VALIDATION REPORT

Carbon Asset Management Sweden AB

China Xieshui Small Rundle Hydropower Project

SGS Climate Change Programme
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China Xieshui Small Rundle Hydropower Project	SGS Climate Change Programme
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Summary:

Carbon Asset Management Sweden AB has commissioned SGS to perform the validation of the project: "China Xieshui Small Rundle Hydropower Project". 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 8 findings which include:

- 5 Corrective Action Requests;
- 3 New Information Requests; and

All CARs and NIRs are closed out and the project will hence be recommended by SGS for registration with the UNFCCC.

Subject:	**Indexing Terms**
CDM validation	
Team Members:	
Julian Zhou Jun – Lead Assessor Leon Wang – Assessor	
Technical Review:	☒ No Distribution (without permission from the Client or responsible organisational unit)
Name: Siddharth Yadav Elton Chen Wu (Trainee Technical Reviewer) Date: 31st July 2008	
Authorized Signatory:	☐ Limited Distribution
Name: Siddharth Yadav	
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Abbreviations

CAR	Corrective Action Request
NIR	New Information 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
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
GHG	Greenhouse Gas
IETA	International Emission Trading Association
IPCC	Intergovernmental Panel on Climate Change
MP	Monitoring Plan
NDRC	National Development and Reform Commission
CCPG	Central China Power Grid
NGO	Non Governmental Organization
PDD	Project Design Document
UNFCCC	United Nations Framework Convention on Climate Change

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1. Introduction

1.1 Objective

Carbon Asset Management Sweden AB has commissioned SGS to perform the validation of the project: "China Xieshui Small Rundle Hydropower Project" 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.

1.2 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.

1.3 GHG Project Description

China Xieshui Small Rundle Hydropower Project is a run-of-river small hydropower project, locating in ShimenCounty, Changde City, Hunan Province, P.R.China. The total installed capacity will be 8.29MW. The generated electricity will be delivered to the regional power grid, i.e. Central China Power Grid (CCPG). The proposed project will expand the capacity of CCPG, and further alleviate the tension of regional electricity supply and will displace part of electricity generated by coal-based power output, hence reduce the emissions of anthropogenic GHGs. The project activity started on 28/12/2006, aiming 01/07/2008 or the registration day as the starting date of the first 7 years crediting period.

Baseline Scenario:

Considering investment barrier, current Chinese laws and regulations, limitation of technology development and high cost, all other alternative scenarios have been excluded but continuation of current practice, that is to say, the baseline scenario is identified as equivalent electricity supplied by CCPG. The installed capacity of the CCPG has been increased for many years. And CCPG is a fossil fuel-fired dominant power grid. The baseline emission is the product of the amount of electricity generated by project activity and the emission coefficient of CCPG calculated in a transparent and conservative manner as per AMS I.D.

Project Scenario:

In the project scenario, 8.29MW (1.89MW+3.2MW+3.2MW) hydroelectric generator sets will be installed and the generated electricity will be connected to CCPG. This project is expected to produce 29164.4MWh and generates estimated emission reductions of 28,436 tonnes (CO_2) each year of the first crediting period. The length of the first renewable crediting period is seven years.

Leakage:

No equipment is transferred in or out from other project. According to AMS I.D Version11, no leakage emissions are to be considered.

Environmental & social impacts:

Relevant permits of local EPA and letter of approvals of DNA's of host and annex 1 parties have been obtained. The Project will produce environmental and social benefits, which will contribute to the sustainable development of the Host Country. It will displace power generation of coal-fired thermal power plants by clean hydroelectric power, thus contributing in mitigating global warming. Implementation of the project will improve the local infrastructures, add the taxes income and provide work to local people. The plant will also get extra economical benefits from CDM revenues.

1.4 The Names and Roles of the Validation Team Members

Name	Role	Affiliate
Julian Zhou	Lead Assessor	SGS China
Leon Wang	Assessor	SGS China

Statement of Competence of team members are attached at Annex 3.

2. Methodology

2.1 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. Additional information can be required to complete the validation, which may be obtained from public sources or through telephone and face-to-face interviews with key stakeholders (including the project developers and Government and NGO representatives in the host country). In the case of this project, the assessor Leon Wang went on site to confirm statements in the PDD through review of documents, direct contacts with key stakeholders, and to verify assumptions in the baseline.

2.2 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	Means of Verification (MoV)	Comment	Draft and/or Final Conclusion
The various requirements are linked to checklist questions the project should meet.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) due to non-compliance with the checklist question (See below). 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 1 to this report

2.3 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 2). In this form, the Project Developer is given the opportunity to "close" outstanding CARs and respond to NIRs and Observations.

2.4 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.

3. Determination Findings

3.1 Participation Requirements

P.R. China is the Host Party for this project; China has ratified Kyoto Protocol on 30/08/2002. Sweden is the Annex I Party for Carbon Asset Management Sweden AB; Sweden has ratified Kyoto Protocol on 31/05/2002. CAR1 and CAR2 were raised because both Parties did not issue LoAs for this project. LoA for Carbon Asset Management Sweden AB was provided on 22/01/2008; LoA from the host country was provided in March 2008. CAR1 and CAR2 were closed out.

3.2 Baseline Selection and Additionality

The project activity is to generate electricity by using water resources, total installed capacity will be 8.29MW. The project has applied baseline as mentioned in the small scale methodology AMS I.D. version 11 for 'Grid connected renewable electricity generation' as per Appendix B of the simplified modalities and procedures for small-scale CDM project activities.

Based on the "Attachment A to Appendix B" of the simplified modalities and procedures for small-scale CDM project activities, project proponent has adopted the barrier analysis for demonstration of the additionality for the present project activity. According to attachment A to appendix B of the simplified modalities and procedures for small scale CDM project activities, project participants shall provide an explanation to show that the project activity would not have occurred anyway due to at least one of the following barriers:…". Therefore, the investment barrier was chosen as per "Attachment A to Appendix B" to demonstrate the additionality of the project.

In the investment barrier analysis, benchmark analysis was selected. The PDD claimed that benchmark of IRR is selected as 10% (after tax) based on the national code "Economic Evaluation Code for Small Hydropower Projects (SL16-95) "approved by Ministry of Water Resources of P. R. China, which is valid for evaluation of small hydropower project with the installed capacity below 25MW in China at the moment. In order to verify information used in the argument, NIR2 was raised to provide relevant documents such like IRR spreadsheet for the project activity together with the data and assumptions source of IRR spreadsheet. Feasibility Study of the proposed project activity was asked to be submitted. The requested documents were submitted to SGS assessor for verification. In China, the Feasibility Study must be prepared by an accredited third party, assumptions and data sources for the economic evaluation of a project in the Study are required to be based on relevant national standards and criteria. The Feasibility Study for proposed project was prepared by Hunan Changde Hydropower and Conservancy Design Institute which was an independent third party entity accredited by the relevant national authority to carry out feasibility studies for new projects, including power plants, (Reference /24/)., this Study was approved by Changde Development and Reform Committee on 8 Feb 2006. Further more, the 'Support funds of later stage for reservoir region' was requested to be excluded from the O&M cost due to relevant regulation was abolished after 2005 according to the state policy which was also not included in the Feasibility Study Report. Based on the correction, the estimated IRR of the project was therefore increased from 7.73% to 8.78% which was still lower than the benchmark 10%. SGS concluded that the assumptions and data from the approved study are reliable therefore can be used in the IRR calculation of the proposed project. In addition, the starting date of the project activity (14/08/2006, purchase agreement of the main equipment, first cascade 1.89MW) was not long after the completion date of the Feasibility Study Report (December 2005) so that the values from FSR was considered valid and applicable at the time of the project implementation. This is in consistent with the requirements of paragraph 54 in EB 38 meeting report (Reference /42/). The NIR2 was therefore closed out.

Parameters of total investment, electricity tariff and annual O&M costs are selected in the sensitivity analysis, the IRR will still below the benchmark when the most sensitive parameter varies +/- 10%. Data and assumptions used in this analysis are derived from the Feasibility Study, it was verified that the range of variation of those parameters were reasonable, as the load hour, annual O&M costs were based on study of professional organization. The latest PDD further discuss the variation range for the selected parameters when the IRR reaches the benchmark. It was explained that total investment was unlikely to decrease by 10% due to the fact that the Ex-Factory Price Indices of Industrial Products had increased since 1998 while the increasing rate was 3.5% in 2006 and the intending increase scale would be 2%~3% in 2007. These can be demonstrated by the data published by the National Bureau of Statistics of China, National Development

of Reform Commission and relevant websites(Reference /25-27/). The IRR calculation spreadsheet revealed the IRR may reach the benchmark if the annual O&M costs decreased by 67.5%. However, it was clarified such reduction would not occur based on the current lowest laborage of the project staff (Reference /38/)even when other costs were excluded such as repair cost, reservoir region maintenance, water resources fee, etc. In addition, the Statistical Information of Hunan indicated an increasing trend of the average laborage in Changde City in recent years(Reference /39-41/). Based on the analysis, it was unlikely that the O&M costs would decrease by 67% and the IRR would meet the benchmark correspondingly. According to the documents from Hunan Price Bereau, the electricity tariff has a tendency of decrease since 2000 (from 0.348 CNY/KWh in 2000 to 0.30 CNY/KWh in 2004; the tariff of the power plant with the capacity between 6MW and 15MW from 2004 to 2006 is still 0.3 CNY/KWh). The submitted Power Purchase Agreement with Changde Power Company has indicated the effective tariff of 0.3 CNY/KWh for the proposed project. The electricity tariff was not deemed could be increased +10% to reach 0.33CNY/KWh, so the sensitivity analysis was accepted.

The PDD states that in middle of 2005, the lower IRR of the project in the draft version of Feasibility Study Report resulted in the capital withdrawal by two main leaders. Based on the CDM consideration, the final version of Feasibility Study Report in December 2005 indicated the IRR would exceed the benchmark, which make the project owner decide to apply for CDM development. In February 2006, the incentive of CERs revenue attracted five new shareholders together with increased capital. The project owner subsequently signed the CDM development contract with the consultant and letter of intention with the buyer, the project construction was commenced in December 2006. According to the glossary of CDM terms, the starting date of a CDM project activity is the earliest date at which either the implementation or construction or real action of a project activity begins. the date of the Main Equipments Purchase Agreement of first cascade (Sanbanqiao 1.89MW) (14/08/2006) was chosen as the starting date of the project activity which was not long after the earliest date of CDM consideration (FSR completion date December 2005). Relevant documentation which justify aforementioned activities, such as 'Feasibility Study Report' dated December 2005 (Reference /11/), 'capital verification report' (xiangdeyuanyanzi[2006]No.4004, indicating the capital withdrawal), dated 24/02/2006' (Reference /33/), 'capital verification report (xiangdeyuanyanzi[2006]No.4017', indicating new shareholders with increased investment), dated 24/04/2006 (Reference /34/), 'Letter of Intention of the CDM Project Exploitation', dated 23/06/2006 (Reference /36/), 'Letter of Intention of the Carbon Purchase', 23/06/2006 (Reference /37/), 'Approval of Project Construction dated 28/12/2006 (Reference /35/), Main Equipments Purchase Agreement of First Cascade (Sanbanqiao 1.89MW), dated 14/08/2006 (Reference /43/), Main Equipments Purchase Agreement of Second Cascade (Pingdonghe 3.2MW), dated 17/06/2008 (Reference /44/), were presented for verification. Therefore, the claimed financing barrier and CDM consideration was accepted.

Therefore, the additionality was accepted based on investment and financing barriers.

3.3 Application of Baseline Methodology and Calculation of Emission Factors

The proposed CDM project activity is the grid connected energy generation from China Xieshui Small Rundle Hydropower Project (8.29MW), it uses baseline and monitoring methodology as described under AMS I.D version 11 for "Grid connected Renewable Energy generation" as per Appendix B of the simplified modalities and procedures for small-scale CDM project activities. It has been checked from the technical specifications and official approvals of the present project activity that the installed power capacity is 8.29MW which is not more than 15MW, hence the present project activity comes under small scale category of the CDM activities.

In the former PDD, methodological choices are determined totally based on ACM0002 in section B.6. CAR3 was raised to request discussion as what is defined in AMS I.D. In addition, most updated data of Chinese grid is required to be introduced when calculating grid emission factor. According to paragraph 9 of AMS.ID, for all other systems, the baseline is the kWh produced by the renewable generating unit multiplied by an emission coefficient (measured in kg CO2e/kWh) calculated in a transparent and conservative manner as: (a) or (b). Option (a) is selected in the updated PDD to calculate the emission factor of CCPG, option (b) is not applied due to the data of the year in which project generation occurs is not available in China. The grid emission factor calculation has adopted the most recent grid data based on the bulletin of Chinese DNA in 2007 and IPCC 2006 resources. So CAR3 was closed out.

CAR4 was raised to discuss leakage according to the requirements of AMS I.D. in the PDD. The discussion has been rephrased accordingly. In addition, the on site interview also indicate no equipment is transferred in or out from other project. Hence CAR4 is closed out.

NIR1 was raised to discuss emission reduction calculation according to the requirements of AMS I.D. instead of ACM0002 directly in the PDD. AMS I.D(version 11) defines that A combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the approved methodology ACM0002. In the latest PDD, the emissions reduction was in good accordance with AMS I.D. Version 11 and ACM0002, in case required. So NIR1 was closed out.

Based on the methodologies, notification of Chinese DNA regarding emission factors of Chinese grids and IPCC 2006 resources, the baseline emission factor was properly calculated in a transparent and conservative manner, the operating margin is calculated as EF_{OM} = 1.29086 tCO2e/MWh, and building margin is calculated as EF_{BM} = 0.65923 tCO2e/MWh, using 50 / 50 weight, the combined margin (CM) is EF_y = 0.97504 tCO2e/MWh and is fixed for the first crediting period.

3.4 Application of Monitoring Methodology and Monitoring Plan

To be a grid connected small scale renewable electricity generation project, this project is applying the AMS I.D.version 11.

PDD did not specify whether the baseline emission factor was fixed ex-ante or calculated ex-post for this crediting period, hence NIR3 was raised. In the revision of PDD, it addressed that the emission factor of baseline was calculated to be 0.97504tCO_2e/MWh and fixed ex-ante for the crediting period. NIR3 was closed out.

3.5 Project Design

The project design reflects current good practice assuming proper installation and maintenance in China, though no technology transfer is envisaged. On site assessment showed that staff is capable and will be trained when the project starts. The project depends on maintenance but is expected to run longer than the crediting period.

3.6 Environmental Impacts

During site visit, the compliance with local environmental regulations was checked though interviewing, verifying Environmental Impact Assessment (EIA) requirement and its approval. An EIA has been conducted according to Chinese laws and regulations. Being a hydropower project, the environment influence occurs mainly in the period of the construction stage. Measures to treat wastewater, flying dust and emission and solid waste in construction period were described in the PDD. No significant environmental impacts are expected from the project activity. EIA of Pingdonghe Hydropower Station & Shijiahe Hydropower Station was approved by Environmental Protection Bureau of Hunan Province. on 17/01/2006 ((Xianghuanping [2006] No.20); EIA of Sanbanqiao Hydropower Station was approved by Changde Environment Protection Bureau. On 21/12/2006.

3.7 Local Stakeholder Comments

Questionnaire in the Meiziya and Maziping village was introduced to collecting the local stakeholders' comments in March 2006. 30 copies of questionnaire were distributed, and 26 pieces of questionnaire were returned. The investigation objects are the people who may be directly and indirectly affected by the project activity, including the village leaders and other local residents. The age of the participants was in the ranges of 20 years old and to 62 years old. All participants consider the project had more advantages such as alleviating the local power shortage and promoting the economic development. They also raise some issues which need to be solved:

1. Villagers' participation in the tour area of hydropower station;
2. Request of constructioning some infrastructure and obtaining work opportunities;
3. Worries about the effect of project on water & soil loss
4. Request of maintaining the road

Following response are made by the project owner:

1. Supporting local residents to develop tourism resources & building and maintaining the traffic infrastructure around the village;
2. employing local residents in a certain degree;
3. taking the environment protection measures as per the EIA, i.e. reducing dust, noise, and water pollution to the best of their abilities; planting trees and grasses to recover vegetation after the completion of the project construction;
4. Being responsible for the road maintenance

SGS assessor checked the records of questionnaire, and concluded that the proposed project received support from local stakeholders.

4. 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.

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

The PDD and the monitoring plan for this project were made available on the SGS website http://www.sgsqualitynetwork.com/tradeassurance/ccp/projects/project.php?id=307 and were open for comments from 12/07/2007 until 10/08/2007. Comments were invited through the UNFCCC CDM homepage http://cdm.unfccc.int/Projects/Validation/DB/PLGFNIIN0DYSVFINXJQXVM69CBBD06/view.html.

4.2 Compilation of All Comments Received

No comments have been received.

4.3 Explanation of How Comments Have Been Taken into Account

No comments have been received.

5. Validation Opinion

SGS has performed a validation of the project 'China Xieshui Small Rundle Hydropower Project'. The validation was performed on the basis of the UNFCCC criteria and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

Using a risk based approach, the review of the project design documentation and the subsequent follow-up interviews have provided SGS with sufficient evidence to determine the fulfilment of the stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria. The project will hence be recommended by SGS for registration with the UNFCCC.

SGS has received confirmation by the host Party that the project activity assists it in achieving sustainable development.

By operating run-of-river hydraulic power station with the total installed capacity of 8.29MW, the project results in reductions of greenhouse gas emissions that are real, measurable and give long-term benefits to the mitigation of climate change. A review of the investment analysis and barriers demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. If the project is implemented as designed, the project is likely to achieve the estimated amount of emission reductions, i.e. 28,436 tonnes (CO_2) each year of the first crediting period.

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

The DOE declares herewith that in undertaking the validation of this proposed CDM project activity it has no financial interest related to the proposed CDM project activity and that undertaking such a validation does not constitute a conflict of interest which is incompatible with the role of a DOE under the CDM.

6. List of Persons Interviewed

Date	Name	Position	Short Description of Subject Discussed
24/07/2007	Xia Jiahua	Executive, Shimen Tiande Hydropower Exploitation Co., Ltd.	Project Implementation
24/07/2007	Lin Fanghong	Project Manager, Shimen Tiande Hydropower Exploitation Co., Ltd.	Project Implementation
24/07/2007	Tang Tianjian	Project Manager, Shimen Tiande Hydropower Exploitation Co., Ltd.	Project Implementation
24/07/2007	Ling Yubiao	CDM Director, Hunan CDM Project Service Center	Validation Procedures
24/07/2007	Zhu Qiyan	Project Manager, Hunan CDM Project Service Center	Validation Procedures, Closing Out Findings
24/07/2007	Chen Shoujiao	Meiziya Village, Taiping County	Local Stakeholders' Consultation
24/07/2007	Wei Xinguo	Meiziya Village, Taiping County	Local Stakeholders' Consultation
24/07/2007	Li Changbi	Meiziya Village, Taiping County	Local Stakeholders' Consultation
24/07/2007	Li Zhinian	Meiziya Village, Taiping County	Local Stakeholders' Consultation
24/07/2007	Li Wanjun	Chaotiansi Village, Taiping County	Local Stakeholders' Consultation

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

- Ver1, as an initial adoption and published for international stakeholder consultation

- Ver5, dated on 23/06/2008 used for request for registration

-Ver6, dated 24/07/2008 used for request for registration after request for review

/2/ AMS I.D Ver11

/3/ ACM0002 Ver06

/4/ Tool for demonstration assessment and of additionality (Version 03)

/5/ attachment A to appendix B of the simplified modalities and procedures for small scale CDM project activities

/6/ Letter of Approval from Chinese DNA No. 1020, dated Mar 2008

/7/ Letter of Approval from Swedish DNA for China Xieshui Small Rundle Hydropower Project, dated 22/01/2008

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):

/8/ Notice on Strictly Prohibiting the Installation of Fuel-fired Generators with the Capacity of 135 MW or Below issued by the General Office of the State Council, decree no. June, 2002.

/9/ Association of Chinese Power Industry, Statistics for Electricity Generation of China in 2006

/10/ Chinese DNA's Guideline of emission factors of Chinese grids, published in 9th Aug 2007 http://cdm.ccchina.gov.cn/web/index.asp

/11/ Changde Hydropower and Conservancy Design Institute , Xieshui Rundle Hydropower Project Feasibility Study Report, December, 2005

/12/ Financial analysis spreadsheets

/13/ Hunan Environment Protection Bureau, Approve of the EIA of Pingdonghe Hydropower Station & Shijiahe Hydropower Station (Xianghuanping[2006]No.20), 17/01/2006

/14/ Changde Environment Protection Bureau, Approve of the EIA of Sanbanqiao Hydropower Station, 21/12/2006

/15/ Records of local stakeholders consultations dated in March 2006

/16/ China Electric Power Yearbook 2001-2006

Brief introduction of the installation of CCPG http://sgsj.ccpg.com.cn/

/17/ Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories

/18/ Economic Evaluation Code for Small Hydropower project (SL16-95), 02/06/1995

http://apps.lib.whu.edu.cn/12/test/gfbz/2/j/xsdpj.html

/19/ Construction approval for Shijiahe Hydropower Station from State Environmental Protection Administration, dated 21/06/2006

/20/ Construction approval for Shijiahe Hydropower Station from State Forestry Administration, dated 3/08/2006

/21/ EB's feedback on request of deviation for Methodologies AM0005 on 07/10/2005 http://cdm.unfccc.int/UserManagement/FileStorage/AM_CLAR_QEJWJEF3CFBP1OZAK6V5YXPQKK7WYJ

/22/ Permission of Feasibility Study of Xieshui Small Rundle Hydro power Station, issued by Changde Development and planning Department, 08/02/2006.

/23/ Indemnification Agreement for Mountain Waste, dated 21/12/2005 and 11/03/2006.

/24/ Certificate of Changde Hydropower and Conservancy Design Institute -Issued by China Ministry of Construction, certificate number (Grade B, 181101-SY), dated 06/11/2002.

/25/ National Bureau of Statistics of China , Ex-Factory Price Indices of Industrial Products in 2006 http://www.stats.gov.cn/tjsj/ndsj/2006/html/I0913C.HTM

/26/ National Development of Reform Commission in China, statistics about means of production in 2006, 16/01/2007 http://news.xinhuanet.com/fortune/2007-01/16/content_5614461.htm

/27/ National Development of Reform Commission in China, intending increase scale of means of production in 2007, 16/01/2007

http://news.xinhuanet.com/fortune/2007-01/16/content_5613480.htm

/28/ Hunan Price Bureau , Notice of the Electricity Price of Power Grid of Hunan Province, 06/03/2000 (Xiangjiachong (2000) No.49)

http://www.xxpi.com/Article/ShowArticle.asp?ArticleID=952

/29/ Hunan Price Bureau , Notice of the Electricity Price of Power Plants of Hunan Province, 31/12/2001 (Xiangjiachong (2001) No.327)

http://www.xxpi.com/Article/pi22/pi221/pi22102/pi22102002/200504/940.asp

/30/ Hunan Price Bureau , Notice of the Electricity Price of Power Grid of Hunan Province, 04/08/2004 (Xiangjiachong (2004) No.114)

http://www.xxpi.com/Article/pi22/pi221/pi22102/pi22102002/200504/949.asp

/31/ Hunan Price Bureau , Notice of the Electricity Price of Power Grid of Hunan Province, 28/07/2006 (Xiangjiachong (2006) No.111)

http://www.xxpi.com/Article/pi22/pi221/pi22102/pi22102002/200608/3820.asp

/32/ Power Purchase Agreement, 20/09/2007

/33/ capital verification report (xiangdeyuanyanzi[2006]No.4004), 24/02/2006

/34/ capital verification report (xiangdeyuanyanzi[2006]No.4017), 24/04/2006

/35/ Approval of Project Construction, 28/12/2006

/36/ Letter of Intention of the CDM Project Exploitation, 23/06/2006

/37/ Letter of Intention of the Carbon Purchase, 23/06/2006

/38/ Salary List of the First Cascade of the Project, dated 08/11/2007

/39/ Statistical Information of Hunan, the Statistical Information of the laborage of each city in Hunan Province in 2005, 27/03/2006

http://www.hntj.gov.cn/fxbg/2006fxbg/2006tjxx/200603270064.htm

/40/ Statistical Information of Hunan, the Statistical Information of the laborage of each city in Hunan Province in 2006, 21/03/2007

http://www.hntj.gov.cn/fxbg/2007fxbg/2007tjxx/200703210067.htm

/41/ Statistical Information of Hunan, the Statistical Information of the laborage of each city in Hunan Province in 2007, 27/03/2008

http://www.hntj.gov.cn/fxbg/2008fxbg/2008tjxx/200803260040.htm

/42/ Executive board of the clean development mechanism thirty-eighth meeting report, dated 14/03/2008

/43/ Main Equipments Purchase Agreement of First Cascade (Sanbanqiao 1.89MW), dated 14/08/2006

/44/ Main Equipments Purchase Agreement of Second Cascade (Pingdonghe 3.2MW), dated 17/06/2008

A.1 Annex 1: Validation Protocols

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

REQUIREMENT	MoV	Ref	Comment	Draft finding	Concl
1.1 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.	DR	PDD	Sweden is indicated in the PDD as the Annex I Party. Carbon Asset Management Sweden AB is the project participant from the Annex I Party. No letter of Approval has been shown yet.	~~CAR1~~	OK
1.2 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	DR	PDD	P. R. China is the host Party. Shimen Tiande Hydropower Exploitation Co. Ltd. is the participant from the host Party. No Letter of Approval has been shown yet.	~~CAR2~~	OK
1.3 All Parties (listed in Section A3 of the PDD) have ratified the Kyoto protocol and are allowed to participate in CDM projects	Internet	Internet	Sweden has ratified the Kyoto Protocol on 31/05/2002, refer to http://maindb.unfccc.int/public/country.pl?country=SE P. R. China has ratified the Kyoto Protocol on 30/08/2002, refer to http://maindb.unfccc.int/public/country.pl?country=CN	OK	OK
1.4 The project results in reductions of GHG emissions or increases in sequestration when compared to the baseline; and the project can be reasonably shown to be different from the baseline scenario	DR	PDD	Pending close out CARs.	~~Pending~~	OK
1.5 Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days (45 days for AR projects), and the project design document and comments have been made publicly available	Internet	Internet	The PDD was made publicly available from 12/07/2007 to 10/08/2007 and comments were invited through UNFCCC's website, http://cdm.unfccc.int/Projects/Validation/DB/PLGFNIIN0DYSVFINXJQXVM69CBBD06/	OK	OK

REQUIREMENT	MoV	Ref	Comment	Draft finding	Concl
			/view.html No comments were received.		
1.6 The project has correctly completed a Project Design Document, using the current version and exactly following the guidance	DR	PDD	CDM-SSC-PDD template of version 3 is properly applied.	OK	OK
1.7 The project shall not make use of Official Development Assistance (ODA), nor result in the diversion of such ODA	DR	PDD, SV	There is no indication that the project is using public funding or is leading to diversion of OAD.	OK	OK
1.8 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?			NA	OK	OK
1.9 Does the project meet the additional requirements detailed in: Table 9 for SSC projects Table 10 for AR projects Table 11 for AR SSC projects			See table 9 of this protocol	OK	OK
1.10 Is the current version of the PDD complete and does it clearly reflect all the information presented during the validation assessment.	DR, SV	PDD	Pending close out findings	~~Pending~~	OK
1.11 Does the PDD use accurate and reliable information that can be verified in an objective manner?	DR, SV	PDD	Pending close out findings	~~Pending~~	OK

Table 2 Baseline methodology(ies)

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
2.1 Does the project meet all the applicability criteria listed in the methodology	PDD	DR	Yes, this project is a grid connected hydropower project, total installed capacity is 8.29MW which meets with the applicability criteria of AMS I.D.	OK	OK
2.2 Is the project boundary consistent with the approved methodology	PDD	DR	Yes. Project site and all power plants connected physically to the Central China Grid (Regional) have been defined as project boundary which is in accordance with the methodology.	OK	OK
2.3 Are the baseline emissions determined in accordance with the methodology described	PDD	DR	Methodological choices defined in AMS I.D are not discussed in PDD Section B.6. When calculating gird emission factor, please use most updated data of Chinese gird.	~~CAR3~~	OK
2.4 Are the project emissions determined in accordance with the methodology described	PDD	DR	There are no project emissions need to be determined for renewable energy projects under AMS-I.D. version 11, this is considered to be ignorable.	OK	OK
2.5 Is the leakage op the project activity determined in accordance with the methodology described	PDD	DR	According to AMS I.D., if the energy generating equipment is transferred from another activity or if the existing equipment is transferred to another activity, leakage is to be considered. The leakage is not discussed in accordance with AMS I.D.	~~CAR4~~	OK
2.6 Are the emission reductions determined in accordance with the methodology described	PDD	DR	ACM0002 is directly applied to Section B.6, emission reductions calculation in the PDD. ER calculation method defined by AMS I.D is not discussed in the PDD.	~~NIR1~~	OK

Table 3 Additionality (Ref: PDD Section B3 and AM)

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
3.1 Does the PDD follow all the steps required in the methodology to determine the additionality	PDD	DR	Yes, barriers discussion required in *Attachment A to Appendix B to Decision21/CP.8* is followed in PDD to demonstrate the additionality.	OK	OK
3.2 Is the discussion on the additionality clear and have all assumptions been supported by transparent and documented evidence	PDD	DR	Supporting documents and evidences for parameters and data used in IRR worksheet need to be provided for crosscheck.	~~NIR2~~	OK
3.3 Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?	PDD	DR	Pending close out NIRs /CARs and local assessment	~~Pending~~	OK
3.4 Is it demonstrated/justified that the project activity itself is not a likely baseline scenario	PDD	DR	Pending close out NIRs /CARs and local assessment	~~Pending~~	OK

Table 4 Monitoring methodology (PDD Section D and AM)

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
4.1 Does the project meet all the applicability criteria listed in the monitoring methodology	PDD	DR	Yes, this project is a grid connected hydropower project, total installed capacity is 8.29MW which meets with the applicability criteria of AMS I.D.	OK	v
4.2 Does the PDD provide for the monitoring of the baseline emissions as required in the monitoring methodology	PDD	DR	The monitoring of the baseline emissions in the PDD is not clear, respective EF for ex-ante and ex-post calculation is not explicitly defined for this crediting period.	~~NIR3~~	OK
4.3 Does the PDD provide for the monitoring of the project emissions as required in the monitoring methodology	PDD	DR	The proposed project is a renewable energy generation project, the project emission is considered as zero according to AMS I.D.	OK	OK
4.4 Does the PDD provide for the monitoring of the leakage as	PDD	DR	The leakage is not properly discussed in	~~Pending~~	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
required in the monitoring methodology			accordance to AMS I.D. See 2.5 above. Please note that ASM I.D., rather than ACM0002, is the primary methodology in this case.		
4.5 Does the PDD provide for Quality Control (QC) and Quality Assurance (QA) Procedures as required in the monitoring methodology	PDD	DR	QA/QC procedures are provided in Section B.7. of the PDD.	OK	OK

Table 5 Monitoring plan (PDD Annex 4)

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
5.1 Monitoring of Sustainable Development Indicators/ Environmental Impacts			AMS I.D. does not require monitoring of these indicators.	OK	OK
5.1.1 Does the monitoring plan provide the collection and archiving of relevant data concerning environmental, social and economic impacts?			NA		
5.1.2 Is the choice of indicators for sustainability development (social, environmental, economic) reasonable?			NA		
5.1.3 Will it be possible to monitor the specified sustainable development indicators?			NA		
5.1.4 Are the sustainable development indicators in line with stated national priorities in the Host Country?			NA		
5.2 Project Management Planning					
5.2.1 Is the authority and responsibility of project management clearly described?	PDD	DR	Yes, the authority and responsibility of the project management is clearly described.	OK	OK
5.2.2 Is the authority and responsibility for registration,	PDD	DR	Yes, the authority and responsibility of project	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
monitoring, measurement and reporting clearly described?			registration, monitoring, measurement is described in PDD.		
5.2.3 Are procedures identified for training of monitoring personnel?	PDD	DR	Yes, the procedures for training are identified in PDD.	OK	OK
5.2.4 Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	PDD	DR	To be a hydro power project, no unintended emissions are envisaged.	OK	OK
5.2.5 Are procedures identified for calibration of monitoring equipment?	PDD	DR	Yes, the meter will be tested according to relevant national standard.	OK	OK
5.2.6 Are procedures identified for maintenance of monitoring equipment and installations?	PDD	DR	Yes, the meter will be tested according to relevant national standard.	OK	OK
5.2.7 Are procedures identified for monitoring, measurements and reporting?	PDD	DR	Yes, this is mentioned in PDD Section B.7.2	OK	OK
5.2.8 Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	PDD	DR	Yes, this is mentioned in PDD Section B.7.2	OK	OK
5.2.9 Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?	PDD	DR	Yes, this is mentioned in PDD Section B.7.2	OK	OK
5.2.10 Are procedures identified for review of reported results/data?	PDD	DR	Yes, this is mentioned in PDD Section B.7.2	OK	OK
5.2.11 Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	PDD	DR	This is not applicable to this Small Hydro power project.	OK	OK
5.2.12 Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?	PDD	DR	Yes, this is mentioned in PDD Section B.7.2	OK	OK
5.2.13 Are procedures identified for corrective actions in order to provide for more accurate future monitoring and reporting?	PDD	DR	Yes, this is mentioned in PDD Section B.7.2	OK	OK

Table 6 Environmental Impacts (Ref PDD Section F and relevant local legislation)

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
6.1 Has an analysis of the environmental impacts of the project activity been sufficiently described?	PDD	DR	Environment Impact Assessment report was provided and reviewed.	OK	OK
6.2 Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	PDD	DR	The copy of EIA and its approval letter are to be verified.	~~Pending~~	OK
6.3 Will the project create any adverse environmental effects?	PDD	DR	No, the approved EIA shows that the project will not create any significant adverse effects.	~~Pending~~	OK
6.4 Are transboundary environmental impacts considered in the analysis?	PDD	DR	Transboundary environmental impacts are considered to be insignificant in the EIA.	OK	OK
6.5 Have identified environmental impacts been addressed in the project design?	PDD	DR	Yes, and related EIA has been checked.	OK	OK
6.6 Does the project comply with environmental legislation in the host country?	PDD	DR	The project has obtained the Approval Letter from Hunan Provincial Environmental Protection Bureau.(XiangHuanPing[2006]20), National EPA(2006[243]) and local EPA for respective level of this project.	OK	OK

Table 7 Comments by local stakeholders (Ref PDD Section G)

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
7.1 Have relevant stakeholders been consulted?	PDD	DR, SV	Yes, a stakeholders' consultation was performed in Mar 2006.	OK	OK
7.2 Have appropriate media been used to invite comments by local stakeholders?	PDD	DR	Local stakeholders' consultation was performed by means of questionnaire and symposium. Minutes of the meeting and questionnaires	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			with local stakeholders' comments were provided through site assessment.		
7.3 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?	PDD	DR	Yes, it was carried out during EIA process and was approved by EPA.	OK	OK
7.4 Is a summary of the stakeholder comments received provided?	PDD	DR	The summary is provided in Section E.2 of the PDD.	OK	OK
7.5 Has due account been taken of any stakeholder comments received?	PDD	DR	The project developer promises in the PDD to take actions to meet comments received in the consultation.	OK	OK

Table 8 Other requirements

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
8.1 Project Design Document					
8.1.1 Editorial issues: does the project correctly apply the PDD template and has the document been completed without modifying/adding headings or logo, format or font.	PDD, SSC Guide lines	DR	Description of the project is expected to be more detailed. Please address more about the timeline of the project, respective situations about three levels of the project. On page 6, the capacity of generator and turbine are not likely to be the same because the efficiency is less than 100%. It's addressed in the PDD that starting date of the project is 01/01/2008. Please revise it to the earliest of the dates at which the implementation or construction or real action of the project activity began and provide	~~CAR5~~	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			related supporting evidence. It's stated on page 5 of the PDD that the operation period is 30 years while in section C.1.2. It says the operational lifetime is 22 years. Page 11 RMB ¥ Page 12: B.6.1, please start from AMS I.D. before coming to ACM0002, Explain and justify all relevant methodological choices. Page 16 Leakage: "According to baseline methodology ACM0002". Please also start from AMS I.D. before coming to ACM0002.		
8.1.2 Substantive issues: does the PDD address all the specific requirements under each header. If requirements are not applicable / not relevant, this must be stated and justified	PDD, SSC Guide lines	DR	Pending close out CARs and NIRs.	~~Pending~~	OK
8.2 Technology to be employed					
8.2.1 Does the project design engineering reflect current good practices?	PDD	DR	As a hydropower plant, the project activity reflects current good practice for electricity generation for its zero emission.	OK	OK
8.2.2 Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	PDD	DR	China greatly relies on fossil fuels for electricity generation today and in the upcoming decades. Comparing with current emission factor of Central China Power Grid, the proposed project activity results in a significantly better performance due to the	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			zero-emission nature of run-of-river hydropower.		
8.3 Is the project technology likely to be substituted by other or more efficient technologies within the project period?	PDD	DR	Not likely provided proper maintenance.	OK	OK
8.2.4 Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	PDD	DR	Documents have been provided showing that extensive initial training has been delivered as promised in the PDD.	OK	OK
8.3 Duration of the Project/ Crediting Period					
8.3.1 Are the project's starting date and operational lifetime clearly defined and reasonable?	PDD	DR	The operational lifetime is 22 years.	OK	OK
8.3.2 Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max. two x 7 years or fixed crediting period of max. 10 years)?	PDD	DR	The starting date of the crediting period in the PDD is 01/01/2008. The proposed project applies for renewable crediting period with the first crediting period of 7 years.	~~Pending~~	OK
8.3.3 Does the project's operational lifetime exceed the crediting period	PDD	DR	Yes, the project's operational lifetime exceed the crediting period.	OK	OK

Table 9 Additional requirements for SSC projects

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
9.1 Does the project qualify as a small scale CDM project activity as defined in paragraph 6 (c) of decision 17/CP.7 on the modalities and procedures for the CDM?	PDD	DR	In accordance with Decision17/CP.7, the designed capacity of 8.29 MW which is below the maximum qualifying capacity 15MW, hence the proposed project qualifies as a small scale CDM project.	OK	OK
9.2 The project conforms to one of the categories listed in Appendix B to Annex II to Decision 21/CP8	PDD	DR	The project confirms to the category I.D. Grid-connected renewable electricity generation.	OK	OK
9.3 The small scale project activity is not a debundled component of a larger project activity?	PDD	DR	It is not a debundled component of a large project activity according to *APPENDIX C Criteria for determining the occurrence of debundling* of Decision6/CMP.1. This is the first time the participant from the host party applies for a CDM project.	OK	OK
9.4 PDD has been prepared in accordance with appendix A of Annex II to Decision 21/CP8	PDD	DR	Appendix A of Annex II to Decision 21/CP.8 refers to simplified PDD for SSC project. The project applies version 3 of CDM-	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			SSC-PDD from.		
9.5 The project uses a simplified baseline and monitoring methodology specified in Appendix B. If not, they may propose changes to the meths or a new SSC project category	PDD	DR	AMS.I.D. is chosen as the methodology. ACM0002 is used in calculation of baseline emissions, leakage and emission reductions. Refers to 2.3., 2.5. and 2.6. of this protocol.	~~Pending~~	OK
9.6 Is there any bundling of SSC activities into one PDD? If so, does the monitoring plan consider sampling of activities? Refer to para 19 of Annex II. Also, note bundling provisions in SSC Briefing Note and SSC meths I C / I D and III D and Para 22e of Appendix B	PDD	DR	There is no bundling of SSC activities into the PDD.	OK	OK
9.7 Is EIA required by host party? If not, none is required irrespective of SHC. If yes, has one been performed consistent with local requirements?	PDD	DR	EIA has been performed for the three levels of this project respectively. EIA and the approval letter from local EPA and national EPA were reviewed through site assessment.	OK	OK
9.8 The project results in emission reductions that area additional in accordance with the following requirements: (para 26) The project is additional if emissions are reduced below those in the absence of the project (Para 27) Simplified baseline can be used; if not, baseline proposed shall cover all gases, sectors and sources listed in Annex A to the KP Para 28) One or more barriers as detailed in attachment A to Appendix B to Annex II will be used to demonstrate that the project would not proceed without the CDM	PDD	DR	Barriers discussion required in Attachment A to Appendix B to Decision21/CP.8 is followed in PDD to demonstrate the additionality. According to *AMS I.D. Grid Connected Renewable Electricity Generation*, the proposed project applies paragraph	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			9 of the methodology as the baseline scenario. It's in accordance with the methodology that the PDD uses "Equivalent electricity service provided by the CCPG" as the baseline. The project activity is additional for its zero emission. CO_2 is the only emission source for this baseline selection. Investment barrier is used to demonstrate that the project would not proceed without the CDM.		
9.9 Leakage is calculated according to the provisions of the SSC methodologies in Appendix B (http://cdm.unfccc.int/Projects/pac/ssclistmeth.pdf)	PDD	DR	According to AMS I.D., if the energy generating equipment is transferred from another activity or if the existing equipment is transferred to another activity, leakage is to be considered. See 2.5 above.	~~Pending~~	OK
9.10 The project boundary shall be constructed in accordance with the requirements of the SSC meths in Appendix B	PDD	DR	In accordance to AMS I.D., the boundary is Central China Power Grid.	OK	OK
9.11 The Monitoring plan shall be consistent with the requirements of the SSC methodology in Appendix B and shall provide for the collection and archiving of data needed to determine project	PDD	DR	Yes, monitoring plan has provided the collection	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
emissions, baseline emissions and leakage.			and archiving of data specified in monitoring methodology AMS I.D		
9.12 The monitoring plan shall present good monitoring practice appropriate to the circumstances of the project activity (para 33)	PDD	DR	The monitoring plan presents good monitoring practice.	OK	OK
9.13 If project activities are bundled, separate monitoring plan shall be prepared for each of the activities or an overall plan reflecting good monitoring practice will be prepared, consistent with the above requirements	PDD	DR	The proposed project is not a bundled one.	OK	OK

Table 10 Additional requirements for AR projects

Not Applicable

Table 11 Additional requirements for SSC AR projects

Not Applicable

A.2 Annex 2: Findings Overview

Date: 07/08/2007 Raised by: Julian Zhou, Leon Wang

No.	Type	Issue	Ref
1	CAR1	Sweden is indicated in the PDD as the Annex I party. Carbon Asset Management Sweden AB is the project participant from the Annex I party. No letter of Approval has been shown yet.	1.1
Date: 08/03/2008 [Comments] The LoA of Sweden has been obtained and submitted to DOE.			
Date: 10/03/2008 Julian Zhou [Acceptance and close out] LoA from Swedish DNA is received. CAR is closed out.			

Date: 07/08/2007 Raised by: Julian Zhou, Leon Wang

No.	Type	Issue	Ref
2	CAR2	P. R. China is the host party. Shimen Tiande Hydropower Exploitation Co. Ltd. is the participant from the host party. No Letter of Approval has been shown yet.	1.2
Date: 08/03/2008 [Comments] The HCA has been obtained and submitted to DOE.			
Date: 10/03/2008 Julian Zhou [Acceptance and close out] LoA from Chinese DNA is received. CAR is closed out.			

Date: 14/08/2007 Raised by: Julian Zhou, Leon Wang

No.	Type	Issue	Ref
3	CAR3	Methodological choices defined in AMS I.D are not discussed in PDD Section B.6. When calculating gird emission factor, please use most updated data of Chinese gird.	2.3
Date: 16/08/2007 [Comments] According to paragraph 9 of AMS.ID, for all other systems, the baseline is the kWh produced by the renewable generating unit multiplied by an emission coefficient (measured in kg CO2e/kWh) calculated in a transparent and conservative manner as: (a) or (b). The option (a) is chosen in the PDD, because the baseline scenario of the project is equivalent annual electricity supplied by the CCPG, according to “Bulletin about Determining the Emission Factor of China Grid” issued by NDRC of China, option (a) is applicable to calculate the emission factor of CCPG. The most updated data of Chinese grid has been revised according to the suggestion of Chinese DNA in the revised PDD. The option (b) is not applied in this PDD due to the data of the year in which project generation occurs is not available.			
Date: 25/09/07 Julian Zhou [Acceptance and close out] PDD was rephrased to follow methodological choices according to AMS I.D. Most recent grid data were adopted in the revision of PDD based on Chinese DNA and IPCC 2006 resources. CAR is closed out.			

Date: 14/08/2007 Raised by: Julian Zhou, Leon Wang

No.	Type	Issue	Ref
4	CAR4	According to AMS I.D., if the energy generating equipment is transferred from another activity or if the existing equipment is transferred to another activity, leakage is to be considered. The leakage is not discussed in accordance with AMS I.D.	2.5
Date: 15/08/2007 [Comments] The energy generating equipment is not transferred from another activity, and the existing equipment is not transferred to another activity, so the leakage of the project is excluded. It has already been revised in the updated PDD.			
Date: 25/09/2007 Julian Zhou [Acceptance and close out] The updated PDD states that the equipment is not transferred to/from another activity. This was confirmed through site assessment. CAR4 was closed out.			

Date: 14/08/2007 Raised by: Julian Zhou, Leon Wang

No.	Type	Issue	Ref
5	NIR1	ACM0002 is directly applied to Section B.6, emission reductions calculation in the PDD. ER calculation method defined by AMS I.D is not discussed in the PDD.	2.6
Date: 15/08/2007 [Comments] in the Page 2 of AMS I.D(version 11), it says that A combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the approved methodology ACM0002. It has already been revised in the updated PDD.			
Date: 25/09/2007 Julian Zhou [Acceptance and close out] The updated PDD calculates the emissions reduction in good accordance with AMS I.D. Version 11 and ACM0002, in case required. NIR1 was closed out.			

Date: 14/08/2007 Raised by: Julian Zhou, Leon Wang

No.	Type	Issue	Ref
6	NIR2	Supporting documents and evidences for parameters and data used in IRR worksheet need to be provided for crosscheck.	3.2
Date: 15/08/2007 [Comments] the sources of parameters used to calculate the IRR had been attached in the excel worksheet.			
Date: 09/03/2008 Julian Zhou [Acceptance and close out] Please clarify the difference between annual operation investment in PDD ver01 and O&M costs in the latest PDD. The clarification on the difference is also expected between 'Feasibility Report ' and 'Feasibility Study Report'. Regarding the header in Table 5, 'data resources' should be 'data sources'. NIR is left open.			
Date: 10/03/2008 [Comments] The main difference between annual operation investment in PDD ver01 and O&M costs in the latest PDD is the about the *Anaphase Support Fund of Reservoir*. The O & M costs of 1.1619 Million yuan is cited from FSR, and the 1.5994 Million yuan is calculated by the PDD writer. According to the national policy, the *Anaphase Support Fund of Reservoir* which was involved in O&M cost has been cancelled in the newest PDD, for the *Anaphase Support Fund of Reservoir* is for the large hydropower project (above 25MW) which put into construction before 1996[1]. The calculation mistake has been modified in the latest PDD. The edition mistake of *Feasibility Study Report* and *Data sources* have been revised in the latest PDD.			
Date: 15/03/2008 Julian Zhou [Acceptance and close out] Rectifications were reviewed as well as the data source. NIR2 is closed out.			

Date: 14/08/2007 Raised by: Julian Zhou, Leon Wang

No.	Type	Issue	Ref
7	NIR3	The monitoring of the baseline emissions in the PDD is not clear, respective EF for ex-ante and ex-post calculation is not explicitly defined for this crediting period.	4.2
Date: 15/08/2007 [Comments] EF is fixed ex-ante and has been showed in PDD			
Date: 25/09/2007 Julian Zhou [Acceptance and close out] The updated PDD clearly states that fixed ex-ante EF applies to the project. Most updated statistical data of the grid was engaged for calculation of the emission factor. NIR3 was closed out.			

Date: 07/08/2007 Raised by: Julian Zhou, Leon Wang

[1] http://www.xxpi.com/Article/pi22/pi221/pi22102/pi22102003/pi221020030005/200504/889.html

No.	Type	Issue	Ref
8	CAR5	Description of the project is expected to be more detailed. Please address more about the timeline of the project, respective situations about three levels of the project. On page 6, the capacity of generator and turbine are not likely to be the same because the efficiency is less than 100%. It's addressed in the PDD that starting date of the project is 01/01/2008. Please revise it to the earliest of the dates at which the implementation or construction or real action of the project activity began and provide related supporting evidence. It's stated on page 5 of the PDD that the operation period is 30 years while in section C.1.2. It says the operational lifetime is 22 years. Page 11 RMB ¥ Page 12: B.6.1, please start from AMS I.D. before coming to ACM0002, Explain and justify all relevant methodological choices. Page 16 Leakage: "According to baseline methodology ACM0002". Please also start from AMS I.D. before coming to ACM0002.	8.1.1

Date: 15/08/2007
[Comments]

	First level	Second level	Third level
name	Sanbanqiao Hydropower Station	Pingdonghe Hydropower Station	Shijiahe Hydropower Station
Installed capacity	1.89MW(3*0.63MW)	3.2MW(4*0.8MW)	3.2MW(4*0.8MW)
Annual net electricity generation	661.5 MWh	1134.94 MWh	1120 MWh
Proposed construction starting date	November, 2006	January, 2007	May, 2007
Actual construction starting date	December,2006	it doesn't start	it doesn't start
Proposed construction completion date	January, 2008	April, 2008	August, 2008
Actual construction completion date	September, 2007	unknown	unknown

According to the actual situation of capital shortage and the poor construction condition, the project owner decided to construct the first level (Sanbanqiao hydropower station) only, and then the other two stations could be started subsequently with the help of the electricity generation income of the first level.

In the project, the single capacity of the turbine (not generator) of the first level is 630kw, and the second and the third levels are both 860kw.

November, 2006 is the estimated starting date of the construction in the Feasibility Study Report;
28th, Dec, 2006 is the actual construction starting date of the Main Body Construction of the First Cascade.
So the 28th, Dec, 2006 is regarded to be the earliest starting date of the project activity.

January 1st, 2008 is the estimated operation starting date according to the Feasibility Study Report;
Actually, the first generator was put into operation in Sep, 2007.

Sorry for the mistake, according to the Feasibility Study Report, the lifetime of the project is 25 years.

The other items have already been clarified in the PDD

Date: 25/09/2007 Julian Zhou [Acceptance and close out] CAR5 was closed out.

A.3 Annex 3: Statement of Competence of Validation Team

Statement of Competence

Name: Julian Zhou Jun 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

1. Energy Industries (renewable / non-renewable) ☒
2. Energy Distribution ☐
3. Energy Demand ☐
4. Manufacturing ☐
5. Chemical Industry ☒
6. Construction ☐
7. Transport ☐
8. Mining/Mineral Production ☐
9. Metal Production ☐
10. 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 Date: 15/11/2007

Statement of Competence

Name: Leon 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

1. Energy Industries (renewable / non-renewable) ☒
2. Energy Distribution ☐
3. Energy Demand ☐
4. Manufacturing ☐
5. Chemical Industry ☒
6. Construction ☐
7. Transport ☐
8. Mining/Mineral Production ☐
9. Metal Production ☐
10. 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 Date: 09/08/2007

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