

UK AR6 CDM Validation Report Issue 4 CDM.VAL0838

VALIDATION REPORT

ENEL TRADE S.P.A

SICHUAN PINGSHAN PINGBIAN & GUANYINTUO HYDROPOWER STATION

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Page 1/59



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20/11/2008	CDM.VAL0838
Project Title:	
Sichuan Pingshan Pingbian & Guanyintuo Hydropower	Station
Organisation:	Client:
SGS United Kingdom Limited	Enel Trade S.p.A
Publication of PDD for Stakeholders Consultation	
Commenting Period:	From 11/04/07 until 10/05/07
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Summary:

Enel Trade S.p.A has commissioned SGS to perform the validation of the project: Sichuan Pingshan Pingbian & Guanyintuo Hydropower Station.

Methodology used: ACM0002: "Consolidated methodology for grid-connected electricity generation from renewable sources".

Version and Date: Version 06, 19/05/2006.

The scope of the validation is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. SGS has employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of CERs.

The report is based on the findings of document reviews, the stakeholder consultation process and responses from the project participants to the findings raised in this report.

The report and the annexed validation describes a total of 10 findings which include:

- 4 Corrective Action Requests;
- 6 New Information Requests; and

All of the above CARs and NIRs were successfully closed out and the project will be recommended to the CDM Executive Board with a request for registration.

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CDM Validaion				
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Abbreviations

CAR	Corrective Action Request
CCPG	Central China Power Grid
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
COP/MOP	Conference of Parties / Meeting of Parties
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board of the Clean Development Mechanism
EIA	Environmental Impact Assessment
GHG	Greenhouse Gas
IETA	International Emission Trading Association
IPCC	Intergovernmental Panel on Climate Change
IRR	Internal Rate of Return
LoA	Letter of Approval
MP	Monitoring Plan
MW	Mega Watt
NDRC	National Development & Reform Commission
NGO	Non Governmental Organization
NIR	New Information Request
NPV	Net Present Value
ODA	Official Development Assistance
PDD	Project Design Document
PDR	Preliminary Design Report
PP	Project Participant
SGS	Société Générale de Surveillance
UNFCCC	United Nations Framework Convention on Climate Change



Table of Content

1. \	/alidation Opinion	5
2. I 2.1 2.2 2.3 2.4	ntroduction Objective Scope GHG Project Description The Names and Roles of the Validation Team Members	6 6 6 7
3. N 3.1 3.2 3.3 3.4	Methodology Review of CDM-PDD and Additional Documentation Use of the Validation Protocol Findings Internal Quality Control	8 8 8 8 9
4. \ 4.1 4.2 4.3 4.4 4.5 4.6 4.7 4.8 4.9	/alidation Findings Participation Requirements Project Design Eligibility as a Small Scale Project Baseline Selection and Additionality Application of Baseline Methodology and Calculation of Emission Factors Application of Monitoring Methodology and Monitoring Plan Choice of the Crediting Period Environmental Impacts Local Stakeholder Comments	10 10 10 10 10 10 14 14 14 15
5. (5.1 5.2 5.3	Comments by Parties, Stakeholders and NGOs Description of How and When the PDD was Made Publicly Available Compilation of all Comments Received Explanation of How Comments Have Been Taken into Account	16 16 16 16
6. L	ist of Persons Interviewed	17
7. C	Document References	18

Annexes:

A.1	Annex 1: Local Assessment	20
A.2	Annex 2: Validation Protocol	21
A.3	Annex 3: Overview of Findings	53
A.4	Annex 4: Team Members Statements of Competency	58



1. Validation Opinion

SGS United Kingdom Ltd has been contracted by Enel Trade S.p.A to perform a validation of the project: Sichuan Pingshan Pingbian & Guanyintuo Hydropower Station in P. R. China.

The Validation was performed in accordance with the UNFCCC criteria for the Clean Development Mechanism (CDM) and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

SGS reviewed of the project design documentation, using a risk based approach and conducted follow-up interviews.

By operating Pingbian and Guanyintuo grid-connected hydropower stations with total installed capacity of 40 MW, the project activity will result in reductions of greenhouse gas emissions that are real, measurable and give long-term benefits to the mitigation of climate change.

In our opinion, the project meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria. The project correctly applies methodology ACM0002: "Consolidated methodology for grid-connected electricity generation from renewable sources", version 6. It is demonstrated that the project 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.

The total emission reductions from the project are estimated to be 1,052,632 tCO2e over a 7 year crediting period, averaging **150,376** tCO2e annually. The emission reduction forecast has been checked and it is deemed likely that the stated amount is achieved given the underlying assumptions do not change.

The project will hence be recommended by SGS for registration with the UNFCCC.

Signed on Behalf of the Validation Body by Authorized Signatory

iddhill

Signature:

Name: Siddharth Yadav Date: 24th November 2008



2. Introduction

2.1 Objective

Enel Trade S.p.A has commissioned SGS to perform the validation of the project: Sichuan Pingshan Pingbian & Guanyintuo Hydropower Station with regard to the relevant requirements for CDM project activities. The purpose of a validation is to have an independent third party assess the project design. In particular, the project's baseline, the monitoring plan (MP) and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of Certified Emission Reduction (CER). UNFCCC criteria refer to the Kyoto Protocol criteria and the CDM rules and modalities and related decisions by the COP/MOP and the CDM Executive Board.

2.2 Scope

The scope of the validation is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. SGS has employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of CERs.

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

2.3 GHG Project Description

This project comprises two hydropower stations, namely Pingbian Station (dam-diversion type with daily regulating capacity) and Guanyintuo Station (run-of-river type), each of which has the installed capacity of

20 MW respectively. The two hydropower stations are located in the Xining River Basin in Pingshan County, Yibin City, Sichuan Province, P.R.China. The generated electricity will be supplied to the Central China Power Grid (CCPG). The objective of the project is to generate power from clean renewable hydropower in Sichuan Province and contribute to the sustainability of power generation of the CCPG.

According to the approval of Preliminary Design Report (PDR), the construction period of the proposed project is planned as 31 months. The permission of begin construction to the proposed project was issued by local authority on 12/12/2006. As a consequence, the proposed project is planned to start commissioning in November 2008, and the crediting period is expected to start on 01/01/2009.

Baseline Scenario:

The project applies the approved consolidated baseline methodology ACM0002 version 6, "Consolidated methodology for grid-connected electricity generation from renewable sources", and complies with the applicability criteria of this methodology.

The project boundary is clearly defined as the site of the project activity and the electricity system boundary is defined as the CCPG including the Henan, Hubei, Hunan, Jiangxi, Sichuan and Chongqing grids. There are no significant transmission constraints between the power plants of the CCPG.

The baseline scenario of this project is that the electricity delivered to the CCPG 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 without the proposed project activity.

In accordance with ACM0002 version 6, the baseline emission factor is determined ex ante as a combined margin (CM) emission factor, i.e. the equally weighted average of the operating margin (OM) emission factor and the build margin (BM) emission factor.

The application of the baseline methodology is transparent and conservative.



Project Scenario:

The project mainly involves simultaneous construction of two hydropower stations with necessary dams and diversion tunnels etc.

The electricity generated by the Pingbian Station will firstly be transmitted to the Guanyintuo hydropower Station via an 110kV transmission line of 5km length. Subsequently, the combined electricity from the two hydropower stations will be exported in turn to the Oujia Village hydropower station via an 110kV transmission line, the Yibin Boxi transformer substation via an 110kV transmission line, Yibin Tianchi transformer substation via an 110kV transmission line, the CCPG.

The two hydropower stations of this project will be jointly operated, with the total installed capacity of 40MW. The total estimated average electricity supplied to the CCPG will be 154,303.5 MWh annually.

Leakage:

According to baseline methodology ACM0002 version 6, there is no need to consider Leakage (Ly) for the project.

Environmental & Social Impacts:

An Environmental Impact Analysis (EIA) for the project was carried out by Environmental Protection & Research Institute of Chengdu University of Science & Technology.

According to the EIA, the potential environmental impacts have been sufficiently identified. No significant environmental impacts are expected from the project activity. The project not involves immigrant. The EIA report was approved by Yibin Environmental Protection Bureau on 07/11/2005.

2.4 The Names and Roles of the Validation Team Members

Name	Role	Affiliate
Robin Wang Jing	Lead Assessor	SGS China
Sarah Ruan Sha	Lead Assessor	SGS China
Simon Zhao Xinguang	Assessor (Trainee)	SGS China
Niclo Deng Wei	Assessor (Trainee)	SGS China



3. Methodology

3.1 Review of CDM-PDD and Additional Documentation

The validation is performed primarily as a document review of the publicly available project documents. The assessment is performed by trained assessors using a validation protocol.

A site visit is usually required to verify assumptions in the baseline.

A site visit was performed on 18/05/2007 and the results are summarized in separate checklist as Annex 1.

Local staff was also involved to confirm statements in the PDD through direct interview with key stakeholders (including the project developers and representatives of local residents in the host country).

3.2 Use of the Validation Protocol

The validation protocol used for the assessment is partly based on the templates of the IETA / World Bank Validation and Verification Manual and partly on the experience of SGS with the validation of CDM projects. It serves the following purposes:

- it organises, details and clarifies the requirements the project is expected to meet; and
- it documents both how a particular requirement has been validated and the result of the validation.

The validation protocol consists of several tables. The different columns in these tables are described below.

Checklist Question	Ref ID	Means of verification (MoV)	Comment	Draft and/or Final Conclusion
The various requirements are linked to checklist questions the project should meet.	Lists any references and sources used in the validation process. Full details are provided in the table at the bottom of the checklist.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (Y), or a Corrective Action Request (CAR) due to non- compliance with the checklist question (See below). New Information Request (NIR) is used when the validation team has identified a need for further clarification.

The completed validation protocol for this project is attached as Annex A.1 to this report

3.3 Findings

As an outcome of the validation process, the team can raise different types of findings

In general, where insufficient or inaccurate information is available and clarification or new information is required the Assessor shall raise a **New Information Request (NIR)** specifying what additional information is required.

Where a non-conformance arises the Assessor shall raise a Corrective Action Request (CAR). A CAR

is issued, where:

- I. mistakes have been made with a direct influence on project results;
- II. validation protocol requirements have not been met; or
- III. there is a risk that the project would not be accepted as a CDM project or that emission reductions will not be verified.



The validation process may be halted until this information has been made available to the assessors' satisfaction. Failure to address a NIR may result in a CAR. Information or clarifications provided as a result of an NIR may also lead to a CAR.

Observations may be raised which are for the benefit of future projects and future verification or validation actors. These have no impact upon the completion of the validation or verification activity.

Corrective Action Requests and New Information Requests are raised in the draft validation protocol and detailed in a separate form (Annex A.2). In this form, the Project Developer is given the opportunity to "close" outstanding CARs and respond to NIRs and Observations.

3.4 Internal Quality Control

Following the completion of the assessment process and a recommendation by the Assessment team, all documentation will be forwarded to a Technical Reviewer. The task of the Technical Reviewer is to check that all procedures have been followed and all conclusions are justified. The Technical Reviewer will either accept or reject the recommendation made by the assessment team.



4. Validation Findings

4.1 Participation Requirements

The host Party for this project is P. R. China. China ratified the Kyoto protocol on 30/08/2002 and has appointed a DNA. CAR 2 was raised for the absence of the LoA from DNA of China. When the LoA issued by Chinese DNA on 07/11/2006 was received on 19/06/2007, CAR 2 is closed out.

Enel Trade S.p.A is identified as project participant from annex I Party Netherlands. Netherlands ratified the Kyoto Protocol on 31/05/2002 and has appointed a DNA. CAR 1 was raised for the absent LoA from DNA of Netherlands. When the LoA dated 17/03/2008 was received on 14/04/2008, CAR1 was closed out.

The validation did not reveal any information that indicates that the project can be seen as a diversion of the official development assistance (ODA) funding towards China.

4.2 Project Design

After reviewing the PDD, found the PDD correctly used template of Project Design Document version 3.1 in effect as of 28/07/2006 and exactly followed the guidance version 6 for CDM-PDD dated 28/07/2006.

The project comprises two hydropower stations, namely Pingbian Station (new reservoir type with daily regulating capacity 20MW) and Guanyintuo Station (run-of-river type 20MW) located in the Xining River Basin in Pingshan County, Yibin City, Sichuan Province, P.R. China. The total installed capacity is 40 MW, with expected annual average electricity of 154,303.5 MWh supplying to Central China Power Grid (CCPG).

The construction of the project was started on 18/12/2006. During the design period of the project, the incentive from CDM has been seriously considered and the relevant Board Meeting Minutes dated 18/05/2005 has been verified by SGS assessor.

4.3 Eligibility as a Small Scale Project

N/A

4.4 Baseline Selection and Additionality

The project employs the approved methodology ACM0002 version 6. As a grid-connected renewable power generation project, the project complies with the applicability criteria of the methodology as below:

- 1. Pingbian Station is a new hydro power project with reservoir having a power density of 25.8 W/m², which is greater than 10 W/m²; and Guanyintuo Station is a run-of-river type hydro power station.
- 2. The project does not involve switching from fossil fuel to renewable energy at the site of the project activity.
- 3. The electricity is proposed to be supplied to the CCPG, boundaries of which are clearly defined.

The additionality of the project, as required by ACM0002 version 6, is demonstrated by applying the "Tool for demonstration and assessment of additionality" version 4.

CAR 3 was raised because the applied additionality tool is not the latest version. After the latest version 4 of the additionality tool is applied in the PDD, CAR 3 is closed.

According to ACM0002 version 6, project participant identified all realistic and credible alternative scenario(s) to the project activity, and then excluded that is not compliance with current Chinese laws and regulations and that is limited by renewable energy resources availability in the region. According to the result of investment analysis of the Additionality Tool version 4 in the PDD Section B.5, the alternative of implementing the project without CDM revenue can be eliminated because of poor financial indicator. As a consequence, the last alternative is the baseline scenario, i.e. the equivalent electricity delivered to the CCPG by the project activity that would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources without the proposed project activity.



According to the Additionality Tool version 4, the benchmark analysis (Option III) is chosen to assess the financial feasibility based on the characteristic of the project.

The timeline of project has been provided in the PDD version 3.0 dated 19/11/2008.

Preliminary Design Reports (PDRs) of Pingbian and Guanyintuo hydropower station were completed in April, 2005;

The Power Connection Intent Agreement (PCIA) with a grid tariff of 0.22Yuan RMB/kWh was signed between the project owner and the grid company on 13/05/2005;

The Directorate decided to apply for CDM on 18/05/2005;

The Project owner entrusted an agency to find a proper cooperator on CDM application on 28/05/2005;

PDR of Pingbian hydropower station was approved on 01/06/2005;

The project owner trusted and confirmed Beijing Tianqing Power International CDM Consulting Co., Ltd to cooperate on CDM application of the project activity on 01/07/2005;

Beijing Tianqing Power International CDM Consulting Co., Ltd signed a General Framework Agreement for the Development of CDM projects with Climate Expert Ltd. on 24/10/2005;

PDR of Guanyintuo hydropower station was approved on 02/11/2005;

ENEL signed a Letter of Intent (LoI) to Tianging about the project on 24/11/2005;

The project owner and Tianqing Power signed CDM PDD Cooperation Agreement on 16/01/2006;

Approval of supporting CDM application was issued by local government on 12/05/2006;

The project owner held a stakeholders' consultancy meeting about CDM application of the project on 17/05/2006;

The project owner signed the Purchase Contracts of Turbines and Generators for Pingbian and Guanyintuo hydropower stations on 13/06/2006;

Following the clarification made at the EB41 meeting about the start date of a CDM project activity, which is the earliest date at which either the implementation or construction or real action of a project activity begins, the day (13/06/2006) on which the project owner signed the purchase contract of turbines and generators is considered as the start date of the project activity. As reported in Section 4.2 of the PDD, during the design period of the project, the incentive from CDM has been seriously considered and the relevant Board Meeting Minutes dated 18/05/2005 has been verified by SGS assessor.

The CDM approval of the project was issued by Chinese DNA on 07/11/2006;

Pingbian&Guanyintuo hydropower stations were approved to start construction on 18/12/2006;

The project participants have demonstrated that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation by providing reliable evidences mentioned above.

The benchmark IRR has been selected as 10% based on the benchmark revenue rate in the hydropower NO. [1995]186 documents of Ministry of Water Resources of the People's Republic of China. This document is the Revision of Economic Evaluation Code for Small Hydropower Project(SL16-95)., In this document, it is indicated that the total investment IRR of the hydropower project with the installed capacity less than 25MW should not be lower than 10%.

According to the "Bulletin of Valid Hydropower Technical Standard" issued in 2002 by the Ministry of Water Resources of the People's Republic of China, the Revision of Economic Evaluation Code for Small Hydropower Project(SL16-95) is still effective. The proposed CDM project activity comprises of two hydropower stations, namely Pingbian Station and Guanyintuo Station. Each of the two stations has an installed capacity of 20 MW, meaning that the benchmark IRR of 10% applies to the two hydropower stations according to the Revision of Economic Evaluation Code for Small Hydropower Project(SL16-95).

Based on the data in the Preliminary Design Report (PDR), the project IRR without CDM revenues is 7.82 % (Pingbian Station) and 7.56% (Guanyintuo Station) which is lower than the benchmark 10% and shows that the project is not financially attractive in the absence of CDM benefits. The selection of parameters and

Reference to Part of this Report Which may Lead to Misinterpretation is not Permissible.



calculation in the sensibility analysis were verified based on the IRR calculation spreadsheet and PDR. The sensitivity analysis is carried out with regards to the total investment, annual operation costs and grid tariff. It shows that even under the most advantageous circumstances, such as grid electricity tariff increases by 10%, and the static total investment and annual operational cost reduces by 10%, the project IRRs of Pingbian Station will not over 9.04% and of Guanyintuo Station will not over 8.66%, they are still below the benchmark. That is, the result of investment analysis based on the assumptions is valid with these variations.

The PDR for a project is an official document prepared by an independent third party. PDR will be checked by the relevant authorities before it is approved. The PDRs of the project were approved by the local government on 01/06/2005 and 02/11/2005 respectively. The investment decision was made on 13/06/2006. In accordance with the guidance of EB38 paragraph 54(a), it has been validated that the period of time between the finalization of the PDR and the investment decision is sufficiently short for us to confirm that it is unlikely in the context of the underlying project activity that the input values would have materially changed.

All input values except for grid price used in the IRR calculation of the project in the PDD are cited from PDRs of Pingbian and Guanyintuo. The PDRs of the project were prepared by Chengdu Hydropower Investigation Design & Research Institute, which is an independent third party entity accredited by the relevant national authority to carry out feasibility studies for new projects. Accreditation certificate for Chengdu Hydropower Investigation Design & Research Institute has been validated. The grid price of 0.22Yuan RMB/kWh has been validated to be from the Power Connection Intent Agreement (PCIA) signed on 13/05/2005 and the Power Connection Agreement (PCA) signed on 30/06/2005. PCA is an official agreement and it is considered as a reliable data source. In accordance with the guidance of EB38 paragraph 54(b), it has been validated that the values used in the IRR calculation in the PDD are fully consistent with the PDR and the value of grid price used in the IRR calculation is appropriate.

In accordance with the guidance of EB38 paragraph 54(c), the following was done to confirm that the input values from the PDR are valid and applicable at the time of the investment decision:

- The annual utilization hours of Pingbian and Guanyintuo used in the IRR calculation in the PDD are 4,705 and 4,580 respectively, both of which are calculated based on water resource data from 1966 to 2000. The possibility of dramatic variation of annual utilization hours during the crediting period from the estimation in the PDD is low.
- 2) The grid price used in the IRR calculation in the PDD has been validated to be from the Power Connection Intent Agreement (PCIA) signed on 13/05/2005 and the Power Connection Agreement (PCA) signed on 30/06/2005. PCA is an official agreement and it is considered as a reliable data source.
- 3) The value of total investment used in the IRR calculation in the PDD is 256,966,700 Yuan RMB. From the Investment for the Completed Projects of Pingbian&Guanyintuo Hydropower Stations, the total investment of the completed partial projects cost by the project owner is 300,350,000 Yuan RMB, higher than the value of total investment used in the IRR calculation in the PDD.
- 4) The annual operational cost used in the IRR calculation in the PDD is 2,872,100 Yuan RMB (Pingbian) and 3,104,000 Yuan RMB(Guanyintuo). As has been clarified in the response from the PP, the total number of employees during the construction period (112) is bigger than the number in the PDRs (74) and this number will be close to 74 after the construction has been finished; the rate of overhaul cost (1%) has been validated to be consistent with value in the SL16-95 evaluation code; other cost used in the IRR calculation in the PDD (24Yuan RMB/kW) has been validated to be consistent with the value in the Interim Regulations of Hydropower Construction Project Financial Evaluation; the welfare fund (14%) and the employee's insurance (26%) used in the IRR calculation has been validated to be in consistency with the values from the SL16-95 evaluation code and relevant regulations published by Chinese government; the water charge of hydropower station used in the IRR calculation in the PDD (0.001Yuan RMB/kWh) has been validated to be lower than the corresponding value (0.0025~0.005Yuan RMB/kWh) in the Inform of Adjustment on Collection Standard of Water Charge (Doc.: Chuanbanhan [2005]110) in Sichuan Province published by local government; the actual annual salary for the employees from the payroll records (18,000 Yuan RMB/Person, ie, 1,500RMB/Person/Month as shown in the payroll records for October, 2008) has been validated to be higher than the numbers used in the IRR calculation in the PDD (8,000 Yuan RMB/Person for Pingbian and 10,000 Yuan RMB/Person for Guanyintuo)



NIR 1 was raised to request the relevant data and documentation for financial analysis such as Preliminary Design Report (PDR), corresponding authority's approval and IRR spreadsheet etc. In addition, the documented evidence of early consideration of CDM incentives was also requested since the starting date of the project activity is before the date of validation. After those required documentations including IRR spreadsheet, Preliminary Design Report (PDR) with corresponding authority's approval having been presented and reviewed, NIR 1 is closed. The project participant also indicates in the PDD that except for the estimated grid price (with VAT), all the parameters used in calculating the IRR are derived from the PDR. PDR of Guanyintuo was made by a certified institute, Chengdu Design Institute of Water Conservancy & Hydro-electric Power, and was approved by Yibin Development and Reform Commission on 02/11/2005; PDR of Pingbian was made by the same entity and was approved by Yibin Development and Reform Commission on 01/06/2005. And the estimated grid price (with VAT) is adjusted to 0.22 Yuan RMB /kWh according to Grid Connection Agreement. All related materials have been checked by SGS assessors.

Other than aforementioned poor financial indicator, there are two barriers described in PDD:

- 1. Poor financial and investment environment due to no access of financing from national credit loan and local residents.
- 2. Uncertainty of electricity generation due to the unstable hydrological conditions and limitation from demands of local grid.

The above two barriers can be confirmed and they does not affect the baseline scenario.

CAR 4 was raised for improper demonstration on identification of "Technical Barriers" caused by increased cost of tunnels construction. This demonstration has been eliminated in this section in the updated PDD. Hence CAR 4 is closed.

NIR 2 was raised for improper demonstration on "Uncertainty of Grid Price" in previous version of PDD. Those unsubstantial identifications have been eliminated afterwards. Hence NIR 2 is closed.

Among the 10 hydro power projects with the installed capacity from 20MW to 50MW identified in Sichuan Province, most are developed by large electricity investment companies or state-owned organizations which have stronger financing competence and risk resistance capacities. The rest are privately developed, and are also applying CDM support due to the same investment barrier as the project activity. Therefore, the project activity cannot be considered as common practice in the area.

NIR 3 was raised to request detailed information of newly installed capacity of small hydropower stations comparable to the project in Sichuan Province for analysis. The detailed information of small hydropower projects which has the installed capacity no more than 50 MW has been supplemented in updated PDD. Hence, NIR 3 is closed.

In conclusion, based on the assessment of the arguments elaborated above, it deems that the project is not likely a baseline scenario and that emission reductions expected from the project are additional.

4.5 Application of Baseline Methodology and Calculation of Emission Factors

According to ACM0002 version 6, the baseline emission factor has been properly calculated in a transparent and conservative manner using combined margin (CM).

In final version 3.0 of the PDD, the data used in OM calculation is derived from China Energy Statistical Yearbook 2004 to 2006; the data used in BM calculation is derived from China Electric Power Yearbook 2003 to 2006 and the 2007 edition of Notification of Grids Emission Factor issued by Chinese DNA.

For the OM emission factor, the simple OM emission factor calculation method is selected because low-cost / must run projects constitute less than 50% of the total grid generation and data is not available for applying the dispatch data analysis. Following the CDM EB guidance, the average emission factor for the grid for each fuel type serving the CCPG is calculated ex-ante based on a 3 years full generation-weighted average of the most recent statistics available.

The simple OM emission factor is calculated as 1.2899 tCO₂ / MWh.

Following the EB's guidance and 2006 edition of Notification of Emission Factor issued by Chinese DNA, the BM emission factor is calculated as follow:



The capacity additions from the years 2002 to 2005 is chosen and reach 24.6% of total installed capacity;

The weight of installed capacity additions for thermal power plants is accounted for 69.52% of total installed capacity additions;

The data of standard fuel consumption defined as the best technology commercially available in China defined by Chinese DNA is derived from the 2006 edition of Notification of Emission Factor of Region Power Grid issued by Chinese DNA;

The local value of 29.27 GJ/t for standard coal equivalent, 25.8 tC/TJ for carbon content of coal and the IPCC 2006 default value of carbon oxidation factor of 100% are used to calculate the BM emission factor;

The BM emission factor is calculated as 0.6592 tCO_2 / MWh.

The weight of operating margin (OM) and build margin (BM) are selected as 0.5 and 0.5 respectively in line with ACM0002 version 6 for hydropower project. Thus the calculated ex-ante CM emission factor is 0.97455 tCO_2 / MWh, which is fixed for the first crediting period.

4.6 Application of Monitoring Methodology and Monitoring Plan

The PDD provides for monitoring of all applicable parameters of project emissions and baseline emissions in accordance with ACM0002 version 6, they are detailed in section B.7.1 of the PDD.

The net electricity supplied to the grid by the project will be measured continuously and recorded on a monthly basis. The data will be double checked against the relevant electricity sales receipt.

The project emissions are regarded as zero due to the power density of Pingbian Station is 25.8 W/m² (greater than 10 W/m²) and Guanyintuo Station is a run-of-river type hydro power station.

Leakage determination is not required in ACM0002 version 6 and is thus no need to be considered to the proposed project.

The monitoring organizations, calibration of monitoring equipment and procedures for data collection and management have been elaborated in the monitoring plan.

In the initial version of the PDD, the issues of procedures for training and internal review of the reported data were not addressed. The NIR 4 was raised. After these procedures required by ACM0002 version 6 having been supplemented in the updated PDD, NIR 4 is closed.

4.7 Choice of the Crediting Period

The Project Developer chooses a renewable crediting period, which will start on 01/01/2009, or on the date of registration of the CDM project activity, whichever is later. The first crediting period is 7 years. The expected operational lifetime is 20 and 30 years for the Pingbian and Guanyintuo hydropower stations respectively, both of which exceed the crediting period.

4.8 Environmental Impacts

An Environmental Impact Assessment (EIA) has been conducted according to Chinese laws and regulations. Being a hydropower project, the environment impact occurs mainly in the period of the construction stage. Measures to treat wastewater, solid waste and reduce impacts on ambient air, soil, water loss and Land Requisition etc in the construction period have been described in the PDD. No significant environmental impacts are expected from the project activity. The EIA has been approved by Yibin Environmental Protection Bureau in November 2005.

NIR 5 was raised to request EIA and corresponding approval from local EPA. The required documentations have been presented and found the conclusion of EIA is consistent with the description in the PDD that the negative environmental impact from the project is not significant and can be reduced to be a minimum after necessary protective measures are taken will have positive impact on local environment. Moreover, the permission to begin construction of the proposed project was also mentioned in the approval from local EPA. Hence NIR 5 is closed.



4.9 Local Stakeholder Comments

A stakeholder symposium was held at 8:00 am to 12:00 am in Yibin City on 17/05/2006. Totally 30 representatives from government, school, local villages attended this meeting. In order to ensure the potential stakeholders obtain the information of the meeting, the project proponent published a bulletin in Yibin Daily newspaper on 12/05/2006 and distributed questionnaires to local residents to investigate their opinions on the construction of the project.

In this meeting, the developer introduced the basic situation of the project, and the representatives discussed on issues of the project construction and parties' interests.

100% participants thought that the project construction would bring benefits to their lives and expressed full support to the construction of the project.

NIR 6 was raised to request original bulletin and questionnaires and other related documented records. The relevant documented records have been presented and reviewed. Hence NIR 6 is closed.



5. Comments by Parties, Stakeholders and NGOs

In accordance with sub-paragraphs 40 (b) and (c) of the CDM modalities and procedures, the project design document of a proposed CDM project activity shall be made publicly available and the DOE shall invite comments on the validation requirements from Parties, stakeholders and UNFCCC accredited non-governmental organizations and make them publicly available. This chapter describes this process for this project.

5.1 Description of How and When the PDD was Made Publicly Available

The Project Design Document for this project was made available on the SGS website <u>http://cdm.unfccc.int/Projects/Validation/DB/QNXMTQEVKGMGCN5V5GVMBRV0XP2CFE/view.html</u> and was open for comments from 11/04/2007 until 10/05/2007. Comments were invited through the UNFCCC CDM homepage.

5.2 Compilation of all Comments Received

Comment Number	Date Received	Submitter	Comment
1	11/04/2007	N/A	N/A

An anonymous comment with blank content was received. This comment is regarded as invalid.

5.3 Explanation of How Comments Have Been Taken into Account

This comment is regarded as invalid.



6. List of Persons Interviewed

Date	Name	Position	Short Description of Subject Discussed
18/05/200 7	Huang Mingqiang	Pingshan Zhongxing Electrometallurgy Co.,Ltd.	Preliminary Design Report (PDR)
18/05/200 7	Yang Yun	Pingshan Zhongxing Electrometallurgy Co.,Ltd.	Preliminary Design Report (PDR)
18/05/200 7	Luo Shifeng	Pingshan Zhongxing Electrometallurgy Co.,Ltd.	Construction
18/05/200 7	Huang Zhijun	Pingshan Zhongxing Electrometallurgy Co.,Ltd.	Construction
18/05/200 7	Liu Linchun	Pingshan Zhongxing Electrometallurgy Co.,Ltd.	Financing
18/05/200 7	Sun Yan	Pingshan Zhongxing Electrometallurgy Co.,Ltd.	Financing
18/05/200 7	He Zhongguang	Pingshan Zhongxing Electrometallurgy Co.,Ltd.	
18/05/200 7	Tang Xuemei	Beijing Tianqing Power International CDM Consulting Co., Ltd.	PDD
18/05/200 7	Carlo Ferrara	ENEL Trade S.p.A	
18/05/200 7	Yuan Mingqing	Resident of Pingbian Village of Pingbian County	Environment/SHC
18/05/200 7	Jian Jieke	Resident of Pingbian Village of Pingbian County	Environment/SHC
18/05/200 7	Wen Mingyuan	Resident of Pingbian Village of Pingbian County	Environment/SHC
18/05/200 7	Cheng Peiguang	Vice President of Pingshan County	Environment/SHC
18/05/200 7	Xu Xingyuan	Vice Director of Development & Reform Commission of Pingshan County	PDR approval
18/05/200 7	Yao lin	Vice President of EPA of Pingshan County	EPA approval



7. Document References

Category 1 Documents (documents provided by the Client that relate directly to the GHG components of the project, (i.e. the CDM Project Design Document, confirmation by the host Party on contribution to sustainable development and written approval of voluntary participation from the designated national authority):

- /1/ PDD, the following versions have been reviewed,
 - Version 1.0, dated 08/10/2006;
 - Version 2.0, dated 06/04/2007, used for public stakeholders' consultation;
 - Version 2.1, dated 19/06/2007;
 - Version 2.2, dated 25/04/2008;
 - Version 3.0, dated 19/11/2008.
- /2/ ACM0002 version 6, dated 19/05/2006;
- /3/ Tool for the Demonstration and Assessment of Additionality Version 04;
- /4/ Letter of Approval from DNA of China dated 07/11/2006;
- /5/ Letter of Approval from DNA of Netherlands dated 17/03/2008;
- /6/ Financial analysis spreadsheets of two hydro power stations

Category 2 Documents (background documents used to check project assumptions and confirm the validity of information given in the Category 1 documents and in validation interviews):

- 17/ Ex-ante Emission Reductions Spreadsheet
- /8/ Notification of Emission Factor of Region Power Grid issued by DNA of China on 09/08/2007.
- /9/ Environmental Impact Assessment for Pingbian and Guanyintuo carried out by Environmental Protection & Research Institute of Chengdu University of Science & Technology issued in June 2006 and corresponding approval of EIA from Yibin Environmental Protection Bureau issued on 07/11/2005
- /10/ Preliminary Design Report of the proposed project activity, compiled in April 2005
- /11/ Approval of Preliminary Design Report of Pinbian by Yibin Development and Reform Commission, dated 01/06/2005; and Approval of Preliminary Design Report of Guanyintuo by Yibin Development and Reform Commission, dated 02/11/2005.
- /12/ Board Meeting Minutes reflecting consideration of CDM, dated 18/05/2005
- /13/ Evidences of Public Invitations and Questionnaires for local stakeholders consultations
- /14/ "Economic Evaluation Code for Small Hydropower Project" issued by Ministry of Water Resources in 1995 (Document No. SL16-95)
- /15/ Application of Grid Connection of Electricity Generation and Notification of Grid Tariff, compiled in June 2005.
- /16/ 2006 IPCC Guidance for National Greenhouse Gas Inventories
- /17/ Notice of Strictly Prohibited the Installation of Fuel-fired Generators with the Capacity of 135 MW or below, issued by State Council Office, decree No.2002-6.
- /18/ Request for guidance: Application of AM0005 and AMS-I.D in China

http://cdm.unfccc.int/UserManagement/FileStorage/6POIAMGYOEDOTKW25TA20EHEKPR4D



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- /19/ Notification of Emission Factor of Region Power Grid issued by China DNA dated 09/08/2007 http://cdm.ccchina.gov.cn/web/NewsInfo.asp?newsId=1889
- /20/ Grid Connection Agreement signed on 30/06/2005.
- /21/ Chinese Water Conservancy Yearbook, 2006, p 563
- /22/ The total installed capacity of Sichuan Province is 14948.5MW, from page 411 of China Electric Yearbook, 2006.
- /23/ the Revision of Economic Evaluation Code for Small Hydropower Project(SL16-95) available from <u>http://www.cws.net.cn/guifan/bz/SL16-95/</u>
- /24/ Bulletin of Valid Hydropower Technical Standard issued in 2002 by the Ministry of Water Resources of the People's Republic of China
- (25) the Interim Regulations of Hydropower Construction Project Financial Evaluation
- /26/ relevant regulations published by Chinese government regarding employee insurance
- /27/ the Inform of Adjustment on Collection Standard of Water Charge (Doc.: Chuanbanhan [2005]110) in Sichuan Province published by local government
- /28/ the payroll records of the project for October, 2008
- /29/ General Framework Agreement signed between Beijing Tianqing Power International CDM Consulting Co., Ltd and Climate Expert Ltd.
- /30/ Letter of Intent (LoI) signed between Enel and Beijing Tianqing Power International CDM Consulting Co., Ltd dated 24/11/2005
- /31/ Cooperation Agreement signed between the project owner and Beijing Tianqing Power International CDM Consulting Co., Ltd dated 16/01/2006
- /32/ Approval of supporting CDM application issued by local government dated 12/05/2006
- /33/ Purchase Contracts of Turbines and Generators for Pingbian and Guanyintuo hydropower stations signed on 13/06/2006
- /34/ Approval for Pingbian&Guanyintuo hydropower stations to start construction issued by local government dated 18/12/2006
- /35/ CDM trust letter with Tianqin dated 01/07/2005

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A.1 Annex 1: Local Assessment

This checklist is designed to provide confirmation of in-country data and information provided in the Project Design Document for Sichuan Pingshan Pingbian & Guanyintuo Hydropower Station.

It serves as a "**reality check**" on the project that is completed by a local assessor from SGS China.

Issue	Findings	Source/Means of Verification	Further Action / Clarification / Information Required?
Please carefully verify the type of two hydro power stations and the scale of the dam or the reservoir which needs to be constructed.	By interviewing project owner and local authority during site visit, it is confirmed that the scale of the dam and the reservoir for the project is in line with the description in the PDD. The project emission can thus be regarded as ZERO.	Source: PDD, Feasibility Study Report (FSR), IRR spreadsheet Means of Verification: document review, site visit, stakeholder interview.	Not required.
Please carefully verify all original records of local stakeholder consultation process, identify the negative environmental impacts and if it has been taken into account by project developer.	Raw records of local stakeholder consultation have been verified, see NIR 6.	Source: PDD, Feasibility Study Report (FSR), IRR spreadsheet Means of Verification: document review, site visit, stakeholder interview.	Not required.



A.2 Annex 2: Validation Protocol

Table 1 Participation Requirements for Clean Development Mechanism (CDM) Project Activities (Ref PDD, Letters of Approval and UNFCCC website)

Requirement	Reference	Comments	Conclusion
 All Parties (listed in Section A3 of the PDD) have ratified the Kyoto protocol and are allowed to participate in CDM projects 	Marrakech Accords, CDM Modalities §30	Yes. China has ratified the Kyoto Protocol on 30/08/2002 and is allowed to participate in CDM projects (<u>http://maindb.unfccc.int/public/country.pl?</u> <u>country=CN</u>).	Y
		The Netherlands has ratified the Kyoto Protocol on 31/05/2002 and is allowed to participate in CDM projects (<u>http://maindb.unfccc.int/public/country.pl?</u> <u>country=NL</u>).	
2. The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3 and be entered into voluntarily.	Marrakech Accords, CDM Modalities §29 and §30 Refer. /5/	The Annex I Party involved is the Netherlands, which has nominated a DNA to the UNFCCC (<u>http://cdm.unfccc.int/DNA/index.html</u>). At the beginning of validation, LoA from Dutch DNA was not provided to SGS. CAR1 was raised.	Y
		LoA from Dutch DNA has been provided to SGS on 14/04/2008. CAR1 is closed out.	



	Requirement	Reference	Comments	Conclusion
3.	The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof, and be entered into voluntarily	Marrakech Accords, CDM Modalities §29 and §30 Kyoto Protocol Art. 12.2, Marrakech Accords, CDM Modalities	The Non-Annex I Party involved is China, which is also the host party. China has nominated a DNA to UNFCCC (<u>http://cdm.unfccc.int/DNA/index.html</u>). At the beginning of validation, LoA from Chinese DNA was not provided to SGS. CAR2 was raised.	Y.
		§40a Refer. /4/	LoA from Chinese DNA has been provided to SGS on 19/06/2007. CAR2 is closed out.	
4.	Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days, and the project design document and comments have been made publicly available	Marrakech Accords, CDM Modalities, §40	Yes. PDD has been made publicly available from 11/04/07 until 10/05/07 and comments were invited through the UNFCC website. One comment received and forwarded to client to address as yet, refer to <u>http://cdm.unfccc.int/Projects/Validation/D</u> <u>B/QNXMTQEVKGMGCN5V5GVMBRV0X</u> <u>P2CFE/view.html</u> . The comment is blank and can be regarded as invalid.	Y
5.	The project design document shall be in conformance with the UNFCCC CDM-PDD format	Marrakech Accords, CDM Modalities, Appendix B, EB Decisions Refer. /1/	Yes. Newest version 03.1 of the template has been used without modifying /adding headings or logo, format or font.	Y



Requirement	Reference	Comments	Conclusion
 The project participants shall submit a letter on the modalities of communication (MoC) before submitting a request for registration 	EB-09 F_CDM_REG form;	Yes. The project participants have submitted a letter on the modalities of communication (MoC) before submitting a request for registration.	Y
7. For AR projects, the host country shall have issued a communication providing a single definition of minimum tree cover, minimum land area value and minimum tree height. Has such a letter been issued and are the definitions consistently applied throughout the PDD?	N/A	N/A	N/A



Table 2 PDD

	Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
A. General De	escription of Project Activity					
A.1. Proje	ct Title					
A.1.1.	Does the used project title clearly enable to identify the unique CDM activity?	/1/	DR	Yes. The used project title clearly enables to identify the unique CDM activity.	Y	Y
A.1.2.	Are there an indication of a revision number and the date of the revision?	/1/	DR	Yes. There is an indication of a revision number and the date of the revision.	Y	Y
				Final PDD provided: version 3.0, dated 19/11/2008.		
A.1.3.	Is this in consistency with the time line of the project's history?	/1/	DR	Yes. It is in consistency with the time line of the project's history.	Y	Y
A.2. Desc	ription of the Project Activity					
A.2.1.	Is the description delivering a transparent overview of the project activities?	/1/	DR	Yes. The description of the project activity in Section A.2. of the PDD is delivering a transparent overview of the project activities.	Y	Y
A.2.2.	Is all information provided in compliance with	/1/,	DR,	Yes.	Y	Y
	actual situation or planning?	/12/	SV	Assumptions and figures with relevance on the baseline, monitoring and projections, such as design capacity and construction, are in compliance with actual situation.		
A.2.3.	Is all information provided consistent with details provided in further chapters of the PDD?	/1/	DR, SV	It will be OK pending all findings being closed out.	Pending	Y



	Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
A.3. Projec	t Participants					
A.3.1.	Is the table required for the indication of project participants correctly applied?	/1/	DR	Yes. The table required for the indication of project participants in Section A.3 of the PDD is correctly applied. China is indicated as the host party and the Netherlands is indicated as the Annex I party.	Y	Y
A.3.2.	Is all information provided in consistency with details provided by further chapters of the PDD (in particular annex 1)?	/1/	DR	It will be OK pending all findings being closed out.	Pending	Y



Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
A.4. Technical Description of the Project Activity					
A.4.1. Does the information provided on the location of the project activity allow for a clear identification of the site(s)? Are the latitude and longitude of the site	/1/	DR	Yes, the information provided on the location of the project activity allow for a clear identification of the sites. The latitudes and longitudes of the two sites are indicated clearly.	Y	Y
indicated (decimal points)			The project is located in the Xining River Basin, Pingshan County, Yibin City, Sichuan Province of P. R. China.		
			The Pingbian hydropower station is located at the confluence of the Yangsiba and Xining Rivers and the dam site is located at Baixiangkan. The exact location of plant site is at longitude of 103°42'11" East and latitude of 28°34'29" North and the exact location of dam site is at longitude of 103°42'05" East and latitude of 28°34'30" North.		
			The Guanyintuo Hydropower Station is located in the Village of Xiaxi on the right bank of the Manao River which is a branch of the Xining River. The exact location of the plant site is at longitude of 103°41'15" East and latitude of 28°39'40" North and the exact location of dam site is at longitude of 103°41'20" East and latitude of 28°37'10" North.		



	Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
A.4.2.	Do the project participants possess ownership or licenses which will allow the implementation of the project at that site / those sites?	/1/	DR, SV	Yes. Through document review and site visit, it is concluded that the one of the project participants, Pingshan Zhongxing Electrometallurgy Co., Ltd., possesses ownership which will allow the implementation of the project at the two sites.	Y	Y
A.4.3.	Is the category(ies) of the project activity correctly identified?	/1/, /2/	DR	Yes, the category is correctly identified as Scope 1: Energy industries (renewable -/ non- renewable sources) - Electricity generation from renewable energy.	Y	Y
A.4.4.	Does the project design engineering reflect current good practices?	/1/, /12/	DR	Yes. The project will generate electricity from renewable sources, which is environmentally safe and sound.	Y	Y
A.4.5.	Does the description of the technology to be applied provide sufficient and transparent input to evaluate its impact on the greenhouse gas balance and is the explanation how the project will reduce greenhouse gas emission transparent and suitable?	/1/	DR	Yes. The project will use renewable hydro sources, which is considered as zero emission, to generate electricity to alternate electricity from Central China Power Grid, most electricity of which is generated by coal-fired power plants. Thus, emission reduction can be reduced.	Y	Y
A.4.6.	Is all information provided in compliance with actual situation or planning as available by the project participants?	/1/	DR, SV	It will be OK pending all findings being closed out.	Y	Y
A.4.7.	Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	/1/, /12/	DR, Interne t	Yes. The project uses state of the art technology and the technology will result in a significantly better performance than any commonly used technologies in China.	Y	Y
A.4.8.	Is the project technology likely to be substituted by other or more efficient technologies within the project period?	/1/, /12/	DR, Interne t	No. It is unlikely for the project technology being substituted by other or more efficient technologies within the project period.	Y	Y



	Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
A.4.9.	Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	/1/	DR	Yes, extensive training is required, and the staff will receive training on monitoring requirements and procedures by Beijing Tianqing Power International CDM Consulting, Co., Ltd.	Y	Y
A.4.10.	Does the project make provisions for meeting training and maintenance needs?	/1/	DR	Beijing Tianqing Power International CDM Consulting, Co., Ltd. is responsible for initial training on CDM, monitoring methodology, monitoring procedures and requirements and archiving.	Y	Y
A.4.11.	Is a schedule available on the implementation of the project and are there any risks for delays?	/1/	DR	Yes, there is a schedule on the implementation of the project. Pingbian & Guanyinyuo hydropower stations are expected to start commissioning in November 2008. There is no indication of any risks for delay.	Y	Y
A.4.12.	Is the table required for the indication of projected emission reductions correctly applied?	/1/	DR	Yes. According to Section B.6.4 of the PDD, the table required for the indication of projected emission reductions is correctly applied.	Y	Y
A.5. Public	Funding					
A.5.1.	Does the information on public funding provided conform with the actual situation or planning as presented by the project participants?	/1/	DR, SV	It is verified through site visit and project financial document that there is no indication of public funding.	Y	Y
A.5.2.	Is all information provided consist with details provided by further chapters of the PDD (in particular annex 2)?	/1/	DR	Yes. It is clearly indicated in Annex 2 of the PDD that there is no public funding from Annex I parties available to the project.	Y	Y
A.5.3.	In case of public funding from Annex I Parties is it confirmed that such funding does not result in a diversion of official development assistance	/1/	DR	Through document review and site visit, it is concluded that there is no public funding from Annex I parties available to the project.	Y	Y



Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B. Baseline and Monitoring Methodology					
B.1. Choice and Applicability					
B.1.1. Is the baseline methodology previously approved by the CDM Methodology Panel?	/1/, /2/	DR	The Project uses ACM0002: "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", version 06, valid from 19/05/2006 to 13/12/2007, requests for registration can be submitted until 13/08/2008 23:59 GMT, refer to <u>http://cdm.unfccc.int/methodologies/DB/T978BR</u> <u>87OSXVDVGWPU6WDBZ2DZP7UL/view.html</u>	Y	Y
B.1.2. Is the baseline methodology the one deemed most applicable for this project?	/1/, /2/	DR	The Project is a grid-connected large scale project that generates electricity from renewable sources, not involving switching from fossil fuels to renewable energy at the site of the project activity. ACM0002 is the most applicable methodology.	Y	Y



Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.1.3. Is the choice of the methodology correctly justified by the PDD and is the project in	/1/, /2/	DR	The choice of the methodology is correctly justified in the PDD.	Y	Y
conformance with all applicability criteria of the applied methodology?			The Project is a hydropower project, using renewable resources. The power density of Pingbian power station is 25.8 W/m ² , which is greater than 4W/m ² , and the Guanyintuo hydropower station is a run-of-river hydro power plant. The Project is connected to a regional power grid, Central China Power Grid (CCPG). The geographic and system boundaries for the CCPG can be clearly identified and information on the characteristics of the grid is available. The Project does not involve switching from fossil fuels to renewable energy at the site of the project activity. Thus, it satisfies all applicability criteria of ACM0002, version 06.		
B.2. Project Boundary					
B.2.1. Are all emission sources and gasses related to the baseline scenario, project scenario and leakage clearly identified and described in a complete manner?	/1/, /2/	DR	Yes. As per ACM0002 version06, only CO_2 is included in the baseline scenario and no GHG emissions is considered in the project scenario and no leakage needs to be considered. The PDD is in compliance with methodology applied.	Y	Y
B.2.2. In case of grid connected electricity projects: Is the relevant grid correctly identified in accordance with EB guidance and the underlying methodology?	/1/, /2/	DR, Interne t	Yes. The Project is connected to CCPG. CCPG is determined as the Project Boundary as per ACM0002 version 06. Moreover, CCPG is also defined as a regional grid in accordance with the "Explain of confirming baseline emission factors of regional power gird in China" issued by China's DNA.	Y	Y



Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.2.3. Are the project's spatial boundaries (geographical) and the project's system boundaries (components and facilities used to mitigate GHGs) clearly defined?	/1/, /2/	DR	Yes, The Project sites and all power plants physically connected to CCPG are defined as the project boundary. The project boundary is clearly defined in B.3 of the PDD.	Y	Y
B.3. Identification of the Baseline Scenario					
B.3.1. Does the PDD discuss the identification of the most likely baseline scenario? Does the PDD follow the steps to determine the baseline scenario required by the methodology and is the application of the methodology and the discussion and determination of the chosen baseline transparent?	/1/, /2/	DR	Yes. The PDD discuss the identification of the most likely baseline scenarios in Section B.4 of the PDD, following the steps required by the methodology. According to ACM0002 version 06, as the Project does not modify or retrofit existing electricity generation facilities the baseline scenario is electricity delivered to the grid by the Project that would have otherwise been generated by the operation of grid- connected power plants and by the addition of new generation sources in the absence of the proposed project.	Y	Y
			The PDD determines the baseline scenario step by step and transparently.		



	Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.3.2.	Does the application consider all potential realistic and credible baseline scenarios in the discussion taking into account relevant	/1/, /2/	DR	Four potential realistic and credible alternatives to the Project activity are considered to investigate the baseline:	Y	Y
	national and/or sectoral policies, macro- economic trends and political aspirations??			1. The specific project activity undertaken without being registered as a CDM project activity;		
				2. Thermal power plant with equivalent annual power generation;		
				3. Other renewable energy power plant with equivalent annual power generation;		
				4. The equivalent annual electricity is supplied by the CCPG.		
B.3.3.	Is the choice of the baseline compatible with the available data?	/1/, /2/	DR	Yes. The choice of the baseline is compatible with the available data. All key assumptions are explained and information sources are clearly referenced. Sources are checked to ensure in- formation contained in the PDD is correct.	Y	Y
B.3.4.	Is conservativeness addressed in the way of identifying the baseline?	/1/, /2/	DR	The baseline selected provides the conservativeness in determining the emission reductions.	Y	Y
B.3.5.	Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?	/1/	DR	It will be OK pending all findings raised in the following B.4 being closed out.	Pending	ОК
B.4. Addit	ionality					
B.4.1.	Does the PDD clearly demonstrate the additionality using the approach as given by the methodology and by following all the required steps?	/1/, /2/, /3/	DR	It will be OK pending all findings raised in the following B.4 being closed out.	Pending	Y



	Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.4.2.	In case of using the additionality tool: Is the 'Additionality Tool' used in the PDD latest version? If an earlier version has been used, do the changes impact the discussion in the PDD? Are all steps followed in a transparent manner?	/1/, /3/	DR	The applied "Tool for the demonstration and assessment of additionality" in the PDD is not the latest version 04. CAR3 is raised.	CAR3	Y
B.4.3.	Is the discussion on additionality and the evidence provided consistent with the starting date of the project If the project has started before the validation is it discussed how the CDM was taken into account in the decision to go ahead with the project activity	/1/, /3/, /6/, /10/, /11/, /12/	DR	The starting date of the project is 13/06/2006, on which the Purchase Contracts of Turbines and Generators for Pingbian and Guanyintuo hydropower stations was signed, which is the earliest starting date of the project activity. It is earlier than the starting date of validation. NIR1 is raised for requiring relevant data and supporting documents e.g. IRR spreadsheet, PDR, local authority's approval, early consideration of CDM incentives before project starting date, loan contract etc.	NIR1	Y



Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.4.4. Is the discussion on additionality consistent with the identification all potential realistic and credible baseline scenarios	/1/, /3/,	DR	Yes. 4 realistic and credible alternatives to the Project activity are considered to investigate the baseline and discuss the additionality:	Y	Y
			1. The specific project activity undertaken without being registered as a CDM project activity;		
			2. Thermal power plant with equivalent annual power generation;		
			3. Other renewable energy power plant with equivalent annual power generation;		
			4. The equivalent annual electricity is supplied by the CCPG.		
B.4.5. Do the identified alternative include technologies and practices that include outputs (e.g) cement or services comparable with the proposed CDM project activity	/1/	DR	Yes. The identified alternative, Alternative 4, can provide comparable outputs with the proposed project.	Y	Y



Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.4.6. If an investment analysis has been used, has it been shown that the proposed project activity is economically or financially less attractive than at least one other alternative	/1/, /2/, /3/, /6/, /10/, /11/,	DR	The PDD chooses a Benchmark Analysis, as Simple Cost Analysis and Investment Comparison Analysis are not applicable to the Project.	NIR1	Y
without the revenue from the sale of CERs?			A benchmark of 10% of IRR is chosen for investment analysis of the project activity. Based on <i>The hydropower NO.</i> [1995]186 documents of Ministry of Water Resources of the People's Republic of China, the IRR of this project should not be lower than 10%.		
			The IRRs are only 7.82% and 7.56% for Pingbian and Guanyintuo hydropower stations respectively without CDM revenue.		
			NIR1 is raised for requiring relevant data and supporting documents e.g. IRR spreadsheet, PDR, local authority's approval.		
B.4.7. If a barrier analysis has been used, has it been shown that the proposed project activity faces barriers that prevent the implementation of this type of proposed project activity but would not have prevented	/1/, /2/, /3/	DR	CAR4 is raised as the increased investment costs described in PDD can not be seen as a technical barrier to the project, it is just a repetition of financial analysis.	CAR4	Y
the implementation of at least one of the alternatives?			NIR2 is raised for requesting evidence of treating "Uncertainty of Electricity Sale" and "Uncertainty of Grid Price" as financing barrier.	NIKZ	



	Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.4.8.	Has it been shown that the project is not common practice?	/1/, /3/	DR	The proportion of hydropower generation in Sichuan Province is above 60% in recent two years as per China Power Yearbook 2005 and 2006. Therefore, the local power information of newly installed capacity of small hydropower stations needs to be provided for Common Practice Analysis. NIR3 is raised.	NIR3	Y
B.4.9.	Is it demonstrated/justified that the project activity itself is not a likely baseline scenario	/1/, /3/, /6/, /10/, /11/, /12/	DR	Pending close out all NIRs /CARs.	Pending	Y
B.5. Applic	cation of the Baseline Methodology					
B.5.1.	Has the approved methodology been applied correctly for determining baseline emissions?	/1/, /2/	DR	The approved Consolidated methodology ACM0002 version 06 is applied correctly. The PDD uses the formulas as per the methodology.	Y	Y
				The baseline emission factor (EFy) is calculated as a combined margin (CM) emission factor, consisting of a 50 to 50 combination of operating margin (OM) and build margin (BM) emission factors.		
B.5.2.	Has the approved methodology been applied correctly for determining project emissions ?	/1/, /2/	DR	According to ACM0002 version 06, project emissions are not considered.	Y	Y
B.5.3.	Has the approved methodology been applied correctly for determining leakage ?	/1/, /2/	DR	According to ACM0002 version 06, leakage is not considered.	Y	Y



UK AU4 CDM Validation Protocol Issue 3.1 CDM.VAL0838

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.5.4. Where applicable, has the approved methodology been applied correctly for the direct calculation of emission reductions	/1/, /2/	DR	The methodology is applied exactly as defined for direct calculation of emission reductions. The PDD clearly states which equations will be used. All the required steps/calculations have been followed.	Y	Y
B.5.5. Have all the methodological choices been explained, have they been properly justified and are they correct	/1/, /2/	DR	Yes. The most relevant and likely operational characteristics and baseline indicators have been chosen as reference for baseline emissions.	Y	Y
			There are two baseline scenario choices in ACM0002 Version 06, as the Project does not modify or retrofit existing electricity generation facilities the baseline scenario is electricity delivered to the grid by the Project that 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) emission factor calculations in B.6.1 in the PDD.		
			When calculating OM emission factor, option simple OM is chosen, and the reason is discussed in the PDD.		
			When calculating combined margin emission factor, the BM weight and OM weight are chosen 0.5 to 0.5 by default.		
			The emission factor is fixed for the first crediting period by ex-ante calculation.		



Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.5.6. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	/1/, /2/	DR	Yes. The calculations and assumptions in the PDD are followed methodology and based on directions from Chinese DNA; all data sources are official. Thus the uncertainties are properly addressed.	Y	Y
B.6. Ex-ante Data and Parameters Used					
B.6.1. Are the data provided in compliance with the methodology?	/1/, /2/	DR	Data and parameters that are available at validation are listed in the PDD, in compliance with ACM0002, version 06. The Power Generation of Sources <i>j</i> in the years <i>y</i> (EGP _{<i>j</i>,<i>y</i>}), the rate of electricity consumption of thermal power plants of Province <i>m</i> in the years <i>y</i> (PR _{<i>y</i>}), and the Installed Capacity of Power Sources <i>j</i> in the years <i>y</i> (CAP _{<i>y</i>,<i>i</i>}) are derived from <i>China Electric Power Yearbook 2004-2006</i> . The Fuel <i>i</i> Consumption of Power Sources <i>j</i> in the years <i>y</i> (F _{<i>i</i>,<i>j</i>,<i>y</i>}) and NCV _{<i>i</i>} are derived from <i>China Energy Statistical Yearbook 2004-2006</i> . The <i>Emission Factor of</i> Fuel <i>i</i> in a mass or volume unit (EF _{CO2,<i>i</i>}), Oxidation Rate of Fuel <i>i</i> (OXID _{<i>i</i>}) are IPCC default values. The data of commercially available coal-fired, oil and gas power plant corresponding to the best practice in terms of efficiency is provided by Chinese DNA on its web site.	Y	Y



Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.6.2. Is all the data derived from official data sources or replicable records and have these been correctly quoted?	/1/	DR	Yes. All the data sources are from official data sources and have been correctly quoted. Where are these data derived from are listed in Section B.6.2 of the PDD. All the data sources are publicly available.	Y	Y
B.6.3. Is the vintage of the baseline data correct?	/1/	DR	The most recent data at the time of the PDD being made publicly available is used. China Energy Statistics Yearbook 2004-2006, China Electric Power Yearbook 2004-2006 and 2006 IPCC Guidelines for National Greenhouse Gas Inventories are the most recent data sources.	Y	Y
B.7. Calculation of Emissions Reductions					
B.7.1. Has the approved methodology been applied correctly for determining emission reductions ?	/1/, /2/	DR	How the methodology is applied has been clearly detailed in the PDD, together with all equations. And all required steps / calculations are checked being followed, using the PDD and a calculation spreadsheet. Thus it can be concluded that the methodology is applied exactly as defined; the PDD clearly states the equations used in calculating emission reductions; all the required steps/calculations have been followed.	Y	Y



	Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.7.2.	Are the emission reduction calculations documented in a complete and transparent manner?	/1/, /2/	DR	Yes, the emission reduction calculations documented in a complete and transparent manner. The PDD documents how each equation is applied, in a manner that enables the reader to reproduce the calculation.	Y	Y
				Based on ACM0002, project participant does not need to consider leakage in applying ACM0002 methodology, i.e. Ly=0.		
				ERy = BEy = EGy * EFy		
				EFy is calculated as combined margin with OM and BM both weighted 0.5.		
B.7.3.	Have conservative assumptions been used to calculate emission reductions?	/1/, /2/	DR	Yes, conservative assumptions have been used, e.g. in calculation of BM, the efficiency level of the best technology commercially available in the provincial/regional or national grid of China is used.	Y	Y
B.7.4.	Is the projection based on provable input parameter?	/1/, /2/	DR	Yes. All the data sources are from official data sources and have been correctly quoted.	Y	Y
B.7.5.	Is the projection based on same procedures as used for later monitoring or acceptable alternative models?	/1/, /2/	DR	Yes. The projection is based on same procedures as used for later monitoring or acceptable alternative models	Y	Y
B.7.6.	Is the calculation of the emission reduction correct?	/1/, /2/	DR	The application of the formulas to calculate emissions and emission reductions (the spreadsheets) is checked. The methodology is applied exactly as defined. The PDD clearly states the equations used in calculating emission reductions. The calculation of the emission reduction is correct.	Y	Y



	Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.8. Emiss	ion Reductions					
B.8.1.	Will the project result in fewer GHG emissions than the baseline scenario?	/1/, /2/, /3/	DR	Yes. The project results in reductions of GHG emissions when compared to the baseline; and the project can be reasonably shown to be different from the baseline scenario.	Y	Y
B.8.2.	Is the form/table required for the indication of projected emission reductions correctly applied?	/1/, /2/	DR	Yes. The form/table required for the indication of projected emission reductions is correctly applied	Y	Y
B.8.3.	Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period?	/1/, /2/	DR	Yes. The projection is in line with the envisioned time schedule for the project's implementation and the indicated crediting period. The project is expected to start commissioning in November 2008, and the crediting period is expected to start on 01/01/2009.	Y	Y
B.9. Monite	oring Methodology		·			
B.9.1.	Does the monitoring methodology provide a consistent approach in the context of all parameter to be monitored and further information provided by the PDD? Are all parameters and data that is available at validation consistent with the approved methodology	/1/, /2/	DR	In accordance with ACM0002 version 06, Electricity supplied by Pingbian hydropower station to the grid in year y, Electricity supplied to the grid by Guanyintuo hydropower station in year y, the electricity supplied by the grid to Pingbian hydropower station in year y, and the electricity supplied by the grid to Guanyintuo hydropower station in year y will be monitored.	Y	Y
				Data and parameters that are not monitored but determined at validation and remain are in accordance with ACM0002, version 06.		
				The description in the context is in compliance with that in Annex 4.		



Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.9.2. Does the monitoring methodology apply consistently the choice of the option selected for monitoring both of project and baseline emissions?	/1/, 2/	DR	Yes. Consistency checks have been made to the monitoring plan presented and the annex 4 of the PDD. The monitoring methodology applies consistently the choice of the option selected for monitoring both of project and baseline emissions	Y	Y
B.10. Data and Parameters Monitored					
B.10.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the emission reductions within the project boundary during the crediting period?	/1/, /2/	DR	Data will be archived at the end of each month using electronic spreadsheets. The electronic files will be stored on hard disk and CD-ROM. In addition, a hard copy printout will be archived. In addition, the project owner will collect electricity readings inform, sales invoice and purchases invoice as a cross-check. At the end of each crediting year, a monitoring report will be compiled detailing the metering results and evidence.	Y	Y
B.10.2. Are the choices of project GHG indicators reasonable and in conformance with the requirements set by the approved methodology applied?	/1/, /2/	DR	Yes. The requirements of approved methodology is checked and compared with the text in the PDD.	Y	Y
B.10.3. Will it be possible to determine the specified project GHG indicators?	/1/, /2/	DR	Yes, it is possible to determine the specified project GHG indicators.	Y	Y
B.10.4. Is the information given for each monitoring variable by the presented table sufficient to ensure the verification of a proper implementation of the monitoring plan?	/1/, /2/	DR	Yes. The information given for each monitoring variable by the presented table is sufficient to ensure the verification of a proper implementation of the monitoring plan.	Y	Y



Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.10.5. Is the information given for each monitoring variable by the presented table sufficient to ensure the delivery of high quality data free of potential for biases or intended or unintended changes in data records?	/1/, /2/	DR	Yes. The monitoring plan is verifiable of data quality and correctness. The information given for each monitoring variable by the presented table is sufficient to ensure the delivery of high quality data. Meter readings will be cross checked with invoices.	Y	Y
B.10.6. Is the monitoring approach in line with current good practice, i.e. will it deliver data in a reliable and reasonably acceptable accuracy?	/1/, /2/	DR	Yes. The monitoring plan is verifiable of high data quality. The monitoring approach is in line with current good practice.	Y	Y
B.10.7. Are all formulae used to determine project emission clearly indicated and in compliance with the monitoring methodology.	/1/, /2/	DR	Yes. Through checking PDD, methodology and the spreadsheets, all formulae used to determine project emission is clearly indicated and in compliance with the monitoring methodology.	Y	Y
B.11. Quality Control (QC) and Quality Assurance (QA) Proc	edures			
B.11.1. Is the selection of data undergoing quality control and quality assurance procedures complete?	/1/, /2/	DR	The verification of electric energy meter should be periodically carried out according to relevant national electric industry standards or regulations. Data will be archived at the end of each month using electronic spreadsheets. The electronic files will be stored on hard disk and CD-ROM. In addition, a hard copy printout will be archived. In addition, the project owner will collect electricity readings inform, sales invoice and purchases invoice as a cross-check. NIR4 is raised for requiring procedures for training of monitoring personnel, procedures for review of reported results / data, and procedures for project performance reviews before data is submitted for verification.	NIR4	Y



Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.11.2. Is the belonging determination of uncertainty levels done correctly for each ID in a correct and reliable manner?	/1/, /2/	DR	Yes. The uncertainty levels of crucial belonging and the metering equipment are well addressed as low because of regular calibrations.	Y	Y
B.11.3. Are quality control procedures and quality assurance procedures sufficiently described to ensure the delivery of high quality data?	/1/, /2/	DR	Yes. According to the annex 4 of the PDD, the quality assurance and quality control procedures for recording, maintaining and archiving data is an on-going process, which will be ensured through the CDM mechanism in terms of the need for verification of the emission on an annual basic according to PDD.	Y	Y
B.11.4. Is it ensured that data will be bound to national or internal reference standards?	/1/, /2/	DR	Yes. According to the Technical Administrative Code of Electric Energy Metering (DL/T448 - 2000), the electric energy metering equipment will be properly configured, and the metering equipment will be checked by both the project owner and the grid company before the project starts operation. Thus data will be bound to national or internal reference standards.	Y	Y
B.11.5. Is it ensured that data provisions will be free of potential conflicts of interests resulting in a tendency of overestimating emission reductions?	/1/, /2/	DR	Yes. Intended or unintended data manipulation can be excluded by use of Third Parties, certified data acquisition systems etc. thus data provisions will be free of potential conflicts of interests resulting in a tendency of overestimating emission reductions.	Y	Y



Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.12. Operational and Management Structure					
B.12.1. Is the authority and responsibility of project management clearly described?	/1/, /2/	DR	Yes, the authority and responsibility of project management is clearly described. The project owner will establish a specialized control centre for project monitoring. And a chief monitoring officer will be appointed by the project owner, who will be responsible for verification of the measurement, collection of electricity readings inform, sales invoice and purchases invoice, and the calculation of the emissions reductions.	Y	Y
B.12.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	/1/, /2/	DR	Yes, the authority and responsibility for registration, monitoring, measurement and reporting is clearly described, in the context and Annex 4 of the PDD.	Y	Y
B.12.3. Are procedures identified for training of monitoring personnel?	/1/, /2/	DR	Procedure for training of monitoring personnel is not mentioned in the PDD.	NIR4	Y
B.13. Monitoring Plan (Annex 4)	·				
B.13.1. Is the monitoring plan developed in a project specific manner clearly addressing the unique features of the CDM activity?	/1/, /2/	DR	Yes. The monitoring plan developed in a project specific manner is clearly addressing the unique features of the CDM activity.	Y	Y
B.13.2. Does the monitoring plan completely describes all measures to be implemented for monitoring all parameter required, including measures to be implemented for ensuring data quality?	/1/, /2/	DR	NIR4 is raised for requiring procedures for training of monitoring personnel, procedures for review of reported results / data, and procedures for project performance reviews before data is submitted for verification.	NIR4	Y
B.13.3. Does the monitoring plan provide information on monitoring equipment and respective positioning in order to safeguard a proper installation?	1/, /2/	DR	Yes, information on monitoring equipment and respective positioning are provided in the PDD.	Y	Y



Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.13.4. Are procedures identified for calibration of monitoring equipment?	/1/, /2/	DR	Yes, calibration procedures are mentioned.	Y	Y
B.13.5. Are procedures identified for maintenance of monitoring equipment and installations?	/1/, /2/	DR	Yes, procedures for maintenance of monitoring equipment and installations are identified.	Y	Y
B.13.6. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	/1/, /2/	DR	Yes, the procedures for day-to-day records handling are clearly described in B.7.2 of the PDD.	Y	Y
B.13.7. Are procedures identified for dealing with possible monitoring data adjustments and missing data allowing redundant reconstruction of data in case of monitoring problems??	/1/, /2/	DR	Yes, If inaccuracy of the reading data from the main meter has exceeded the allowable tolerance or otherwise the meter functioned will operate in one certain month, or any other unexpected problems, the grid-connected electricity generated by this proposed project shall be decided by reading backup meter. The procedures are clearly described in B.7.2 of the PDD.	Y	Y
B.13.8. Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	/1/, /2/	DR	Yes, internal audits procedures are in compliance with operational requirements.	Y	Y
B.13.9. Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?	/1/, /2/	DR	Yes, procedures for project performance reviews before data is submitted for verification are identified.	Y	Y
B.14. Baseline Details					
B.14.1. Is there any indication of a date when determine the baseline?	/1/, /2/	DR	Yes, date of completion of baseline study is 25/04/2008.	Y	Y
B.14.2. Is this in consistency with the time line of the PDD history?	/1/, /2/	DR	Yes, it is in consistency with the time line of the PDD history.	Y	Y



Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.14.3. Is all data required provided in a complete manner by annex 3 of the PDD?	/1/, /2/	DR	Yes, all data required is provided in annex 3 of the PDD.	Y	Y
C. Duration of the Project / Crediting Period					
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	/1/, /2/	DR	The starting date is 13/06/2006. The expected operational lifetime is 20 and 30 years for the Pingbian and Guanyintuo hydropower stations respectively.	Y	Y
C.1.2. 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/	DR	Yes. The assumed crediting time is clearly defined and reasonable as renewable crediting period of max 7 years with potential for 2 renewals.	Y	Y
C.1.3. Does the project's operational lifetime exceed the crediting period	/1/, /2/	DR	Yes, the projects operational lifetime, both of the two sites, exceed the crediting period.	Y	Y
D. Environmental Impacts					
D.1.1. Does the project comply with environmental legislation in the host country?	/1/, /2/, /9/	DR	Yes, According to the relevant environmental law and regulations, an environmental impact assessment had been carried out, and has been approved on Nov. 7th, 2005 by the Environmental Protection Bureau of Yinbin City.	Y	Y
D.1.2. Has an analysis of the environmental impacts of the project activity been sufficiently described?	/1/, /2/	DR	Yes, an analysis of the environmental impacts of the project activity has been sufficiently de- scribed. Environmental impacts during the construction and operation period are sufficiently described.	Y	Y
D.1.3. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	/1/, /2/, /9/	DR	NIR5 is raised for requiring EIA and approval.	Y	Y



Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
D.1.4. Will the project create any adverse environmental effects?	/1/, /2/, /9/	/1/, /2/, /9/DRAll of project participants and host party involved considered that there is little negative environmental impact of this proposed project.		Y	Y
D.1.5. Are transboundary environmental impacts considered in the analysis?	/1/, /2/	/1/, /2/ DR Yes. Trans-boundary environmental impacts, fo example, air pollution, wastewater and noise, etc., has been analysed.			Y
D.1.6. Have identified environmental impacts been addressed in the project design?	. Have identified environmental impacts been difference addressed in the project design?				
E. Stakeholder Comments					
E.1.1. Have relevant stakeholders been consulted?	/1/, /2/, /13/	DR	NIR6 is raised for requiring evidence of stakeholders' consultation.	NIR6	Y
E.1.2. Have appropriate media been used to invite comments by local stakeholders?	/1/, /2/, /13/	DR	A stakeholders' consultation meeting has been held. The project owner published a bulletin in the Yibin Daily newspaper on May 12, 2006, and also on website to ensure the potential stakeholders obtain the information on the meeting. At the meeting, the project owner and the consultant invited the participants to express their concerns and comment concerning the project and the CDM.	Y	Y
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?		DR	Yes, stakeholders' consultation has been held on 17/05/2006.	Y	Y
E.1.4. Is the undertaken stakeholder process described in a complete and transparent manner?	E.1.4. Is the undertaken stakeholder process described in a complete and transparent manner?				Y



Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
E.1.5. Is a summary of the stakeholder comments received provided?	/1/, /2/, /13/	DR	Yes, the summary of the stakeholder comments received is described in the PDD.	Y	Y
E.1.6. Has due account been taken of any stakeholder comments received?	/1/, /2/, /13/	DR	Given the generally positive (or neutral) nature of the comments received, no action has been taken to address the comments received.	Y	Y



UK AU4 CDM Validation Protocol Issue 3.1 CDM.VAL0838

Table 3Additional Requirements for AR Projects

N/A



References

Reference ID	Title / Description	Comments
/1/	PDD, the following versions have been reviewed,	
	- Version 1.0, dated 08/10/2006;	
	- Version 2.0, dated 06/04/2007, used for public stakeholders' consultation;	
	- Version 2.1, dated 19/06/2007;	
	- Version 2.2, dated 25/04/2008;	
	- Version 3.0, dated 19/11/2008.	
/2/	ACM0002 Version 06, dated 19/05/2006.	
/3/	Tool for the Demonstration and Assessment of Additionality Version 04.	
/4/	Letter of Approval from DNA of China dated 07/11/2006.	
/5/	Letter of Approval from DNA of Netherlands dated 17/03/2008.	
/6/	Financial analysis spreadsheets of two hydro power stations;	
/7/	Ex-ante Emission Reductions Spreadsheet.	
/8/	Notification of Emission Factor of Region Power Grid issued by DNA of China on 09/08/2007.	
/9/	Environmental Impact Assessment for Pingbian and Guanyintuo carried out by Environmental Protection & Research Institute of Chengdu University of Science & Technology issued in June 2006 and corresponding approval of EIA from Yibin Environmental Protection Bureau issued on 07/11/2005.	
/10/	Preliminary Design Report of the proposed project activity, compiled in March 2005.	
/11/	Approval of Preliminary Design Report of Pinbian by Yibin Development and Reform Commission, dated 01/06/2005; and Approval of Preliminary Design Report of Guanyintuo by Yibin Development and Reform Commission, dated 02/11/2005.	
/12/	Board Meeting Minutes reflecting consideration of CDM, dated 18/05/2005.	
/13/	Evidences of Public Invitations and Questionnaires for local stakeholders consultations.	
/14/	"Economic Evaluation Code for Small Hydropower Project" issued by Ministry of Water Resources in 1995 (Document No. SL16-95).	



Reference ID	Title / Description	Comments
/15/	Application of Grid Connection of Electricity Generation and Notification of Grid Tariff, compiled in June 2005.	
/16/	2006 IPCC Guidance for National Greenhouse Gas Inventories.	
/17/	Notice of Strictly Prohibited the Installation of Fuel-fired Generators with the Capacity of 135 MW or below, issued by State Council Office, decree No.2002-6.	
/18/	Request for guidance: Application of AM0005 and AMS-I.D in China	
	http://cdm.unfccc.int/UserManagement/FileStorage/6POIAMGYOEDOTKW25TA20EHEKPR4DM	
/19/	Notification of Emission Factor of Region Power Grid issued by China DNA dated 09/08/2007	
	http://cdm.ccchina.gov.cn/web/NewsInfo.asp?NewsId=1889.	
/20/	Grid Connection Agreement signed on 30/06/2005.	
/21/	Chinese Water Conservancy Yearbook, 2006, p 563	
/22/	The total installed capacity of Sichuan Province is 14948.5MW, from page 411 of China Electric Yearbook, 2006	



A.3 Annex 3: Overview of Findings

Findings Overview

Findings from validation of Sichuan Pingshan Pingbian & Guanyintuo Hydropower Station Each Table below represents a finding from the validation assessment. The findings are numbered consecutively, approximately in the order that they have been identified. Description of Table:

Type

уре	Findings are either New Information Requests (NIR) or Corrective Action Requests (CAR).
	CARs are items that must be addressed before a project can receive a recommendation
	for registration. NIRs may lead to the raising of CARs. Observations are included at the
	end and may or may not be addressed. They are primarily to act as signposts for the
	verifying DOE.
	Details the content of the finding

Issue Details the content of the finding

Ref Refers to the item number in the Validation Protocol

Response Please insert response to finding, starting with the date of entry.

Rows for comments and further response will be appended to the table until the Findings has been addressed to the satisfaction of the Lead Assessor.

Please Note: This is an open list and more findings may be added as validation progresses.

Date:	10/05/2	2007		Rais	sed by:	Elton Chen, Robin Wang					
No.:	1	Type:	CAR1	Issue	LoA				Ref.:	2	
				:							
Lead A	Assesso	r Comm	ent:				Date: 10/05/20	07			
ENEL Trade SpA as the participant from Annex I country the Netherlands. No Letter of Approval from the											
DNA of the Netherlands has been provided yet.											
Project Participant Response: Date: 14/04/2008											
LoA from DNA of Netherlands is submitted to the DOE.											
Accep	tance ar	nd Close	out by Le	ead Asse	essor:		Date: 14/04/20	28			
Inform	ation Pr	ovided:					Verified Document Reference:				
LoA fro	om Dutc	h DNA.					Refer. /5/, Letter of Approval from				
Inform	ation Ve	erified:					DNA of Netherlands dated				
The Lo	oA from	Dutch D	NA has b	een verif	ied.			17/03/2	2008.		
Reaso	Reasoning for not acceptance or acceptance and close out:										
LoA from DNA of Netherlands is received and checked. CAR is closed out.											

Date:	10/05/	2007		Rais	sed by:	Elto	n Chen, Robin W	/ang			
No.:	2	Type:	CAR2	Issue	LoA				Ref.:	3	
				:							
Lead Assessor Comment:							Date: 10/05/2007				
China is listed as host country. No Letter of Approval has been provided yet.											
Project Participant Response:							Date: 05/06/2007				
I had provided it to you in another document during on-site visit.											
Accep	tance ar	nd Close	out by Le	ead Asse	ssor:		Date: 19/06/2007				
Information Provided:								Verified Document Reference:			
LoA from Chinese DNA.							Refer. /4/, Letter of Approval from				
Information Verified:								DNA of	China	dated 07/11/2006.	
LoA from Chinese DNA has been verified.											



Reasoning for not acceptance or acceptance and close out: The LoA issued by Chinese DNA on Nov 7, 2006 has been obtained. CAR is closed.

Date:	10/05/	2007		Rais	sed by:	Elto	n Chen, Robin V	Vang			
No.:	3	Type:	NIR1	Issue	Releva	ant da	ta and documen	ts	Ref.:	B.4.6	
				:	suppor	rting II	RR calculation a	nd			
	early consideration of CDM.										
Lead A	Lead Assessor Comment: Date: 10/05/2007										
Releva	ant data	and sup	porting do	ocument	s e.g. IR	R spr	eadsheet, PDR,	local aut	thority's	approval, early	
consid	eration	of CDM	incentives	s before	project s	startin	g date, loan cont	ract etc	need to	be provided.	
Project	Project Participant Response: Date: 05/06/2007										
I had p	rovided	the Loc	al NDRC'	s approv	al, early	cons	ideration of CDM	1 incentiv	/es befo	re project starting	
date, lo	oan con	tract to y	ou in the	docume	nts durir	ng on-	-site visit. And se	nd you tl	he Preli	minary Design	
Report	when t	ack to E	Beijing, an	d now se	end the I	eft IR	R spreadsheet to	o you.			
Lead A	ssesso	r Comm	ent:		· · · -		Date: 03/07/20	07			
The co	py of P	DR, loca	I NDRC's	approva	I and IR	R spr	eadsheet have b	peen rece	eived ar	nd checked.	
In addi	ition, the	e copy of	Board M	eeting M	inutes o	of Pins	shan Zhongxing I	Electrom	etallurg	y Co., Ltd dated	
18/05/2	2005 ha	s been p	presented	, it has th	hus beer	n dem	ionstrated that th	ie projec	t propor	nent took CDM into	
consid	eration	was beto	ore the sta	arting da	te of pro	ject c	Onstruction on 18	8/12/200	б. 		
Accord	ling to ti	ne latest		y Law of	the Peo	pie's	Republic of Chin	a, statuto	ory weit	are reserve has been	
Cancel	lea, so	baramet		RR sprea	adsneet	need	s to be revised.	77			
Projec	l Partici	d the et	sponse:	lforo roo		the ID	Date: 17/07/20	J/	aver be	action the statistican	
welfor			mall that	horo io r			R calculation sh	eet, now	ever, be book in	the IPP choot	
Accord						ying ii	Dete: 02/08/20	piease c	HECK III		
Inform	ation Dr	lu Close		au Asse	5501.		Dale. 03/06/20	Vorified		aant Doforanaa:	
	Alion Fi			oodeboo	t Board	Moot	ting Minutos	Pofor	/6/ Eina		
Inform	ation Ve	rified.	, int spi	eaushee	i, buaru	INICCI	ing minutes.	spread	choote (of two bydro power	
The inf	formatio	n provid	ad was ve	arified th	rough re	viowi	na reference	spreadsneets of two hydro power			
docum	ente	in proviu		sinica un	oughie		ng reletence	Refer /10/ Preliminary Design			
uocum	CIII3.							Report of the proposed project			
								activity compiled in March 2005			
								Refer	/11/ An	proval of Preliminary	
								Design	Report	of Pinbian by Yibin	
								Develo	pment a	and Reform	
								Commi	ssion d	lated 01/06/2005 [.]	
								and Ap	proval c	of Preliminary Design	
								Report	of Guar	nvintuo by Yibin	
								Develo	pment a	and Reform	
								Commi	ssion. d	lated 02/11/2005:	
								Refer.	/12/. Bo	ard Meeting Minutes	
								reflectin	na cons	ideration of CDM.	
dated 18/05/2005									005.		
Reaso	ning for	not acce	eptance o	r accepta	ance and	d clos	e out:				
The re	levant d	ata or de	ocumenta	tions hav	ve been	subm	nitted. The IRR c	alculatior	n is four	nd properly. Project	
propor	nent too	k CDM ir	nto consid	leration l	before th	ne sta	rting date of proj	ect const	truction	on 18/12/2006. NIR	
1 is clo	osed out										

Date:	10/05/2	2007		Rais	sed by: Elto	n Chen, Robin Wang		
No.:	4	Type:	CAR3	Issue	ue The latest version of the			B.4.2
				:	Additionality	tool		
Lead Assessor Comment:						Date: 10/05/2007		
The ap	plied ac	ditionali	ty tool is r	not the la	atest version.			



Project Participant Response:	Date: 06/05/2008				
We had revised it based on version 4.					
Acceptance and Close out by Lead Assessor:	Date: 06/05/200	08			
Information Provided:		Verified Document Reference:			
Data and description		Refer. /1/, PDD, Version 2.2, dated			
Information Verified:		25/04/2008;			
The information provided was verified through reviewi	ng reference	Refer. /2/, ACM0002 Version 06,			
documents.		dated 19/05/2006;			
		Refer. /3/, Tool for the			
		Demonstration and Assessment of			
		Additionality Version 04.			
Reasoning for not acceptance or acceptance and close	se out:				

The additionality tool Version 4 has been properly used. CAR 3 is closed out.

Date:	10/05/	2007		Rais	sed by:	Elto	Iton Chen, Robin Wang				
No.:	5	Type:	CAR4	Issue	Inappro	priat	e statement		Ref.:	B.4.7	
				:							
Lead A	Assesso	r Comm	ent:				Date: 10/05/2007				
The in	creased	investm	nent costs	describe	ed in PDD) car	n not be seen as	a technio	cal barri	ier to the project, it is	
just a r	repetitio	n of fina	ncial anal	/sis.							
Project Participant Response:							Date: 05/06/2007				
I had changed it in the PDD.											
Acceptance and Close out by Lead Assessor: Date: 20/06/2							Date: 20/06/20	07			
Inform	ation Pr	ovided:						Verified Document Reference:			
Descri	ptions.							Refer. /1/, PDD, Version 2.1, dated			
Inform	ation Ve	erified:						19/06/2007.			
The in	formatio	n provid	ed was ve	erified the	rough rev	/iewi	ng reference				
documents.											
Reasoning for not acceptance or acceptance and close out:											
The inappropriate statement has been removed. The remained content can be								conside	ered as the barriers		

that may prevent the proposed project activity according to PDR demonstration. CAR is closed.

Date [.]	10/05/2007 Raised by: Elton Chen, Robin Wang								
No ·					arrior	ung	Dof ·	D 4 7	
NO	0	Type.	INIKZ	issue	Financing D	annei		Rel	D.4.7
							_		
Lead A	Assesso	r Comm	ent:			Date: 10/05/200	7		
Neithe	r "Unce	rtainty of	f Electricit	y Sale" r	or "Uncertain	ty of Grid Price" o	an be s	een as	a financing barrier as
they a	re just a	necdota	l evidence	, project	-specific evid	ences are require	ed.		-
Projec	t Partici	oant Res	sponse:			Date: 05/06/200	7		
I had c	changed	it in the	PDD but	still left t	he uncertaint	y of electricity ger	eration,	becaus	se some of the
electric	city gene	eration is	s for this s	pecific p	roject since it	has little regulation	on capa	city.	
Accep	tance ar	nd Close	e out by Le	ead Asse	essor:	Date: 03/07/200	7		
Inform	ation Pr	ovided:					Verified	l Docun	nent Reference:
Data, o	descript	ons.					Refer. /1/, PDD, Version 2.1, dated		
Inform	ation Ve	erified:					19/06/2	2007.	
The in	formatio	n provid	led was ve	erified th	rouah reviewi	na reference			
docum	documents								
Becoming for not accontance or accontance and close out:									
Reasoning for not acceptance of acceptance and close out.									
Accord	According to PDR demonstration, the proposed project activity has just a daily regulation capacity therefore								
the un	the uncertainty of electricity generation can be seen as a barrier. NIR is closed.								



Date:	10/05/	2007		Rai	sed by: El	on Chen, Robin V	Vang			
No.:	7	Type:	NIR3	Issue	Common	oractice		Ref.:	B.4.8	
				:		Data: 10/05/200	07			
Lead A	Lead Assessor Comment: Date: 10/05/2007									
For Co	ommon i	Practice	Analysis,	piease p	brovide the l	ocal power information	ation of n	iewiy in:	stalled capacity of	
above	small hydropower stations in detail since the proportion of hydropower generation in Sichuan Province is above 60% in recent two years as per China Power Yearbook 2005 and 2006									
Projec	t Partici	pant Res	sponse:			Date: 19/06/20	07			
I had c	complete	ed this p	art in PDE).						
Lead A	Assesso	r Comm	ent:			Date: 03/07/20	07			
The m	ost inve	stors of	listed proj	ects in th	ne PDD are	either foreign com	pany or l	large sta	ate-owned firm or	
listed of	company	y which	has much	stronge	r financing o	apabilities and an	ti-risk caj	pacities	than private entity.	
In add	ition, the	e propos	ed projec	t activity	faces anoth	er barrier that the	local geo	ological	conditions require a	
total a	pprox. 1	0 km lor	ng tunnel	construc	tion accordi	ng to PDR. Theref	ore, it ca	n be co	nsidered that the	
similar	activitie	s are no	ot diffused	I in the lo	cal area. W	hereas, the official	data so	urces ai	re also required to	
make	the infor	mation t	o be subs	stantial.			~			
Projec	t Partici	pant Res	sponse:			Date: 18/07/20	07			
Please	e find the	e source	s in anotr	ier sepai	ate docume	nt.	07			
Accep	tance ar	10 Close	OUT BY LE	ead Asse	essor:	Date: 03/08/20	07			
Inform	ation Pr	ovided:					Verified			
Inform	ptions. ation Ve	erified:					19/06/2	2007.), version 2.1, dated	
The in	formatio	n provid	led was ve	erified th	rough reviev	ving reference	Refer.	/21/, Ch	inese Water	
docum	ients.	•			U U	0	Conser	vancy \	rearbook, 2006, p	
	563								· · ·	
	Refer. /22/, The total installed									
	capacity of Sichuan Province is									
	14948.5MW, from page 411 of									
	China Electric Yearbook, 2006									
Reaso	ning for	not acc	eptance o	r accept	ance and clo	ose out:				
The da	ata deriv	ed from	official da	ata and c	an substant	ate the demonstra	ation on I	Practice	Analysis. NIR is	
closed	closed.									

Date:	10/05/	2007		Rais	sed by:	Elto	Elton Chen, Robin Wang					
No.:	8	Type:	NIR4	Issue	Monito	ring p	lan		Ref.:	B.11.1		
				:								
Lead A	Assesso	r Comm	ent:			Date: 10/05/200)7					
Below issues need to be addressed in Monitoring Plan,												
1. Proc	cedures	for train	ing of mo	nitoring p	ersonne	el;						
2. Proc	cedures	for revie	ew of repo	rted resu	ults / data	a;						
3. Procedures for project performance reviews before data is submitted for verification;												
Projec	t Partici	bant Res	sponse:				Date: 05/06/2007					
I had o	change	d it in th	ne PDD.									
Accept	tance ar	nd Close	out by Le	ad Asse	ssor:		Date: 20/06/200	007				
Inform	ation Pr	ovided:						Verified Document Reference:				
Descri	ptions.							Refer. /1/, PDD, Version 2.1, dated				
Inform	ation Ve	erified:						19/06/2	2007.			
The in	formatio	n provid	ed was ve	erified the	ough re	viewi	ng reference					
documents.												
Reasoning for not acceptance or acceptance and close out:												
The missed procedures have been supplemented in monitoring plan. NIR is closed.												



Date:	10/05/	2007		Rais	sed by:	Elton Chen, Robin	Wang			
No.:	9	Type:	NIR5	Issue	EIA an	d EPA approval		Ref.:	D.1.3	
Lead Assessor Comment: Date: 10/05/2007										
Please	e provide	e copy o	f EIA and	EPA app	oroval.					
Projec	t Partici	pant Res	sponse:			Date: 05/06/20	07			
I had p	provided	it to you	during oi	n-site vis	it.					
A			4 1 1 .			D - t - 00/07/00	07			
Accep	tance ar	nd Close	: out by Le	ead Asse	essor:	Date: 03/07/20	007			
Inform	ation Pr	ovided:					Verified	d Docun	nent Reference:	
EIA an	id EPA a	approval	l.				Refer. /	/9/ Envii	ronmental Impact	
Inform	ation Ve	erified:					Assess	ment fo	r Pingbian and	
The in	formatio	n provid	ed was ve	erified th	rough re	viewing reference	Guanyi	ntuo ca	rried out by	
docum	ients.	•			0	0	Enviror	mental	Protection &	
							Resear	ch Insti	tute of Chenadu	
								sity of S	cience & Technology	
	intersty of Science & Technology									
	issued in June 2006 and									
							corresp	onaing	approval of EIA from	
									iental Protection	
Bureau issued on 07/11/2005.										
Reasoning for not acceptance or acceptance and close out:										
The co	The copies of EIA and relevant approval from local EPA for Pingbian or Guanyintuo project have been									
obtained. NIR is closed.										

Date:	10/05/	2007		Rais	sed by: Elt	on Chen, Robin V	Vang			
No.:	10	Type:	NIR6	Issue	Stakeholde	r consultation rec	ords	Ref.:	E.1.1	
Lead A	Assesso	r Comm	ent:			Date:10/05/200)7			
PDD s	says the	e stakeł	nolder co	nsultatio	on had beer	n made on 17 th I	May 200	6. Plea	ase provide copy of	
releva	int reco	rds.								
Projec	t Partici	pant Res	sponse:			Date: 05/06/20	07			
I had p	I had provided it to you during on-site visit.									
Accep	tance ar	nd Close	out by Le	ead Asse	essor:	Date: 20/06/2007				
Inform	ation Pr	ovided:					Verified Document Reference:			
Questi	onnaire	s, descri	ptions.				Refer. /	/13/ Evi	dences of Public	
Inform	ation Ve	erified:					Invitatio	ons and	Questionnaires for	
The information provided was verified through reviewi						ing reference	erence local stakeholders consultations.			
docum	documents.									
Reasoning for not acceptance or acceptance and close out:										
The copied evidences of the consultation invitation that was made through extending questionnaires to										
local re	local residents and publishing a bulletin in the Yinbin Daily newspaper on 12/05/2006 with relevant web									
links h	links have been provided respectively. NIR is closed.									



A.4 Annex 4: Team Members Statements of Competency

Statement of Competence

Name:Robin Wang

SGS Affiliate: SGS China

Status

- Product Co-ordinator
- Operations Co-ordinator
- Technical Reviewer
- Expert
- Validation Verification

- Local Assessor
- Lead Assessor
- Assessor
 - / Trainee Lead Assessor

Scopes of Expertise

Energy Industries (renewable / non-renewable)
 Energy Distribution
 Energy Demand
 Manufacturing
 Chemical Industry
 Construction
 Transport
 Mining/Mineral Production
 Metal Production
 Fugitive Emissions from Fuels (solid,oil and gas)

- 11. Fugitive Emissions from Production and
- Consumption of Halocarbons and Sulphur Hexafluoride
 - 12. Solvent Use
 - 13. Waste Handling and Disposal
 - 14. Afforestation and Reforestation
 - 15. Agriculture

Approved Member of Staff by Elton Chen Wu Date: 23/06/2007



Statement of Competence

Name:	Sarah Ruan Sha		SGS Affilia	te: SGS China
Status - - - -	Product Co-ordinator Operations Co-ordinator Technical Reviewer Expert			
		Validation	Verification	
-	Local Assessor Lead Assessor Assessor / Trainee Lead Assessor	XXX	\boxtimes	
Scopes	s of Expertise			
1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. Consur 12. 13. 14. 15.	Energy Industries (renewald Energy Distribution Energy Demand Manufacturing Chemical Industry Construction Transport Mining/Mineral Production Metal Production Fugitive Emissions from Fu Fugitive Emissions from Pro- ption of Halocarbons and S Solvent Use Waste Handling and Dispose Afforestation and Reforestat Agriculture	ole / non-renew els (solid,oil ar oduction and Sulphur Hexaflu sal ation	/able) nd gas) uoride	

Approved Member of Staff by Elton Chen

Date: 25/11/2007