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
Clarification Request No. 1. Please provide a copy including partial English translation of the key message of the following documents: • Land Use Approval, and • Grid Connection Approval.	A.2.2	First response: As discussed during the validation site visit, the project owner has applied for the land usage permit on 30 December 2008; however, the permit has not yet been issued. The approval of land usage will be provided to the DOE once it is issued to the project owner. Grid Connection Approvals are issued to a project after a grid connection application is submitted and approved of. Grid Connection applications are usually negotiated between the project owner and the power company. As discussed during the validation site visit, the project owner is still in negotiations with the power company. Therefore, the Grid Connection Approval has not yet been issued. The Grid Connection Approval will be provided to the DOE once it is issued to the project owner. Second response: Grid Connection Approval: • The grid connection approval with the filename 20080909 Comment on the Supplementary Design for the Geli Bridge Hydropower Station Grid Connection System(cn).pdf has been provided to the DOE. This document is issued by the Guizhou Power Grid Company, a division of the China South China Power Grid, and issues agreement with the supplementary design of the Geli Bridge Hydropower Station Grid Connection System services. Third response:	☑ The relevant documents were provided to TÜV SÜD (see Annex 2, IRL 15, 16).

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		The Grid Connection Approval has been resubmitted via email to the DOE on July 28, 2009.	
Open Issue: Please deliver the missing LoAs and the MOC. The request for registration will only be made with a complete set of approval letters.	A.3.2	First response: The following documents regarding LoAs and the MoC have been submitted to the DOE via electronic submission on 31 May 2009: - MOC between SCC and Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd. signed on 2 November 2006: 20061102 Geli MoC (en).pdf - Host-country LoA issued on 18 January 2008: 20080118 Geli LoA (cn).pdf The non-host country LoA has not yet been obtained for the project. Once received, the non-host country LoA will be submitted to the DOE. Second response (wrt follow-up 1): The MOC is currently being updated to apply the new format. Once completed, the MOC applying the new template will be provided to the DOE. The non-host country LOA will also be submitted to the DOE once received.	The host country LoA has been received (see IRL 35). However, Follow-up 1: The MOC is not complete. Either consider using the new MOC format (provided by the EB in February 2009 to make sure all the required information is indicated) or revise the existing one with consistent contact information as indicated in the PDD as well as signed by both parties. Please note that the old MOC format cannot be uploaded anymore after the grace period of six months after the publication of the new template in February 2009. In addition, please note that the request for registration will only be made once the missing LoA is also received. Conclusion: Still waiting for these letters.

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
Corrective Action Request No.1. The name of the host party is not consistent throughout the PDD: Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd vs. Guizhou Wujiang Qingshuihe Hydro-Power Generation Company Ltd. Please revise and be consistent.	A.3.3, F.1.1	The host party name is Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd., and the correct name has now been consistently applied throughout the revised PDD.	☒ The PDD was revised accordingly. The name of the host party is now consistent.
Corrective Action Request No.2. Please provide separate coordinates for the dam / reservoir and the powerhouse.	A.4.1.1	Section A.4.1.4 of PDD version 5 has been revised to indicate the coordinates of the dams and powerhouse, shown as follows: The Geli Bridge Hydropower Project is located at Maoyun Village in Kaiyang County, located in Guizhou Province. The dam is located at 27°0'30"N and 107°12'22"E (Google Earth coordinates 27.008333 and 107.206111) and the powerhouse is located at 27°0'33"N and 107°12'2"E (Google Earth coordinates 27.009167 and 107.200556). The project is located 108km away from Guiyang and 15km away from Maoyun Village in Kaiyang County.	☒ The GPS coordinates were indicated in the revised PDD and double-checked with Google Earth.
Corrective Action Request No.3. According to the latest PDD guidelines, this section should include a detailed description of: (a) The scenario existing prior to the start of the implementation of the project activity, with a list of the equipment(s) and systems in operation at that time; and (c) The baseline scenario, as identified in section "B.4 Description of how the baseline scenario is identified and description of the identified baseline scenario", with an indicative list of the equipment(s) and systems that would have been in	A.4.3.2	Section A.4.3 in PDD version 5 has been revised to include the scenario existing prior to the start of the implementation of the project activity as follows: The scenario existing prior to the implementation of the project activity is the same as the baseline scenario, where delivery of electricity to the grid by the operation of grid-connected power plants and, in the absence of implementation of the project activity, by the addition of new generation sources. The equipment and systems in operation prior to the start of the project activity are the power plants (mostly thermal, and mostly coal) supplying electricity to the South China Grid and set out in Annex 3. These in-	☒ The section of the PDD has been revised accordingly and is now in line with the latest PDD guidelines (Version 07) available at the time of validation.

Validation Protocol

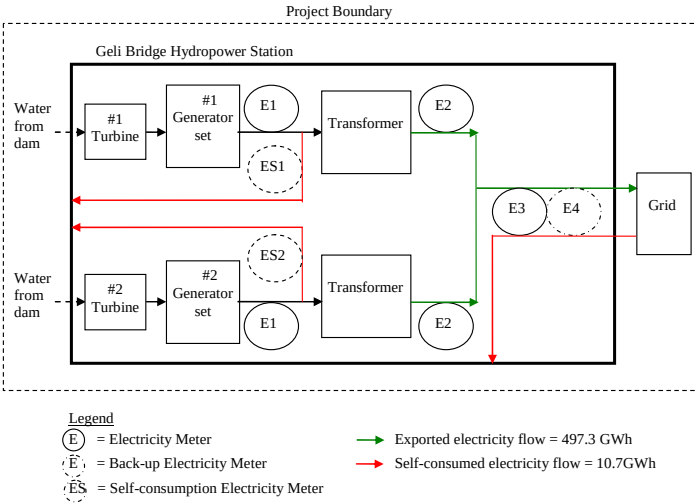
Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
place in the absence of the project activity. Further on, the description of the scenarios should include the emissions sources and the greenhouse gases involved in the project activity, according to the methodology used; and existing and forecast energy and mass flows and balances of the systems and equipments included in the project activity;		clude thermal power generation equipment such as engines, turbines, and related fuel supply (predominantly coal) and electricity distribution infrastructure. Figure B.3-1 (as shown below) has been revised. Table B.3-1 describes the emission sources involved in both the project activity and the baseline.  The diagram illustrates the Geli Bridge Hydropower Station within a 'Project Boundary'. It shows two parallel power generation units. Each unit consists of a 'Water from dam' input, a '#1 Turbine' or '#2 Turbine', a '#1 Generator set' or '#2 Generator set', and a 'Transformer'. Emission sources are marked with circles: 'E1' for Electricity Meter, 'ES1' for Back-up Electricity Meter, and 'ES2' for Self-consumption Electricity Meter. Green arrows indicate 'Exported electricity flow = 497.3 GWh' from the transformers to the 'Grid'. Red arrows indicate 'Self-consumed electricity flow = 10.7 GWh' within the station. A legend defines the symbols: 'E' for Electricity Meter, 'ES' for Back-up Electricity Meter, and 'ES' for Self-consumption Electricity Meter.	
Clarification Request No. 2. Please provide any documents indicating the training measures of the local staff.	A.4.3.9	As noted in the PDD and during the site visit, personnel will be trained closer to the time of implementation and final commissioning of the project activity. Evidence of training will be provided to the verifying DOE. Upon training of staff, related documentation will be submitted to the DOE.	☒ Training will be provided by the company who will be in charge of the installation and commission of the plant (Sino Hydro-power Engineering Bureau No. 9) once it gets closer to the actual operation of this plant.

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
Corrective Action Request No.4. The sum of the annual CERs is different from the one indicated in the PDD. Please revise. Any rounding functions should be applied conservatively.	A.4.4.2	The sum of the annual CERs have been revised from 3,032,990 tCO ₂ e to 3,032,988 tCO ₂ e, in Section A.4.4 and Table B.6.1 in Section B.6.4 in the PDD.	☒ The sum of the CER is correct now in the revised PDD.
Corrective Action Request No.5. Please revise the PDD based on the following criteria that are indicated with a no (i.e. Exclusion of biomass fired power plants).	B.2.1, B.2.8	First response: Alternative Baseline Scenario 3 has been revised in the PDD to the following: Renewable energy resources for electricity production are not available in the region, it is a mountainous region and not suitable for wind, solar, biomass or other forms of renewable energy. Biomass is not a potential source of energy because there is not a sufficient amount of biomass available to supply a biomass-fired power plant. Additionally, there is no biomass-fired power plant with a similar capacity to that of the proposed project. There are also no adequate wind resources in the Guizhou region of similar capacity, nor are there any geothermal resources reported. To use solar energy resources with similar capacity faces not only a resource problem, but also technical and investment barriers due to the first of its kind in the province. Therefore, the development of a renewable electricity power plant using a different type of renewable energy is not feasible as a realistic and credible alternative baseline scenario. Second response (wrt follow-up 1): Section B.2 of the PDD has been updated to include the following statement: 4. The project does not involve biomass-fired power	☒ Follow-up 1: The exclusion of biomass is still not discussed in section B.2 of the PDD, but is an applicability criterion of the applied meth. Please revise the PDD accordingly. Conclusion: The missing criteria is now included in the PDD.

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		plants at the proposed site.	
Corrective Action Request No.6. As per ACM0002 (Version 09), the following criteria should be discussed: For all renewable energy plants, CO2 emissions from back-up power generation.	B.3.3	First response: The methodology ACM0002 version 09 clearly states that project emissions for hydropower projects that are new, as is the case for the proposed project activity, are equal to zero. Therefore, emissions from any backup equipment are not included in the project emissions. As specified in Section B.7.2, Part 8. Emergency treatment of PDD version 4: 3) Under conditions of extreme nature (e.g., both the hydropower station and grid are unable to provide electricity to the motor): currently, the project owner is negotiating with the Grid company on installing a stand-by diesel generator, which will be used during extreme situations. The purpose for installing this equipment is to supply the motor at the dam and the equipment and instruments at the power station with electricity when an emergency situation occurs. Since the diesel generator will only be used for backup purposes in case of an emergency, this equipment would most likely only operate for no more than 100 hours per year, if at all, which represents 1% of potential annual operation time. In addition to the fact that the methodology ACM0002 version 09 states that project emissions for new hydropower projects are equal to zero, any emissions (if any) from operating the backup diesel generator is likely to be insignificant. Second response (wrt follow-up 1): Table B.3-1 has been updated to include emissions from	☑ Follow-up1: Table B.3-1 is still not complete and is missing the project emission parameters required by ACM0002 (Version 09). Please revise this table accordingly. The applied meth indicates that backup power needs to be taken into account for calculating the project emissions (see copy of meth below): “Project emissions: For most renewable energy project activities, PE_y = 0. However, for following categories of project activities, project emissions have to be considered. Back-up Power: Back up power project emissions for all renewable energy plants should be calculated in accordance with the equation 1, where PE_FC_{j,y} represents the CO2 emissions due to fossil fuel consumption in the year y for the operation of the backup power equipment.”

Validation Protocol

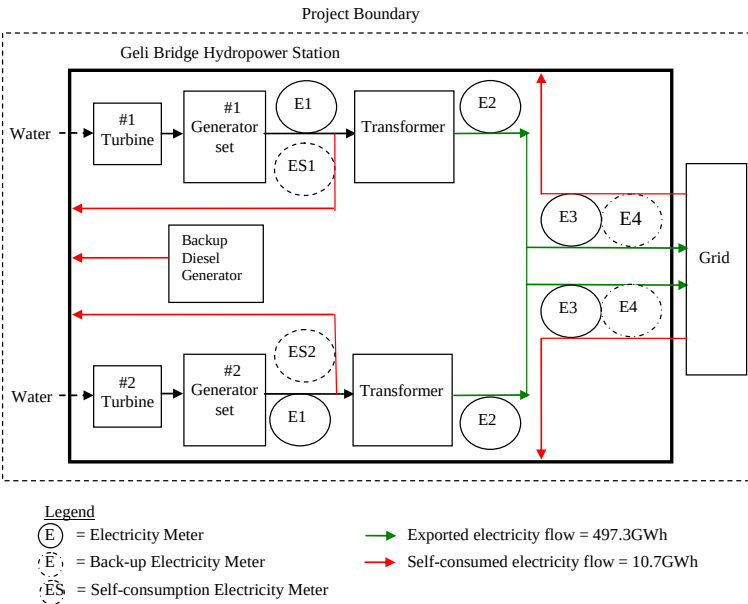
Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		backup power, and describes the emission sources involved in both the project activity and the baseline. Figure B.3-1 (as shown below) has been revised.  Third response (wrt follow-up 2): Figure B.3-1 has been revised to the following:	In addition, figure B.3-1 is still missing the emissions sources and gases included in the project boundary. Please add these sources accordingly. Follow-up 2: The figure is still missing the emission sources and gases that are included in the project boundary as indicated in the PDD guidelines. Please add the relevant sources. Conclusion: The revised figure is complete and also indicates the emission sources.

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		Project Boundary Legend E = Electricity Meter → Exported electricity flow = 497.3GWh E = Back-up Electricity Meter → Self-consumed electricity flow = 10.7GWh ES = Self-consumption Electricity Meter	
Corrective Action Request No.7. Please include a more detailed description of the past and future timeline of the project including any real actions such as signing the equipment purchase contract, construction contract, FSR issuance, etc. Please clearly define which action can be considered as the first real action when the PP committed to any expenditures. The dates should be indicated with the day, month and year. CDM was considered in May 2006. The FSR was issued in August 2006, i.e. three months later. Please explain how and why you knew	B.5.2	First response: Additional detail has been added to the project timeline as shown in Section A.4.3 of PDD version 5 as compared to version 4, as follows: • Project owner became aware of the CDM 05/2006 • LOI signed with Sindicatum Carbon Capital 06/2006 • FSR (version 1) issued 08/2006 • EIA approval time is 27/09/2006 • ERPA signed with Sindicatum Carbon Capital 02/11/2006: this marks the serious consideration of CDM • Proposal from TÜV SÜD for validation 15/11/2006	☒ Follow-up 1: The project starting date is indicated with 31/01/2007. However, the provided contracts only indicate January 2007 without any specific day. Please clarify how the last day of this month was taken for the starting date. Please provide us with a

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
already in May 2006 that the project was not financially attractive, although the feasibility study was not finished. In addition, please provide digital copies of the supporting documents including partial English translations for further validation.		- FSR (version 2) issued 11/2006 - Signing of first major contracts (dam construction contract and diversion tunnel contract) 01/2007 - FSR (version 2) approval time is 04/06/2007 - Generator supply contract signed 10/06/2007 - Start of plant construction 06/2007 - Transformer supply contract 29/05/2008 - The power plant plans to commence generation in 12/2009 The project owner, a company created to develop hydro-power projects, became aware of the CDM in May 2006. On June 1, 2006, the project owner signed a LOI with SCC to explore the potential development of the company's projects under the CDM. The project owner was considering the CDM for another project at this time. Shortly after this period, preparation work (e.g., commissioning of the FSR and EIA) for the Geli Bridge project began, culminating in the issuance of the draft version of the FSR in August 2006 and the final version for NDRC approval in November 2006. A financial analysis for the project considering CDM was conducted following the August 2006 FSR issuance, indicating that the project would not be financially attractive without additional revenue (i.e., CDM). A financial analysis based on the November 2006 FSR, as presented to the DOE, also indicates that the project would be financially unattractive without CDM revenues. As such, although the project owner was aware of CDM prior to the issuance of the FSR, serious consideration of the application of CDM to the project did not occur until after issuance of the FSR, and demonstration of this serious consideration is evident by the signing of the ERPA in No-	copy of a document that confirms the starting date of the plant construction. In addition, the provided document for the main transformer supply contract indicates a date in June 2006. Please clarify. Conclusion: Although the project starting date is still indicated with the last day of January 2007, it was accepted by TÜV SÜD because the CDM was already seriously considered in 2006, and the actual date of the project start in January 2007 would have no impact on the given timeline and CDM actions. The date of the transformer supply contract could be confirmed to be June 2008 (See IRL 27).

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		venber 2006 for the project. This serious consideration of CDM occurred prior to final commitment of financing for the project, marked by the signing of the first contract in January 2007. Supporting documents for this timeline have been provided to the DOE via electronic submission on 31 May 2009. Second response (wrt follow-up 1): The project start date of January 31, 2007, has been chosen in accordance with the decision to invest in the project, which is marked by the first major contracts (dam construction contract and diversion tunnel contract) that were signed in January 2007. Although the specific date has not been identified within the contract, the last date of the month has been conservatively chosen in order to identify a specific date for the purposes of determining the project start date. Plant construction for any project is permitted to start only once the FSR is approved. Hence the document that confirms the start date of the plant construction for the Geli Bridge Hydropower Project is the FSR approval letter issued on June 4, 2007 and submitted to the DOE on May 31, 2009, with the document titles of 20070604 [2007]701 Geli Bridge FSR Approval (cn).pdf and 20070604 [2007]701 Geli Bridge FSR Approval (en).doc. The documents submitted to the DOE on May 31, 2009, included the following main transformer supply contract documents: 20080529 GJQC6-D1-1 Geli Bridge Main Transformer Contract (cn).pdf	

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		20080529 GJQC6-D1-1 Geli Bridge Main Transformer Contract (en) - P1-4.doc The main cover of the main transformer contract lists a date of June 2008, however, on page 2 of the contract a summary of the contract is provided where the contract date is listed is May 29, 2008. The date of May 29, 2008 has been used for identifying the main transformer contract date.	
Clarification Request No. 3. Please clarify why the renewable energy resources are only limited to wind and solar, but no geothermal, etc.? In addition, please provide evidences to demonstrate the lack of these resources in this region.	B.5.4	First response: Sub-step 1a in Section B.5 of PDD version 5 has been changed from version 4 to the following: As mentioned in section B.4, renewable energy resources with a similar power supply to the grid are not available in the region, for example, due to the mountainous terrain, lack of reasonably flat, shade-free land suitable for solar panels and lack of vehicular access to ridge tops for positioning of wind turbines. Biomass is not a potential source of energy because there is not a sufficient amount of biomass available to supply a biomass-fired power plant. Additionally, there is no biomass-fired power plant with a similar capacity to that of the proposed project. There are also no adequate wind resources in the Guizhou region of similar capacity, nor are there any geothermal resources reported. To use solar energy resources with similar capacity faces not only a resource problem, but also technical and investment barriers due to the first of its kind in the province. Therefore, the development of a renewable electricity power plant using a different type of renewable energy is not feasible as a realistic and credible alternative	☒ Follow-up 1: Please provide us with evidences such as internet webpages confirming the lack of other renewable energy sources in the area. Conclusions: The supporting evidences were provided and also included in the PDD. It could be confirmed that there are no other renewable energy sources in the area.

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		baseline scenario. Scenario 3) is therefore removed from this list. Second response (wrt follow-up 1): The Chinese Government has developed 5 solar energy capacity levels based on sunshine duration and radiative capacity, which are applied to provinces (refer to the following website for more details: http://www.21tyn.com/news/0710/18/67f154y43j.htm). Of the 5 levels, Guizhou Province ranks in the lowest level of solar capacity. As further confirmed by Guizhou Province's lowest level in the Chinese Government's solar capacity ranking system, the mountainous terrain and lack of reasonably flat, shade-free land suitable for solar panels demonstrate that solar energy is not an available nor feasible renewable energy source for the province. Similarly, according to the wind farm density distribution map published by the Center for Wind and Solar Energy Resources Assessment (see the website: http://cwera.cma.gov.cn/upload/b_2_left_02.jpg), Guizhou Province is in the lowest rank for having a low annual wind farm density (<50 W/m²) in China. In addition to the reasons provided in the PDD, wind is therefore also not a feasible renewable energy source for Guizhou Province. The Statistic Table of the Developable and Utilizable Geothermal Resources of China (refer to the website: http://www.aqxx.com.cn/admin_main/content/2008-10-13/2008-10-135873.shtml) shows that Guizhou Province has very little geothermal resources to utilize, and the average temperature of the developable geothermal resources (43.5°C) is relatively low in China (the national	

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		average is 55.5°C). This confirms that geothermal energy is not a feasible renewable energy source for Guizhou Province.	
Clarification Request No. 4. Please provide a copy and a partial English translation of the key info of the FSR that has been taken for the IRR calculation. What is the IRR in the FSR? The project is already partially implemented, hence please provide third party documents to further cross-check on the investment costs and the tariff for further validation (i.e. how much money has been spent on the project so far, what is the typical tariff for the region). In addition, please clarify why the PP decided to implement the project with CDM although CDM will not help to overcome the benchmark?	B.5.14	First response: The following documents regarding the key parameters in the FSR that have been used in the IRR calculations (refer to IRR calculations for specific parameters) have been submitted to the DOE via electronic submission on 31 May 2009): • 200608 Geli FSR Consolidated Statement (cn) - Pa, f, 81.pdf • 200608 Geli FSR Consolidated Statement (en) - Pa, f, 81.doc • 200611 Geli Bridge FSR Book 14 Economic Assessment (cn).pdf • 200611 Geli Bridge FSR Book 14 Economic Assessment (en) - Pa-b, 1-5, 15-16, 19.doc As stated in the PDD, both the August and November 2006 FSRs estimate the power tariff based on a targeted IRR value. The August 2006 FSR quotes an IRR of 8.22%, and the November 2006 FSR quotes an IRR of 8.2% when applying the relative tariffs stated in the FSRs. Since the FSR tariffs are merely notional, the government-issued tariff of 0.195RMB/kWh (without tax), which was the only actual tariff that the project owner was aware of at the time the decision was made to proceed with the project, is applied in the investment analysis for the project activity. When applying the government-issued	☒ The FSR and its economic assessment were provided to TÜV SÜD for further validation, (see Annex 2 for details). However, Follow-up 1: Tariff: the FSR (August 2006) indicates that “0.2334 RMB/kWh, which is the current average price of the grid power currently implemented in Guizhou”. Please clarify why this value has not been adopted for the investment analysis, but a lower one. Do you have any further public notices or similar further confirming that the applied tariff is still reasonable and appropriate (the only other document provided is only for Dahuashui, i.e. “20070620 [2007]23 Dahuashui Electricity Tariff Application to Guizhou Price Bureau (en)”).

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		0.195RMB/kWh without tax tariff, the project IRR without CDM is 4.56%. The assumed tariff in the financial assessment is 0.195RMB/kWh without tax (equivalent to 0.228RMB/kWh with tax). This is based on official communication from the Guizhou Pricing Bureau (Local Government) which states that this is the tariff which will be applied, and the fact that this is the tariff afforded to the largest shareholder (Guizhou Wujiang Hydropower Development Co., Ltd.) to the project owner. The financial assessment of the project activity is based on data from the project's FSR and the tariff given to the project owner at the time. In the process of FSR development, different versions of the FSR are developed for PDRC examination and approval. The August 2006 version of the FSR was an initial version for PDRC examination, whereas the November 2006 version was submitted for and later received PDRC approval in June 2007. The only significant difference between the two versions is the tariff applied, where the August 2006 FSR used 0.294RMB/kWh with tax power tariff (0.251RMB/kWh without tax) and the November 2006 FSR used 0.303RMB/kWh with tax (0.259RMB/kWh without tax). The tariffs in both the August 2006 and November 2006 FSR's are not a realistic tariff as a) it disregards the letter from the Local Government and b) is significantly higher than any tariffs paid at the time. For these reasons, we have chosen to apply the government-issued tariff in our financial assessment and address the likelihood of a different tariff via the sensitivity analysis.	Investment: Please provide any supporting documents further confirming the amount of money spent on the project so far. Conclusion: The relevant document for the investment costs was provided and the actual costs could be confirmed. Although it is not quite clear why the FSR indicates an average price of 0.2334 RMB/kWh which is in contradiction with the notice on the grid tariff from the local price bureau, TÜV SÜD accepted the applied tariff, because even with the application of the higher tariff, the project still remains additional and the IRR is below the benchmark.

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		The project began construction in June 2007 and is currently expected to be completed by the end of 2009, with power generation commencing in December 2009. Although construction has not yet been finished, to date, roughly 100 million RMB has been overspent in comparison to the total expenditure estimated per the FSR. The total expenditure is expected to be 200 million RMB above the FSR stated investment costs, including the unfinished payment of existing contracts and the payment of contracts yet to be signed. The over expenditure is mainly due to: 1) increased cement and steel purchasing costs; and 2) increased land expropriation and resettlement compensation costs. The actual expenditure is NOT consistent with the FSR as the actual expenditure is expected to be above the FSR estimated investment costs. Although implementing the project activity as a CDM project did not help to overcome the benchmark, it significantly improved the rate of return closer to the benchmark, and importantly as the CERs were priced for sale in an alternative currency (USD) which at the time of the investment decision provided the owner with income fixed to two currencies providing a hedge against devaluation in one currency from which all its revenues would have been derived. Second response (wrt follow-up 1): Tariff: The August and November 2006 FSR versions both indicate a with tax tariff of 0.2334RMB/kWh (equivalent to 0.1995RMB/kWh without tax) as the average price of the	

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		grid power currently implemented in Guizhou at the time the FSR versions were issued. Although this price was the average provincial tariff at that time, the project owner, through one of its major shareholders, received a government-issued tariff from the Guizhou Pricing Bureau for its hydropower projects – including the Geli Bridge Hydropower Project – of 0.228RMB/kWh with tax (or 0.195RMB/kWh without tax. As this tax has been issued to the project owner and was available at the time of the financial investment, this value has been used in the financial analysis. Even when applying the Guizhou provincial tariff of 0.1995RMB/kWh without tax (as per the August and November 2006 FSR versions), the IRR without CDM is 4.75% and IRR with CDM is 7.11%, again showing that the project conducted under CDM is more favourable than if it were to be conducted without. In addition to the Geli Bridge Hydropower Project, the project owner, Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd., has developed the Dahuashui Hydropower Project. Upon completion of construction in November 2007, the Dahuashui Hydropower Project received a government-issued power tariff of 0.2404RMB/kWh with tax (equivalent to 0.205RMB/kWh without tax). This document is being provided with translation to the DOE with the document filename: 20071105 [2007]197 Dahuashui 2007 Tariff Price (cn).pdf and 20071105 [2007]197 Dahuashui 2007 Tariff Price (en).doc. Even when applying the Dahuashui November 2007 tariff of 0.205RMB/kWh without tax to the Geli Bridge financial analysis, the IRR for the Geli Bridge Hydropower Project	

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		without CERs is 4.98% and 7.32% with CERs, indicating that the project with CERs is more attractive than that without. Dahuashui's 0.205RMB/kWh without tax tariff issued in 2007 is within the same range as the government-issued tariff of 0.195RMB/kWh without tax issued for the group's hydropower projects in 2005, which has been applied in the financial analysis. Thus, the government-issued 0.195RMB/kWh without tax tariff is reasonably and appropriately applied in the financial analysis. Investment: The following documents are being submitted to the DOE: 20090531 Geli Bridge Engineering Investment Table(cn).pdf and 20090531 Geli Bridge Engineering Investment table(en).xls show that the total investment to date for the Geli Bridge Hydropower Project is 721,631,570.82RMB, including the interest during the construction period equal to 61,968,054.83RMB. Therefore, the total static investment spent to date is 659,663,515.99RMB (calculated by subtracting the construction period interest from the total investment). Although construction has not yet been completed (estimated to be finished by December 2009), the project owner has already overspent on some engineering works in comparison with the FSR estimation: 1) 20,790,127.90RMB has been spent on Environmental Projection Engineering, which is 22.2% more than the estimated 17,006,800RMB as per the FSR; 2) 20,810,179.00RMB on Other Costs, which is 26.85% higher than the FSR estimation; and 3) 35,446,179.86RMB on Land Expropriation and Reset-	

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		tlement Compensation, which is already 8.4% more than the estimation of 32,684,800RMB as per the FSR. As stated in the First Response, the total expenditure is currently expected to be roughly 200 million RMB above the FSR stated investment costs, including the unfinished payment of existing contracts and the payment of contracts yet to be signed.	
Corrective Action Request No.8. The variations of the total power production should be included in the sensitivity analysis.	B.5.19	The amount of electricity supplied to the grid was not considered in PDD version 4 because the electricity supply is based on historic data of rainfall and river flow and significant variations are not anticipated, and because variations of the total power production has exactly the same effect as varying electricity sale revenues. However, the parameter "Electricity Exported" has been added to the sensitivity analysis for the sake of completeness. A $\pm 10\%$ variation is typically applied in a sensitivity analysis and is acceptable for demonstrating the robustness of an analysis, thus, a $\pm 10\%$ variation is applied to all parameters in the sensitivity analysis, including the newly added electricity supply parameter. The revised PDD applies the following changes: Sub-step 2d. Sensitivity Analysis The above result is further confirmed by the sensitivity analysis where the "Electricity Exported", "Static Investment", "Annual O&M" and "Power Tariff" are selected as critical parameters and varied $\pm 10\%$. The resulting IRR figures are presented in Table B5-3 and Figure B5-1: <i>Table B.5-3. Sensitivity analysis on project total investment IRR</i>	☑ Yes, that could be closed. The necessary parameters are all taken into account for the sensitivity analysis.

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion																																																																																
		<table><tr><th colspan="6">IRR Sensitivity Analysis Summary (without tax)</th></tr><tr><td rowspan="2">Electricity Exported</td><td>90%</td><td>95%</td><td>100%</td><td>105%</td><td>110%</td></tr><tr><td>3.66%</td><td>4.12%</td><td>4.56%</td><td>4.97%</td><td>5.36%</td></tr><tr><td rowspan="2">Static Total Investment</td><td>90%</td><td>95%</td><td>100%</td><td>105%</td><td>110%</td></tr><tr><td>5.37%</td><td>4.95%</td><td>4.56%</td><td>4.17%</td><td>3.81%</td></tr><tr><td rowspan="2">Operating Costs</td><td>90%</td><td>95%</td><td>100%</td><td>105%</td><td>110%</td></tr><tr><td>4.73%</td><td>4.65%</td><td>4.56%</td><td>4.47%</td><td>4.38%</td></tr><tr><td rowspan="2">Power Tariff</td><td>90%</td><td>95%</td><td>100%</td><td>105%</td><td>110%</td></tr><tr><td>3.66%</td><td>4.12%</td><td>4.56%</td><td>4.97%</td><td>5.36%</td></tr></table> Sensitivity Analysis <table><thead><tr><th>Percentage Variation</th><th>Electricity Exported</th><th>Static Total Investment</th><th>Operating Costs</th><th>Power Tariff</th></tr></thead><tbody><tr><td>90%</td><td>3.66%</td><td>5.37%</td><td>4.73%</td><td>3.66%</td></tr><tr><td>95%</td><td>4.12%</td><td>4.95%</td><td>4.65%</td><td>4.12%</td></tr><tr><td>100%</td><td>4.56%</td><td>4.56%</td><td>4.56%</td><td>4.56%</td></tr><tr><td>105%</td><td>4.97%</td><td>4.17%</td><td>4.47%</td><td>4.97%</td></tr><tr><td>110%</td><td>5.36%</td><td>3.81%</td><td>4.38%</td><td>5.36%</td></tr></tbody></table> Figure B.5-1. Sensitivity analysis to main costs and revenues As shown in Table B.5-3 and Figure B.5-1 above, the project remains unattractive (i.e., below the 8% benchmark) in all cases even with a ±10% variation in the electricity exported, static total investment, operating costs, and power tariff.	IRR Sensitivity Analysis Summary (without tax)						Electricity Exported	90%	95%	100%	105%	110%	3.66%	4.12%	4.56%	4.97%	5.36%	Static Total Investment	90%	95%	100%	105%	110%	5.37%	4.95%	4.56%	4.17%	3.81%	Operating Costs	90%	95%	100%	105%	110%	4.73%	4.65%	4.56%	4.47%	4.38%	Power Tariff	90%	95%	100%	105%	110%	3.66%	4.12%	4.56%	4.97%	5.36%	Percentage Variation	Electricity Exported	Static Total Investment	Operating Costs	Power Tariff	90%	3.66%	5.37%	4.73%	3.66%	95%	4.12%	4.95%	4.65%	4.12%	100%	4.56%	4.56%	4.56%	4.56%	105%	4.97%	4.17%	4.47%	4.97%	110%	5.36%	3.81%	4.38%	5.36%	
IRR Sensitivity Analysis Summary (without tax)																																																																																			
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110%	5.36%	3.81%	4.38%	5.36%																																																																															
Corrective Action Request No.9. The provided link in the PDD on page 14 does not work. Please revise.	B.5.26	First response: The link provided on pages 14-15 of the PDD have been removed in as it no longer is applied in the section. Section B.5, Sub-step 4a has been revised in the PDD to the following:	☒ Follow-up 1: Please provide TÜV SÜD with a reference for the similar project that is state-owned																																																																																

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		Projects of similar location Policies in China are often varied by province (i.e., electricity tariffs are set by provincial government). Therefore, in taking provinces as a region per the additionality tool, Guizhou Province, the province in which the Geli Bridge Hydropower Project is located in, is taken to be the similar region for the common practice analysis. Projects of similar financing The Government of China publishes a variety of statistical yearbooks, of which the China Water Resources Yearbook is most relevant in terms of containing data on hydropower resources. According to the 2006 China Water Resources Yearbook there were seven hydropower projects in operation in Guizhou Province, the province in which the proposed project activity is located. All seven listed projects have been developed by 100% state-owned companies (as is typical of projects in the hydropower sector due to the large investment required), which in practice have benefited from financing advantages as compared to privately-owned companies. State-owned projects typically do not face investment barriers due to government financial support in the form of equity and debt, and are typically located at optimal sites where construction costs are less and the returns are higher than the 8% power industry benchmark. As the Geli Bridge Hydropower Project is privately-funded, the proposed project activity is not similar to and financially disadvantaged in comparison to these government-financed hydropower projects. Thus, the Geli Bridge Hydropower Project is not common practice in Guizhou Province. Projects of similar scale	showing that this “similar project” is state-owned. Conclusion: TÜV SÜD confirms that the one “similar” project is state-owned and the evidence was provided and confirmed.

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		While the proposed project activity has already been identified as not common practice in Guizhou Province due to the ruling out of the seven hydropower projects listed in the 2006 China Water Resources Yearbook on a financing basis, nearly all of the projects can also be ruled out on the basis of scale. Hydropower plants are categorized according to their size (total installed capacity), as per the Classification & Design Safety Standard of Hydropower Projects (DL5180-2003), issued by the State Economic and Trade Commission of China in 2003: • Small-scale hydropower projects: total installed capacity less than 50MW • Medium-scale hydropower projects: total installed capacity between 50MW to 300MW • Large-scale hydropower projects: total installed capacity greater than 300MW As the Geli Bridge Hydropower Project has a total capacity of 150MW, it is classified as a medium-scale hydropower project in China. Therefore, hydropower projects that are operational in Guizhou Province deemed as medium-scale (50MW to 300MW) are considered for comparison in the common practice analysis (i.e., projects that are small- or large-scale are excluded because they are not of similar scale as the proposed project activity). According to the 2006 China Water Resources Yearbook, there were seven hydropower projects in operation in Guizhou Province. Of these seven, six projects are classified as small-scale (total installed capacity less than 50MW). These six projects are of a different size as com-	

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		pared to the Geli Bridge Hydropower Project (medium-scale) and have been excluded from the common practice analysis. The last project of the seven is the Yungui Xiangshui Hydropower Station, which is of medium-scale (100MW total installed capacity). Although this project is of a similar scale to the proposed project activity, it has already been eliminated due to the fact that it is 100% state-owned as compared to the privately-funded project activity. The 2007 China Water Resources Yearbook also provides information on hydropower projects on a provincial basis; however, the data presented in the 2007 yearbook is aggregated. Only the total number of hydropower projects and the total installed capacity for each province is provided. Thus, the best available project-specific information has been provided in the 2006 China Water Resources Yearbook. In conclusion, the Geli Bridge Hydropower Project is not common practice in Guizhou Province. Sub-step 4b Discuss any similar options that are occurring As discussed in sub-step 4a, there are no projects considered to be similar to the proposed CDM project activity because they either: a) Have been developed by 100% state-owned companies, which have in practice have benefited from financing advantages as compared to privately-owned companies, as compared to the privately-financed proposed project activity. State-owned projects typically do not face investment barriers	

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		due to government financial support in the form of equity and debt, and are typically located at optimal sites where construction costs are less and the returns are higher than the 8% power industry benchmark; and Are not of similar size as compared to the project activity (with the exception of Yungui Xiangshui Hydropower Station, which is of the same size, but has already been eliminated as being common on a financing basis). Second response (wrt follow-up 1): The Common Practice Analysis eliminates all hydropower projects in Guizhou Province identified in the 2006 China Water Resources Yearbook based on installed capacity and/or financing basis. The Yungui Xiangshui Hydropower Station, which is of medium-scale (100MW total installed capacity) and similar to the proposed project activity, was eliminated due to the fact that it is 100% state-owned as compared to the privately-funded project activity. As shown in the website http://www.gzdw.com.cn/show.aspx?id=5313, the Yungui Xiangshui Hydropower Station is funded by 3 government parties, Qujing City of Yunnan Province, Liupanshui City of Guizhou Province, and the Committee of the Pearl River under the Ministry of Water Resources, thereby demonstrating that the project is 100% state-owned. Hence, the Yungui Xiangshui Hydropower Station is eliminated as being common on a financing basis, and the Geli Bridge Hydropower Project is not common practice in Guizhou Province.	
Corrective Action Request No.10.	B.6.1.3	First response:	☒

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
As per Version 09 of ACM0002, please discuss the project emissions for this project. Is there any backup power equipment installed on site?		Section B.6. 1 in the PDD has been amended to include the following statement about project emissions: Project emissions (PE_y) calculations GHG emissions of this project equal zero because the power density is 70.42 W/m², which is above the threshold of 10 W/m², so as per the methodology, PE_y = 0. The methodology ACM0002 version 09 clearly states that project emissions for hydropower projects that are new, as is the case for the proposed project activity, are equal to zero. Therefore, emissions from any backup equipment are not included in the project emissions. As specified in Section B.7.2, Part 8. Emergency treatment of PDD version 4: <i>3) Under conditions of extreme nature (e.g., both the hydropower station and grid are unable to provide electricity to the motor): currently, the project owner is negotiating with the Grid company on installing a stand-by diesel generator, which will be used during extreme situations. The purpose for installing this equipment is to supply the motor at the dam and the equipment and instruments at the power station with electricity when an emergency situation occurs.</i> Since the diesel generator will only be used for backup purposes in case of an emergency under conditions of an extreme nature, this equipment would most likely only operate on a very occasional basis and for a limited time. Associated project emissions can be considered insignificant and not included in the project emissions calculations as per ACM0002 version 09.	Follow-up 1: ACM0002 (Version 09) indicates that project emissions have to be taken into account if there is any backup power on site (see my comment above regarding the project boundary). Please adjust the PDD accordingly. Follow-up 2: Project emissions from back-up power are now taken into account in the revised PDD and the relevant parameters and formulas were added. However, the applied tool should be included in the PDD in section B.1. Conclusion: All relevant and applied tools are correctly indicated in the PDD.

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		Second response (wrt follow-up 1): Section B.6.1 of the PDD version 6 has been amended to include the following statement about project emissions: <i>Project emissions (PE_y) calculations</i> Because the power density of the project is 70.42 W/m², which is above the threshold of 10 W/m², so as per the methodology, ACM002 version 9, the emissions from the reservoir are neglected. <u>Backup power project emissions</u> One backup diesel generator will be installed at the Geli Bridge Hydropower Project for use during emergency purposes only. Backup power project emissions (PE_{FC,j,y}) are calculated for the on-site backup diesel generator. Methodology ACM0002 version 9 states that PE_{FC,j,y} should be calculated using the “Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion”. In accordance with this Tool, CO₂ emissions from fossil fuel combustion are calculated based on the quantity of fuel combusted (i.e., the amount of diesel combusted by the backup generator in the proposed project activity) and the CO₂ emission coefficient of those fuels, as follows: $PE_{FC,j,y} = \sum_i FC_{i,j,y} \times COEF_{i,y}$ (1) Where: PE_{FC,j,y} : CO₂ emissions from fossil fuel combus-	

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		tion in process j during the year y (tCO₂/yr) $FC_{i,j,y}$: quantity of fuel type i combusted in process j during the year y (mass or volume unit/yr); $COEF_{i,y}$: CO₂ emission coefficient of fuel type i in year y (tCO₂/mass or volume unit); i are the fuel types combusted in process j during the year y. The CO₂ emission coefficient $COEF_{i,y}$ can be calculated using one of two options depending on the availability of data. We have opted to calculate $COEF_{i,y}$ based on Option B as public data is available: $COEF_{i,y} = NCV_{i,y} \times EF_{CO_2,i,y} \quad (2)$ Where: $COEF_{i,y}$: CO₂ emission coefficient of fuel type i in year y (tCO₂/tonnes); $NCV_{i,y}$: weighted average net calorific value of the fuel type i in year y (GJ/tonnes); $EF_{CO_2,i,y}$: weighted average CO₂ emission factor of fuel type i in year y (tCO₂/GJ); i are the fuel types combusted in process j during the year y.	

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion										
		Project emissions, PE_y, from the Geli Bridge Hydropower Project equal the sum of emissions from the reservoir and emissions from backup power. Third response (wrt follow-up 2): PDD Section B.1 has been updated to include the following: <i>“Tool to calculate project or leakage CO2 emissions from fossil fuel combustion” (version 02)</i>											
Clarification Request No. 5. From which source have the values for the EF-OM and EF-BM been taken?	B.6.1.5, B.6.3.3	First response: The parameters $EF_{grid, OM, y}$ and $EF_{grid, BM, y}$, which are taken from values determined by the Chinese DNA (NDRC), have been added to Section B.6.2 in PDD, as follows: <table><tr><td>Data / Parameter:</td><td>$EF_{grid, BM, y}$</td></tr><tr><td>Data unit:</td><td>tCO_2/MWh</td></tr><tr><td>Description:</td><td><i>Build margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system”</i></td></tr><tr><td>Source of data used:</td><td><i>Published by the Chinese DNA in December 2008</i></td></tr><tr><td>Value applied:</td><td>0.6816</td></tr></table>	Data / Parameter:	$EF_{grid, BM, y}$	Data unit:	tCO_2/MWh	Description:	<i>Build margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system”</i>	Source of data used:	<i>Published by the Chinese DNA in December 2008</i>	Value applied:	0.6816	☒ Follow-up 1: The data used to calculate the grid emission factor in the current PDD was not available at the commencement of validation (February 2007). The PP is therefore requested to amend the grid emission factor using data which was available at this date. Follow-up 2: Currently, the latest available data at the time of the commencement of the validation should be applied. Validation started in February 2007 with the first GSP, please clarify why you are using the 2008
Data / Parameter:	$EF_{grid, BM, y}$												
Data unit:	tCO_2/MWh												
Description:	<i>Build margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system”</i>												
Source of data used:	<i>Published by the Chinese DNA in December 2008</i>												
Value applied:	0.6816												

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response		Validation team conclusion
		<i>Justification of the choice of data or description of measurement methods and procedures actually applied :</i>	<i>Provided by government</i>	values, which were not available at this date? Conclusion: The emission factors in the latest PDD were the ones that were available at the commencement of the validation and were therefore considered as valid and appropriate.
		<i>Any comment:</i>	<i>N/A</i>	
		Data / Parameter:	<i>EF_{grid, OM, y}</i>	
		Data unit:	<i>tCO₂/MWh</i>	
		Description:	<i>Operating margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system"</i>	
		Source of data used:	<i>Published by the Chinese DNA in December 2008</i>	
		Value applied:	<i>1.0608</i>	
		<i>Justification of the choice of data or description of measurement methods and procedures actually applied :</i>	<i>Provided by government</i>	
		<i>Any comment:</i>	<i>N/A</i>	

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		Second response (wrt follow-up 1): The initial GSP for the Geli Bridge Hydropower Project occurred from February 1 to March 2, 2007. The Geli Bridge Hydropower Project was re-posted for GSP April 3 to May 2, 2009, due to significant changes in the PDD resulting from the application of a new version of ACM0002 (version 9). The Tool for determining grid emission factors requires that the emission factor is based on the most recent data available at the time of the submission of the CDM-PDD to the DOE for validation. Therefore the use of the current Grid Emission Factor (as published by the Chinese DNA in December 2008) is consistent with the use of ACM002 version 9 and re-posting of the PDD for GSP. The values for parameters $EF_{grid, OM, y}$ and $EF_{grid, BM, y}$, which are taken from values determined by the Chinese DNA (NDRC) published in December 2008, have been applied to each PDD version since the re-GSP of the project (i.e., PDD version 4 dated April 1, 2009, through the current version 6). These values published by NDRC and December 2008 are the latest version of the emission factors published at the time of the re-GSP, and have been applied similarly to subsequent PDD versions. Therefore, no change has been made to this PDD version to utilize emission factors from the initial GSP version. Third response (wrt follow-up 2): The initial GSP for the Geli Bridge Hydropower Project occurred from February 1 to March 2, 2007, which contained the following grid emission factors: $EF_{grid, OM, y} = 0.9823tCO_2e/MWh$, $EF_{grid, BM, y} = 0.5714tCO_2e/MWh$, and $EF_{grid, CM, y} = 0.7768tCO_2e/MWh$. The Grid Emission Fac-	

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion								
		tors published by the Chinese DNA on December 15, 2006 (refer to http://cdm.ccchina.gov.cn/WebSite/CDM/UpFile/2006/20061215144550669.pdf), were the most-recent available data at the time the project activity commenced validation, which is February 1, 2007, in accordance with the initial GSP. These Grid Emission Factors ($EF_{grid, OM, y} = 0.9853tCO_2e/MWh$, $EF_{grid, BM, y} = 0.5714tCO_2e/MWh$, and $EF_{grid, CM, y} = 0.7784tCO_2e/MWh$) have been applied to the PDD and CER calculations since the grid emission factor in the initial GSP referenced an incorrect value for $EF_{grid, OM, y}$ (0.9823 instead of 0.9853).									
Corrective Action Request No.11. The list is not quite complete and/or correct. In addition, please only discuss the parameters that are relevant for this project.	B.6.2.1, B.6.2.3, B.6.2.4,	The parameters GWP_{CH4} and $EG_{historical}$ have been removed from Section B.6.2. in PDD since these parameters are not relevant for this project.	☒ Yes, the parameters were removed from the revised PDD.								
Corrective Action Request No.12. Please include or revise all parameters that are indicated with a "No" in the following rows.	B.7.1.1, B.7.1.3,	First response: The parameter TEG_y has been added to Section B.7.1 in the PDD, as follows: <table><tr><td>Data / Parameter:</td><td>TEG_y</td></tr><tr><td>Data unit:</td><td><i>MWh</i></td></tr><tr><td>Description:</td><td><i>Total electricity produced by the project activity, including the electricity supplied to the grid and the electricity supplied to internal loads, in year y</i></td></tr><tr><td>Source of data to be</td><td><i>Calculated based on the</i></td></tr></table>	Data / Parameter:	TEG_y	Data unit:	<i>MWh</i>	Description:	<i>Total electricity produced by the project activity, including the electricity supplied to the grid and the electricity supplied to internal loads, in year y</i>	Source of data to be	<i>Calculated based on the</i>	☒ Follow-up 1: Please clarify why the value of TEG is the same as EG(out), although different values were indicated in other sections of the PDD. In addition, the missing parameters to calculate project emissions from the back-up diesel generators should be included in the list of monitored parameters.
Data / Parameter:	TEG_y										
Data unit:	<i>MWh</i>										
Description:	<i>Total electricity produced by the project activity, including the electricity supplied to the grid and the electricity supplied to internal loads, in year y</i>										
Source of data to be	<i>Calculated based on the</i>										

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response		Validation team conclusion
		<i>used:</i>	<i>sum of the electricity supplied to the grid (per direct measurement by the power generation company) and electricity consumed by the project (per meter readings)</i>	Conclusion: The values were revised and are now consistent with the latest PDD. The missing parameters were added to the monitoring section as per the applied tool.
		<i>Value of data applied for the purpose of calculating expected emission reductions in section B.5</i>	508GWh	
		<i>Description of measurement methods and procedures to be applied:</i>	<i>Electricity meters will measure the amount of power received from and exported to the grid continuously. The measurement data will be recorded monthly by plant staff. The data will be archived electronically and stored for two years after the end of the crediting period.</i>	
		<i>QA/QC procedures to be applied:</i>	<i>N/A (see QAQC for $EG_{out,y}$ and $E_{in,y}$).</i>	
		<i>Any comment:</i>	N/A	
		Second response (wrt follow-up 1): The value for $EG_{out,y}$ in Section B.7 of the PDD has been updated from 508GWh to 497.3GWh to be consistent with		

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion														
		the remainder of the PDD. The value for TEG_y listed in Section B.7 has been kept at 508GWh. The parameters FC_{i,j,y}, NCV_{i,y}, and EF_{CO2,l,y}, related to calculating backup power emissions, have been added to Section B.7.2, as follows: <table><tr><td>Data / Parameter:</td><td>FC_{i,j,y}</td></tr><tr><td>Data unit:</td><td>Mass or volume unit per year (t/yr or m³/yr)</td></tr><tr><td>Description:</td><td>Quantity of fuel type <i>i</i> combusted in process <i>j</i> during the year <i>y</i></td></tr><tr><td>Source of data to be used:</td><td>Fuel consumption backup generator</td></tr><tr><td>Value of data applied for the purpose of calculating expected emission reductions in section B.6</td><td>0.3757 t (diesel)/yr (estimate based on data (2008) provided by the project owner)</td></tr><tr><td>Description of measurement methods and procedures to be applied:</td><td>The backup diesel generator is used for backup purposes only during emergency events. Fuel consumption will be monitored by means of fuel purchase receipts and stock beginning/end reporting period.</td></tr><tr><td>Monitoring frequency:</td><td>Sales records for each fuel will be retained for each purchase. Stock variations</td></tr></table>	Data / Parameter:	FC _{i,j,y}	Data unit:	Mass or volume unit per year (t/yr or m ³ /yr)	Description:	Quantity of fuel type <i>i</i> combusted in process <i>j</i> during the year <i>y</i>	Source of data to be used:	Fuel consumption backup generator	Value of data applied for the purpose of calculating expected emission reductions in section B.6	0.3757 t (diesel)/yr (estimate based on data (2008) provided by the project owner)	Description of measurement methods and procedures to be applied:	The backup diesel generator is used for backup purposes only during emergency events. Fuel consumption will be monitored by means of fuel purchase receipts and stock beginning/end reporting period.	Monitoring frequency:	Sales records for each fuel will be retained for each purchase. Stock variations	
Data / Parameter:	FC _{i,j,y}																
Data unit:	Mass or volume unit per year (t/yr or m ³ /yr)																
Description:	Quantity of fuel type <i>i</i> combusted in process <i>j</i> during the year <i>y</i>																
Source of data to be used:	Fuel consumption backup generator																
Value of data applied for the purpose of calculating expected emission reductions in section B.6	0.3757 t (diesel)/yr (estimate based on data (2008) provided by the project owner)																
Description of measurement methods and procedures to be applied:	The backup diesel generator is used for backup purposes only during emergency events. Fuel consumption will be monitored by means of fuel purchase receipts and stock beginning/end reporting period.																
Monitoring frequency:	Sales records for each fuel will be retained for each purchase. Stock variations																

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response		Validation team conclusion
			<i>will be recorded at the beginning and end of each reporting period.</i>	
		<i>QA/QC procedures to be applied:</i>	-	
		<i>Any comment:</i>	<i>Diesel purchase receipts and storage records are not required if no diesel is combusted within the particular monitoring period. In such case, operation records are required for cross check.</i>	
		Data / Parameter:	$NCV_{i,y}$	
		Data unit:	GJ/tce	
		Description:	Net caloric value for fuel <i>i</i>	
		Source of data to be used:	China Energy Statistical Yearbook	
		Value of data applied for the purpose of calculating expected emission reductions in section B.6	42.652 GJ/tce (per China Energy Statistical Yearbook 2007, page 287)	
		Description of measurement methods and procedures to be applied:	Use of reliable local or national data.	
		Monitoring frequency:	Review appropriateness of	

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response		Validation team conclusion
			<i>the data annually.</i>	
		QA/QC procedures to be applied:	Check consistency of local/national data with default values by the IPCC. In case values differ significantly from IPCC default values, additional information will be collected.	
		Any comment:	-	
		Data / Parameter:	$EF_{CO_2,i,y}$	
		Data unit:	tCO ₂ /GJ	
		Description:	CO ₂ emission factor per unit of energy for fuel i	
		Source of data to be used:	IPCC 2006 default value as provided in table 1.4 of Chapter 1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories	
		Value of data applied for the purpose of calculating expected emission reductions in section B.6	0.0748 tCO ₂ /GJ (IPCC 2006 default value)	
		Description of measurement methods and procedures to be applied:	IPCC 2006 default value as provided in table 1.4 of Chapter 1 of Vol. 2 (En-	

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response		Validation team conclusion
			ergy) of the 2006 IPCC Guidelines on National GHG Inventories	
		Monitoring frequency:	Review appropriateness of the data annually.	
		QA/QC procedures to be applied:	-	
		Any comment:	N/A	
Clarification Request No. 7. According to the general manager's speaking, the proposed plant will be consigned to an operation entity after the commissioning, why it was not described in the PDD?	B.7.2.1	The project owner is in negotiations regarding subcontracting part of the operation of the station to a third party. The subcontracted operation of the station will include day-to-day operations of the station, such as meter reading, data recording, and initial preparation of the monthly power generation reports. The project owner is still responsible for the overall station management and operation, and is responsible for finalizing and submitting the power generation reports to the grid company. Hence, while the daily tasks associated with monitoring for CDM purposes will be conducted by the third party subcontractor, CDM monitoring and data recording will be overseen by the project owner. Tasks associated with the functioning of the station, whether they are completed by staff directly associated with the project owner or by subcontracted staff, is at the discretion of the project owner. Regardless of whether the staff who will conduct electricity meter monitoring and reporting functions as they relate to the CDM are directly associated with the project owner or subcontracted, they will be trained in accordance with the project's CDM monitor-		☒ The operational and management structure is clearly described in the revised PDD.

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		ing plan and conduct monitoring in accordance with this plan, as specified in the Section B.7.2 of the PDD. The monitoring tasks will be conducted in accordance with the monitoring plan, hence specific identification of the staff responsible is not needed within the PDD. The third party subcontractor has not yet been identified since the project owner is currently still in negotiations. Once the third party subcontractor is confirmed, relevant information will be provided to the DOE.	
Corrective Action Request No.13. The ownership of the meters should be clearly defined in the PDD. What is the accuracy of these meters?	B.7.2.2	First response: The project owner negotiates with the grid company the metering setup (i.e., number of meters, location, etc.). In referring to the metering figure in Part 3 of Section B.7.2 of the PDD, meters E1 (following the generator sets) and E2 (following the transformers) are owned by the project owner. Meters E3 and E4, which measure the amount of electricity used by the hydropower station and the amount exported to the grid, are owned by the grid company because these meters are located on the grid's main power transmission line. Part 3 of Section B.7.2 has been updated to reflect meter ownership. The accuracy of the meters are as follows: • Generator meters (E1): $\pm 0.2\%$ • Transformer meters (E2): $\pm 0.5\%$ • Meters on the line connecting to the grid (E3 and E4): $\pm 0.2\%$ Second response (wrt follow-up 1): Part 3 of Section B.7.2 has been updated to include the following: <i>Based on current negotiations between the project owner</i>	☒ Follow-up 1: Where is the accuracy indicated in the PDD? Conclusion: The accuracy is now included in the revised PDD. It could also confirmed that the ownership is finally clearly indicated in the revised PDD.

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		and the grid company, the accuracy of the meters are shown below. Note that the actual accuracy may differ from the estimated accuracy below since the meters have not yet been installed. • Generator meters (E1): $\pm 0.5\%$ • Transformer meters (E2): $\pm 0.5\%$ • Self-consumed electricity (ES): $\pm 0.5\%$ • Meters on the line connecting to the grid (E3 and E4): $\pm 0.2\%$ The accuracy of the meters has been updated from the accuracy listed in the First Response since the project owner is still in negotiations on metering with the grid company, which includes the type of meters to be installed. The accuracy of the actual meters will not be known until the meters are installed.	
Corrective Action Request No.14. The format of the day should be in line with the latest PDD requirements.	B.8.2	Section B.8 of the PDD has been revised to the following: <i>The date when the application of baseline and monitoring methodology is completed: 31/12/2006.</i>	☒ The correct format is applied in the latest PDD.
Corrective Action Request No.15. The starting date of the crediting period is indicated as 01/01/2010. However, the tables indicating the annual and overall emission reductions in the PDD start on 01/12/2009. This should be consistent.	C.2.1	Section C.2.1.1 in the PDD has been revised to the following to remain consistent with the annual and overall emissions reductions in the PDD: <i>01/12/2009, or date of registration, if later.</i>	☒ Yes, the revised content in the PDD is acceptable.
Clarification Request No. 8. According to the general manager's info, the compensation standard implemented in this proposed project needs to be provided to the DOE.	D.2.2	The following documents regarding resettlement and compensation have been provided to the DOE via electronic submission on 31 May 2009: • 20070711 Geli Bridge Resettlement Work and Compensation Agreement (cn).pdf	☒ The relevant documents regarding the resettlement and compensations were provided (for details see Annex

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		20070711 Geli Bridge Resettlement Work and Compensation Agreement (en) - P1, 4 and 6.doc 2007-2008 Geli Bridge Land Expropriation and Resettlement Compensation Receipts (cn).pdf	2).
Clarification Request No. 9. Please provide a copy of the bulletin and the meeting memos for further validation.	E.1.2	First response: The following documents regarding the stakeholder consultation meetings (held on 22 and 24 November 2006) have been submitted to the DOE via electronic submittal on 31 May 2009: - SHC held for city officials in Guiyang: 20061122 Dahuashui and Geli Bridge SHC Attendees List (cn).pdf - SHC held for villagers at Dahuashui site office: 20061124 Dahuashui and Geli Bridge SHC Attendees List (cn).pdf Second response (wrt follow-up 1): As noted within the PDD, relevant stakeholders were invited via bulletins, as well as personal invitations, to attend the stakeholder consultation meeting. The meeting was well-advertised as relevant stakeholders including workers from surrounding villages, the provincial EPB and DRC, and power company, attended the meeting and supported the project, as is evident from the meeting attendees list and pictures from the meeting in the PDD. The advertising materials were not retained as it was not a requirement to do so at the time of the consultation meeting, however, the advertising of the meeting was clearly successful in that the relevant stakeholders for the project attended and provided their views on the project.	☒ Follow-up 1: No copy of the bulletin was provided. The same list was provided twice (22/11/2006) although with a different file name. Please also provide the other one. In addition, is there any memo or other documentation that shows the opinions and discussions of the invited stakeholders? Conclusion: The relevant evidences were provided (see Annex 2). The inclusion and evaluation of the comments from relevant stakeholders could be confirmed. The date of November 2009 is a typo and should refer to 2006 as indicated in the provided documents.

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



Industrie Service

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
		The documents 20061122 Dahuashui and Geli Bridge SHC Attendees List (cn).pdf and 20061124 Dahuashui and Geli Bridge SHC Attendees List (cn).pdf that were submitted to the DOE on May 31, 2009 each contained the attendees list for both November 22 and 24, 2009. The SHC attendees list, while the same as either one of the aforementioned documents, is being resubmitted with the following file name for clarification: 20061122 and 20061124 Dahuashui and Geli Bridge SHC Attendees List (cn).pdf. In addition to the stakeholder consultation meeting, questionnaires were submitted to stakeholders, such as the villagers in the vicinity of the project, in order to collect more views on the project. The results of which have been detailed in Section E of the PDD and the questionnaires have been submitted to the DOE: • 20070413 Geli Bridge SHC Questionnaire_Jiangshan Village.pdf • 20070417 Geli Bridge SHC Questionnaire_Qiping Village.pdf • 20070418 Geli Bridge SHC Questionnaire_Maolizhuang Village.pdf The stakeholder consultations held on November 22 and 24, 2006, and the additional questionnaires completed by private households in the nearby villages, provide objective evidence that a very comprehensive stakeholder consultation was completed for the project.	

Validation Protocol

Project Title: Guizhou Qingshuihe Gelibridge Hydropower Project

Date of Completion: 29/09/2010

Number of Pages: 75



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
-	-	-

Validation of the CDM Project:
Guizhou Qingshuihe Gelibridge Hydropower Project



Industrie Service

Annex 2: Information Reference List

Annex 2	2010-09-29	Validation of the “Guizhou Qingshuihe Gelibridge Hydropower Project” Information Reference List	Page 1 of 7	 Industrie Service
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Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
1.	01/04/2009	The PDD of “Geli Bridge Hydropower Project”	Sindicatum Carbon Capital Ltd. (Sindicatum)	PDD for (Re-)GSP
2.	13/02/2009	“Consolidated baseline and monitoring methodology for grid-connected electricity generation from renewable sources ” (ACM0002/Version 09)	UNFCCC	
3.	26/08/2008	“Tool for the demonstration and assessment of additionality” (Version 05.2)	UNFCCC	
4.	29/07/2008	“Tools to calculate the emission factor for an electricity system“ (Version 01.1)	UNFCCC	
5.	05/02/2007; 21-23/04/2009	Participant lists of on-site interviews	TÜV SÜD	
6.	05/02/2007 and 21-23/04/2009	On-site interviews conducted by TÜV SÜD. Validation Team: Carl Zhou Jiangsu TÜV Product Service, Shenzhen Branch (2007 on-site) Charles Huang Jiangsu TÜV Product Service, Shenzhen Branch (2009 on-site) Interviewed Persons: Wang Dan Guizhou CDM technical consultation centre Ren Jin Guizhou CDM technical consultation centre Xiong Chang Guizhou CDM technical consultation centre Hui Shikui Guizhou Wujiang Qingshuihe Hydropower Development Co. Ltd. Fei Jing Guizhou Wujiang Qingshuihe Hydropower Development Co. Ltd. Cheng Guoliang Guizhou Wujiang Qingshuihe Hydropower Development Co. Ltd. Wang Yongquan Guizhou Wujiang Qingshuihe Hydropower Development Co. Ltd. Ge Haifu Guizhou Wujiang Qingshuihe Hydropower Development	TÜV SÜD	

Annex 2	2010-09-29	Validation of the “Guizhou Qingshuihe Gelibridge Hydropower Project” Information Reference List	Page 2 of 7	 Industrie Service
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Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
		Co. Ltd. Deng Suqing Guizhou Wujiang Qingshuihe Hydropower Development Co. Ltd. Fei Jing General Manager of Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd. Luo Yong Vice General Manager of Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd. Mei Xiao Planner of Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd. Stephanie Kwan Project Officer of Sindicatum Lei Xiaoyu CDM project assistant of Sindicatum Gareth Phillips Chief climate change officer of Sindicatum		
7.	August 2006	Feasibility Study Report “Geli Bridge Hydropower Project; GY107E No.0101 (First Draft Version)	Hydro China Guiyang Engineering Cooperation	IRR input data source; 8% benchmark; 0.2334 RMB/kWh average grid price
8.	04/06/2007	Approval of Feasibility Study Report “Geli Bridge Hydropower Project ”; Qian Fa Gai Neng Yuan (2007) No.701	DRC of Guizhou Province	
9.	01/06/2006	Letter of Intent on the CDM co-operation	Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd. and Sindicatum Carbon Capital Ltd.	Early CDM Consideration
10.	November 2006	Feasibility Study Report for Qingshuihe Geli Bridge Hydropower Station; Supplementary Report about Opinions of Examination (Part 14 Economic Assessment); No.: GY107E No. 0205	Hydro China Guiyang Engineering Corporation	0.259 RMB/kWh (excl. tax),
11.	20/03/2007	Order of Commencement – Dam Construction Start Permit	Sichuan Ertan International Engineering Consulting Co.,	

Annex 2	2010-09-29	Validation of the “Guizhou Qingshuihe Gelibridge Hydropower Project” Information Reference List	Page 3 of 7	 Industrie Service
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Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
			Ltd.	
12.	02/11/2006	Emission Reduction Purchase Agreement	Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd. and Sindicatum Carbon Capital	Early CDM Consideration
13.	September 2006	Environmental Impact Assessment Report for Guizhou Qingshuihe Geli Bridge Hydropower Station	Hydro China Guiyang Engineering Cooperation	
14.	27/09/2006	Approval letter of EIA; Qian huan han (2006); No.390.	Environmental Protection Bureau of Guizhou Province	
15.	09/09/2008	Supplementary Design for the Geli Bridge Hydropower Station Grid Connection System	Guizhou Power Grid Company and Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd.	
16.	2007	Land use approval for the project “Geli Bridge Hydropower Project”	Land Resource Bureau of Yunnan Province	
17.	07/12/2006	The Approval of Water and Soil Conservation Program; Qian Qing Si (2006) No. 06	Water Conservancy Bureau of Guizhou Province	
18.	04/06/2004	Compensation Agreement	Guizhou Immigration & Resettlement Office Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd.	
19.	n.a.	Compensation Standard Implemented	Local authorities	
20.	02/05/2005	Yungui Xiangshui Hydropower Station is funded by 3 government parties, Qujing City of Yunnan Province, Liupanshui City of Guizhou Province, and the Committee of the Pearl River under the Ministry of Water Resources; http://www.gzdw.com.cn/show.aspx?id=5313	Guizhou Power Grid Cooperation	Common practice

Annex 2	2010-09-29	Validation of the “Guizhou Qingshuihe Gelibridge Hydropower Project” Information Reference List	Page 4 of 7	 Industrie Service
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Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
21.	10/02/2002	The Notification on the Scheme of Electric Power System Reform	State Council of the People's Republic of China	
22.	06/02/2007	Permission for Starting Plant Construction (dam); ETI/SD8/010/2007	Sichuan Ertan International Engineering Consulting Co., Ltd.	
23.	January 2007	Dam Construction Contract of “Geli Bridge Hydropower Project”; Contract No. GLQ/C3-1	Sino Hydro 8 Engineering Bureau and Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd.	Project Starting Date
24.	January 2007	Diversion Tunnel Construction; Contract No. GLQ/C3-2	Jiangnan Hydropower Engineering Co. Ltd.	Project Starting Date
25.	May 2007	Contract of Dam Anti-seepage Curtain Grouting Engineering for Qingshuihe Geli Bridge Hydropower Station; Contract No.: GLQ/C3-3	Sino Hydro Foundation Engineering Co. Ltd.	
26.	10/06/2007	Turbine and generator purchasing agreement; GLQ-JD-02	Tianjing Tianfa Heavy Machinery and Hydropower Equipment manufacturing Co., Ltd. and Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd.	
27.	24/06/2008	Main transformer purchasing contract; GLQ/C6-D1-1	TBEA Hengyang Transformer Company	
28.	22/11/2006	Stakeholders' Comments both for the Guiyang City and the villagers including attendee list	Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd. and Sindicatum Carbon Capital	Stakeholder's Comments
29.	2002	Notice on Strictly Prohibiting the Construction of Fuel-fired Power Plants with Installed Capacity of 135MW or below.	General Office of State Council , P.R. China	

Annex 2	2010-09-29	Validation of the “Guizhou Qingshuihe Gelibridge Hydropower Project” Information Reference List	Page 5 of 7	 Industrie Service
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Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
30.	01/04/2009	IRR calculation sheet	Sindicatum Carbon Capital	
31.	2003	Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects	State Power	Benchmark Reference
32.	2003-2007	China Energy Statistical Yearbook	China Electricity Council	
33.	2003-2007	China Electric Power Yearbook	China Electricity Council	
34.	28/01/2010	MOC	Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd. and Sindicatum Carbon Capital	
35.	18/01/2008	LoA from China DNA; No. (2008)216	NDRC of China	
36.	01/02/2010	LoA from UK DNA; Ref: SCCL 01/2010	Department of Energy and Climate Change, UK	
37.	2006	China Water Resources Yearbook	China Electricity Council	
38.	2005	Notice from the Guizhou Price Bureau on the implementation of the coal and power price linkage and the alleviation of power price contradictions; Qian Price [2005] No. 80	Guizhou Price Bureau	0.2286 RMB/kWh (incl. tax)
39.	11/07/2007	Geli Bridge Resettlement Work and Compensation Agreement	Immigration office of Kaiyang County and Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd.	
40.	2007 - 2008	Geli Bridge Land Expropriation and Resettlement Compensation Receipts.	Immigration office of Kaiyang County and Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd.	
41.	01/11/1994	The Letter of Authorization for giving the Qingshuihe Cascade Power Development Right to the Guizhou Wujiang Power Development Company;	Guizhou Provincial General Office	

Annex 2	2010-09-29	Validation of the “Guizhou Qingshuihe Gelibridge Hydropower Project” Information Reference List	Page 6 of 7	 Industrie Service
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Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
		QianFuBanHan (1994) No.135		
42.	20/06/2007	The Request for the application of Dahuashui Hydropower Station Electricity Tariff by Guizhou Wujiang Qingshuihe Hydropower Development Company; QianQingSi (2007) No.23	Guizhou Wujiang Qingshuihe Hydropower Development Company	
43.	05/11/2007	Notice of Guizhou Commodity Price Bureau about the Tariff of the Feed-in Power to be Supplied to the Grid by Dahua Hydropower Station; QJG [2007] No. 197	Document of Guizhou Commodity Price Bureau	0.205 RMB/kWh (excluding tax)
44.	22/06/2007	Tool to calculate project or leakage CO2 emissions from fossil fuel combustion, Version 02	UNFCCC	
45.	13/04/2007	SHC Questionnaire Jiangshan Village		Stakeholder's Comments
46.	17/04/2007	SHC Questionnaire Qiping Village		Stakeholder's Comments
47.	18/04/2007	SHC Questionnaire Maolizhuang Village		Stakeholder's Comments
48.	24/11/2006	Stakeholders' Comments both for the Guiyang City and the villagers including attendee list	Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd. and Sindicatum Carbon Capital	Stakeholder's Comments
49.	31/05/2009	Engineering Investment Table	Construction Division, Geli Bridge Hydropower Station	Cross-check for IRR input values
50.	01/02/2010	The PDD of “Guizhou Qingshuihe Gelibridge Hydropower Project”	Sindicatum Carbon Capital Ltd. (Sindicatum)	Final PDD
51.	18/06/2009	Notice on the interim grid tariff for Zijiang and other hydropower stations in Kaiyang county (Qianjiage[2009]123	Price Bureau of Guizhou Province	Grid tariff of Zijiang hydropower station: 0.2374 RMB/kWh (including VAT)
52.	02/08/2007	Power purchase agreement for the Nanjiang hydropower station	Guizhou Kaiyang Xinglong Hydropower Co., Ltd. and grid	power price for Nanjiang project: 0.2184 RMB/kWh

Annex 2	2010-09-29	Validation of the “Guizhou Qingshuihe Gelibridge Hydropower Project” Information Reference List	Page 7 of 7	 Industrie Service
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Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
			company	(including VAT)
53.	June 2010	Explanation to Gelibridge Hydropower Station Investment Completion and the Total Investment Estimation	Finance Department of Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd.	Total investment cross-check
54.	June 2010	Total Investment Estimation of Geli Bridge Station Construction	Finance Department of Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd.	Total investment cross-check
55.	July 2010	CDM Pipeline	UNEP Risoe	
56.	June 2010	2010 Gelibridge Power Station Production Monthly Report	Guizhou Wujiang Qingshuihe Hydropower Development Co., Ltd.	Power production cross-check
57.	08/06/2010	Electricity quantity settlement	Guizhou Grid Company	Power production cross-check
58.	2006	Notice to the Adjustment of On-grid and Retail tariff of Guizhou Power Grid by GZ Price Bureau; http://www.gz12358.gov.cn/article.asp?id=12493	Guizhou Price Bureau	Tariff cross-check
59.	09/03/2010	Gelibridge Power Purchase Agreement	Guizhou Power Grid Company	Tariff cross-check
60.	25/09/2010	The PDD of “Guizhou Qingshuihe Gelibridge Hydropower Project”;: Version 09	Sindicatum Carbon Capital Ltd. (Sindicatum)	Final PDD (after register with corrections)