

# VCS VERIFICATION REPORT FOR WUTUHE ERJI HYDRO POWER PROJECT IN GUIZHOU PROVINCE, CHINA



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**Summary:**

China Classification Society Certification Company(CCSC), commissioned by Guizhou Honor Carbon Asset Management Co., Ltd, has performed a Verification of the *Wutuhe Erji Hydro power Project in Guizhou Province, China* (hereafter referred to as “the project”), on the basis of requirements of Verified Carbon Standard (VCS) Version 3.4.

The project is developed and operated by Shuicheng Wutuhe Hydro Power Development Co.,Ltd., which is located in Huaga Town, Shuicheng County, Liupanshui city, Guizhou Province, P. R. China. The project is a dam type hydropower plant with total installed capacity of 7.5MW (3×2.5MW). The electricity generated by the project can displace part of the power from the fossil fuel-fired power plants of China Southern Power Grid (CSPG).

The project has been registered as a VCS project (Project ID 330) under approved methodology AMS-I-D. “*Grid connected renewable electricity generation*” (Version 13) with the renewable crediting period starting from 28/03/2006. The project start date is 28/11/2004, when the three units of turbine generators started electricity generation. The crediting period for the Project under the VCS is from 28/03/2006 to 27/03/2016.

The purpose and scope of this verification is to ensure that reported emission reductions are complete and accurate in accordance with applicable VCS requirements.

CCSC appointed a qualified verification team in accordance with internal procedures to perform the verification.

The verification process includes three phases:

- 1) Desk review of documents;
- 2) On-site visit and follow-up interviews;
- 3) Resolution of outstanding issues and the issuance of the final verification report and opinion.

The findings from the desk review of the original project activity documents and the findings from interviews during the follow up visit are summarized. The verification of the Project resulted in **2 Corrective Action Request and 4 Clarifications Requests** and have been successfully closed. The verification is based on the draft monitoring report, revised monitoring report, the monitoring plan as set out in the validated PD, the validation report, emission reduction calculation spreadsheet and supporting documents made available to CCSC by the project participant.

The verification team confirms that the project is implemented as planned and described in the VCS PD. Installed equipment being essential for generating emission reduction run reliably and are calibrated appropriately. The monitoring system is in place and the project is ready to generate GHG emission reductions.

In conclusion, it is CCSC's opinion that the project activity "*Wutuhe Erji Hydro power Project in Guizhou Province, China*", as described in the Monitoring Report version 02 of 02/01/2014, meets all relevant requirements for VCS and all relevant host Party criteria. Hence, CCSC is able to certify that the emission reductions from the project during the monitoring period 26/06/2012 to 25/11/2013 amount to 33,037 tCO<sub>2</sub>e, details as follows:

| Period                       | Emission Reduction             |
|------------------------------|--------------------------------|
| 2012 (06.26.2012-12.25.2012) | 18,500 tCO <sub>2</sub> e      |
| 2013 (12.26.2012-11.25.2013) | 14,537 tCO <sub>2</sub> e      |
| <b>Total</b>                 | <b>33,037 tCO<sub>2</sub>e</b> |

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## 1 INTRODUCTION

### 1.1 Objective

Guizhou Honor Carbon Asset Management Co., Ltd has commissioned CCSC to validate conclusions regarding the additional project description produced in accordance with the VCS rules on participation under the approved methodology AMS-I-D. “Grid connected renewable electricity generation” (Version 13) and to verify and provide a verification statement of the emission reductions of the *Wutuhe Erji Hydro power Project in Guizhou Province, China* (hereafter referred to as “the project”) for the monitoring period from 26/06/2012 to 25/11/2013, on the basis of requirement of VCS Standard (Version 3.4), and the approved methodology AMS-I-D. (Version 13).

CCSC as the validation/verification body (VVB) of the project has been accredited as a DOE by UNFCCC and also meets the competence requirements as set out in ISO 14065:2007.

Verification is the periodic independent formal review by the accredited verification body and ex-post determination of the monitored GHG emission reductions during a defined verification period. A verification statement is the written assurance by a verified body that, during a specific period of time, a project activity achieved the emission reductions as verified.

The objective of this verification is to verify and provide a verification statement of emission reductions of the project “*Wutuhe Erji Hydro power Project in Guizhou Province, China*” during the monitoring period from 26/06/2012 to 25/11/2013 (incl. both days). The objectives of verification are to:

- a) Ensure that the project activity has been implemented and operated as per the VCS project description (VCS-PD) and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- b) Ensure that the monitoring report and other supporting documents provided are complete in accordance with the latest applicable version of Registration and Issuance Process and in accordance with the additional requirements stated by the VCS Association (VCSA);
- c) Ensure that actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved methodology;
- d) Evaluate the data recorded and stored as per the monitoring methodology.

### 1.2 Scope and Criteria

The verification scope encompasses an independent and objective review and ex-post determination of the monitored reductions in GHG emissions by the CCSC. The verification scope covers the relevant documents (e.g. the VCS-PD, the monitoring plan, the VCS monitoring report (VCS-MR), the emission reduction calculation spreadsheet, supporting documents available to the verifier and information collected through performing interviews and during the on-site assessment, VCAS's requirements publicly available, relevant rules, including the host country legislation, etc.) to be independently reviewed, the project geographical locations to be visited on-site, the related project local stakeholders to be interviewed with, and processes that are necessary to acquire objective evidence for the evaluation of the project compliance to the VCS requirements, CDM approved methodology AMS-I-D.(Version 13) /10/ and associated interpretations.

The above verification activities are conducted according to the VCSA requirements. In doing so, the principles of accuracy and completeness, relevance, reliability and credibility were followed.

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

## 1.3 Level of assurance

CCSC has undertaken a reasonable assurance engagement in accordance with Verified Carbon Standard (VCS) Version 3.4/7/. It requires a reasonable level of assurance in verification that GHG assertions are free of material errors, omissions and misrepresentations. The verification conclusion is based on the VCS-PD, VCS-MR, supporting evidences made available to the verifiers and information collected through performing interviews and during the on-site inspection.

## 1.4 Summary Description of the Project

*Wutuhe Erji Hydro power Project in Guizhou Province, China* is a hydropower plant located in Huaga Town, Shuicheng County, Liupanshui city, Guizhou Province, P. R. China. The project involves installation and operation of three sets of turbines and generators with 2.5 MW unit each, corresponding to total capacity of 7.5MW. The expected annual net electricity supplied to the China Southern Power Grid (China Southern Power Grid (CSPG) is 28,060 MWh. The project will achieve CO<sub>2</sub> emission reduction by replacing electricity supplied by fossil fuel fired power plant connected into China Southern Power Grid (CSPG).

The project has been registered as a VCS project activity (Project ID 330) under approved methodology AMS-I-D. "Grid connected renewable electricity generation" (Version 13)/10/ with the renewable crediting period starting from 28/03/2006. The contract of construction signed on 22/02/2003. The three units of turbine generators started operation on 28/11/2004.

After verification, CCSC confirms that the total net electricity supplied by the grid by the project is 37922.36MWh during this VCS monitoring period from 26/06/2012 to 25/11/2013. Thus the total emission reductions achieved by the project were 33,037 tCO<sub>2</sub>e.

## 2 VERIFICATION PROCESS

### 2.1 Method and Criteria

The overall verification, from Contract Review to Verification Report & Opinion, was conducted using CCSC internal procedures.

CCSC verified the project against the requirements set in VCS /7//8//9/, and other relevant VCS requirements.

The following sections outline each step in more detail.

### 2.2 Document Review

A desk review of the VCS-PD, monitoring plan, the validation report, the applied monitoring methodology, VCS monitoring report (VCS-MR) and supporting documents was conducted by the verification team. The aim of the desk review of the documentation was to verify the completeness of the data and the information presented, to carry out the compliance check of the VCS-MR with respect to the monitoring plan and the applied methodology. Particular attention was given to the frequency of measurements, the quality of the metering equipment including calibration requirements, and the quality assurance and quality control procedures. The evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions was also conducted.

To address the CCSC's corrective action and clarification requests, the VCS-MR was revised and resubmitted by PP. The final verification conclusion presented in this report is based on the revised VCS-MR (version 02, dated on 02/01/2014)/1/.

Section 6 of this report contains a complete list of all documents and proofs reviewed by the verification team.

### 2.3 Interviews

From 25/12/2013 to 26/12/2013, CCSC performed an on-site assessment at the physical site of the project located in Huaga Town, Shuicheng County, Liupanshui city, Guizhou Province, P. R. China.

The verification team verified that the actual implementation of the project was as described in the VCS-PD/6/ and VCS-MR/1/. This included the review of the project operation based on the evidence of on-site observation and presented documents.

During the on-site assessment, the verification team has interviewed with key personnel from the project owner (the project participant) and the consultancy.

The assessment content and topics/the persons interviewed at the on-site assessment were provided in the below table.

| Date: 25/12/2013 to 26/12/2013                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Interview topics                                                                                                                                                                                                                                                                                                                                                                                                                       | Interviewed Organizations and persons                                                                                                          |
| --The status of VCS project implementation.<br>-- Any changes of the VCS project.<br>-- The project on-site inspection—status and operation of key equipment, parameters monitoring and data processing activities, monitor equipment and calibration.<br>-- Monitoring data.<br>--Quality Management; organizational structure, responsibilities and competencies. Internal QA/QC Management procedures and document control (QA/QC). | Shuicheng Wutuhe Hydro Power Development Co.,Ltd. (the project owner):<br>1. Yu Benhui, Director of Power Plant;<br>2. Peng Guishu, Accountant |
| -- Preparation of Monitoring Report.<br>-- Compliance of the monitoring plan with the monitoring methodology<br>--Compliance of monitoring with the monitoring plan<br>-- Assessment of data and calculation of GHG emission reductions                                                                                                                                                                                                | Guizhou Honor Carbon Asset Management Co., Ltd (Consulting Company):<br>1. Li Xiaohui, Project Manager                                         |

## 2.4 Site Inspections

The on-site assessment involved following activities,

- 1) An assessment of the implementation and operation of the project activity as per the VCS-PD;
- 2) A review of information flows for generating, aggregating and reporting the monitoring parameters;
- 3) Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the approved monitoring plan;
- 4) A cross-check between information provided in the monitoring report and data from other sources such as operational records or similar data sources;
- 5) A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the VCS-PD and the selected methodology;
- 6) A review of calculations and assumptions made in determining the GHG data and emission reductions;
- 7) An identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

## 2.5 Resolution of Findings

During the verification of a project activity, to identify issues that need to be further elaborated upon, researched or added to in order to confirm that the project activity meets the VCSA

requirements and can achieve credible emission reductions, the verification team will issue a Corrective Action Request (CAR), a Clarification Request (CL) or a Forward Action Request (FAR) depending on different situations.

The objective of this phase of the verification is to resolve issues related to the monitoring, implementation and operations of the registered project activity that could impair the capacity of the registered project activity to achieve emission reductions or influence the monitoring and reporting of emission reductions prior to CCSC's positive conclusion on the GHG emission reduction calculation.

Findings established during the verification can either be seen as a non-fulfilment of criteria ensuring the proper implementation of a project or where a risk to deliver high quality emission reductions is identified.

A Corrective Action Request (CAR) will be raised if one of the following occurs:

- (a) Non-compliance with the monitoring plan or methodology are found in monitoring and reporting and has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient;
- (b) Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants;
- (c) Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;
- (d) Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project participants.

A Clarification Request (CL) will be raised if information is insufficient or not clear enough to determine whether the applicable VCS requirements have been met.

A Forward Action Request (FAR) will be raised, for actions if the monitoring and reporting require attention and/or adjustment for the next verification period.

To guarantee the transparency of the verification process, the concerns raised are documented in more detail in Appendix B.

## **2.5.1 Forward Action Requests**

There was no FAR to be addressed during the verification.

## **2.6 Eligibility for Validation Activities**

CCSC, who has undertaken validation activities as part of the verification, holds accreditation for validation for the relevant sectoral scope of VCSA.

### **3 VALIDATION FINDINGS**

#### **3.1 Participation under Other GHG Programs**

CCSC can confirm that the net GHG emission reductions generated from the reporting period from 26/06/2012 to 25/11/2013 has not been involved in other GHG programs.

#### **3.2 Methodology Deviations**

No methodology deviation has been applied to the Project.

#### **3.3 Project Description Deviations**

No project description deviation has been identified during the validation.

#### **3.4 Grouped Project**

Not Applicable since the project is a non-grouped project

## 4 VERIFICATION FINDINGS

### 4.1 Project Implementation Status

#### 4.1.1 Project Implementation in accordance with the VCS PD

The verification team has performed an on-site visit to verify the real implementation of the project against the description in the VCS-PD/6/.

The project was verified to be located in Huaga Town, Shuicheng County, Liupanshui city, Guizhou Province, P. R. China. The geographical coordinates of the power house are east longitude 104° 56' 31" and north latitude 26° 05' 30" , and the geographical coordinates of the dam are east longitude 104° 55' 13" and north latitude 26° 05' 09" . The coordinates have been verified during onsite visit.

The verification team has performed a site visit to verify the actual implementation of the project against the description in the VCS PD /6/ and found that: 3 sets of 2.5MW hydro turbine generators are in place as described in the VCS PD /6/, and the total installed capacity of the project activity is 7.5MW, which has been confirmed through the observation of the nameplates of the turbines and generators during the onsite visit. Facilities and equipments such as turbines, the main transformer, the bus line, etc as mentioned in the VCS PD /6/ are also in place and operated. As per the registered VCS PD/6/, the started date of project is 28/11/2004. All the generators and other equipments were in normal operation at the time of the onsite visit.

**CL1** was raised to request the PP to show the technical data of turbines and generators in separately in table 1 and specify more detailed technical information about the turbines and generators, such as serial number, power factor quantity, etc. The PP has revised the VCS-MR, and the relevant information was found appropriate by CCSC. So **CL1** was closed.

The key technical data of turbine generator units are shown as follows:

| Parameter             | Unit              | Value             |
|-----------------------|-------------------|-------------------|
| <b>Hydro Turbines</b> |                   |                   |
| Model                 | ----              | HLJF2504-WJ-69    |
| Quantity              | unit              | 3                 |
| Rated power           | MW                | 2.5               |
| Rated water head      | m                 | 85                |
| Rated flow rate       | m <sup>3</sup> /s | 3.42              |
| Serial number         | ----              | 03663/03664/03665 |
| <b>Generators</b>     |                   |                   |
| Model                 | ----              | SFW2500-6/1430    |
| Quantity              | unit              | 3                 |

|               |      |                         |
|---------------|------|-------------------------|
| Rated Power   | MW   | 2.5                     |
| Power factor  | ---- | 0.8                     |
| Rated Voltage | kV   | 6.3                     |
| Serial number | ---- | 0300533/0300534/0300535 |

According to the information collected during on-site visit and the relevant evidence provided by project owner, CCSC can confirm that no project design change occurred during the monitoring period and the project was implemented in accordance with the VCS-PD/6/.

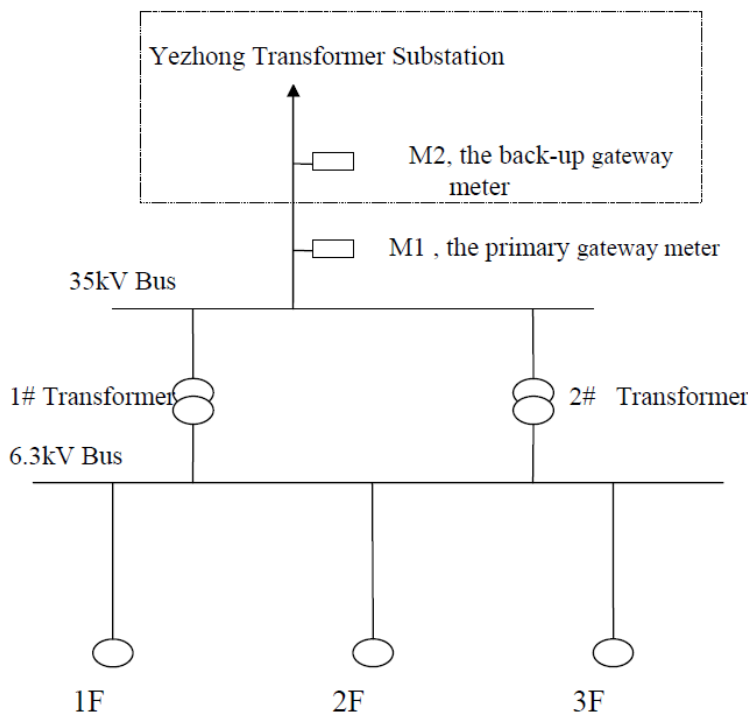
During the verification, CCSC found that the name of the project owner in the registered VCS-PD/6/ and the MR version 1 /1/ was Wutuhe Hydro Power Development Co., Ltd of Liupanshui Tuoyuan Group Co. Ltd, which is not consistent with the name on Business License/19/ and Balance Advice Note (BAN)/14/, i.e. Shuicheng Wutuhe Hydro Power Development Co.,Ltd. So **CL2 was raised** requested PP to clarify the inconsistency.

The PP has provided the former and current Business Licenses, and the Notice for permission of registration change issued by Administrative Bureau for Industry and Commerce of Shuicheng County/20/. CCSC could confirm that the Project Owner has change the name of company from Wutuhe Hydro Power Development Co., Ltd of Liupanshui Tuoyuan Group Co. Ltd to Shuicheng Wutuhe Hydro Power Development Co.,Ltd. on 04/07/2011. The ownership of the project is not changed. Hence, **CL2 was closed**.

#### 4.1.2 Compliance of monitoring with the monitoring plan

Through document review and on site visit, the verification team was able to confirm that the monitoring, including the actual monitoring system, data management has been carried out in accordance with the monitoring plan in the VCS-PD/6/.

The location of the metering system of the project is outlined as the following figure



The monitoring system includes a primary gateway meter M1 and a back-up gateway meter M2. The meter M1 is installed at the power station, the back-up meter M2 is installed in Yezhong substation. The meters are used to monitor the power exported to the grid and the power imported from the grid.

Therefore, CCSC can confirm that the revised Monitoring Report (Version 02, dated on 02/01/2014)/1/ is complete, transparent and in accordance with the monitoring plan and other relevant requirements.

#### 4.1.3 Remaining Issues from Previous Validation or Verification

The previous validation report/3/ has been checked by the verification team and no remaining issue was found. The 1st, 2nd and 3rd verification report/2/ published on VCS website was checked by the verification team. There is no remaining issue from previous verification. Meanwhile there is no methodology deviation during previously validation and verification.

In conclusion, CCSC confirms that the project has been implemented as described in the VCS-PD/4/.

## 4.2 Accuracy of GHG Emission Reduction or Removal Calculations

### 4.2.1 Parameters and information flow

**CAR1** was raised to request the PP to use the latest version of VCS Monitoring Report Template published in VCSA website. CCSC has verified the revised VCS-MR and can confirm that the latest version of VCS-MR template has been used. So **CAR1** was closed.

**CL3** was raised to request the PP to use the unit “tCO<sub>2</sub>e” instead of “VCUs” in the VCS-MR. CCSC has verified the revised VCS MR version 2/1/ and can confirm that the unit for emission reduction used is correct. **CL3** was closed.

The parameters required by the monitoring plan and the way CCSC has verified the information flow (from data generation, aggregation, to recording, calculation and reporting for these parameters including the values) in the monitoring reports are described below:

### Parameters monitored ex-post:

- 1) **EG<sub>P to G</sub>**: Quantity of Electricity exported to the grid by the project during the period;
- 2) **EG<sub>G to P</sub>**: Quantity of Electricity imported from grid by the project during the period;
- 3) **EG<sub>y</sub>**: Quantity of net electricity generation supplied by the project during the period.

According to the VCS-MR of the project/1/, the registered VCS-PD/6/ and the approved monitoring plan, the parameter **EG<sub>y</sub>** of net electricity supplied to the grid is the electricity supplied to the grid (**EG<sub>P to G</sub>**) deducting the electricity purchased from the grid (**EG<sub>G to P</sub>**). And both parameters **EG<sub>P to G</sub>** and **EG<sub>G to P</sub>** shall be continuously measured and recorded monthly.

As indicated in the registered VCS-PD/6/, The monitoring system (including a primary gateway meter M1 and a back-up gateway meter M2). The meter M1 is installed at the power station, the meter M2 is installed in Yezhong substation. The meters are used to monitor the power exported to the grid and the power imported from the grid.

Parameter is continuously measured and monthly record, which is in line with the monitoring plan /6/. The readings of M1 are monthly recorded by the designated person every month. The grid company provided the PP monthly with the Balanced Advice Note (BANs) which can be used for cross-checking.

The monthly meter readings /13/ and the BANs/14/ can cover this monitoring period from 26/06/2012 to 25/11/2013. The electricity amounts in monthly meter readings and the BANs are not fully consistent with each other because of the different rounding way between the Project Owner and the power grid. While the conservative values have been applied in the calculation of net electricity supplied to the power grid, ie, for the electricity values of supplied to the power grid, smaller values were applied, for the electricity values of imported from the power grid, the larger value were applied. The verification team has verified the values provided in the VCS-MR/1/ and ER calculation spreadsheet/4/ against the relevant documented evidences i.e. the monthly meter readings and the BANs and found them to be reasonable.

### Parameter determined ex-ante:

**EF<sub>grid,CM,y</sub>**: The grid CO<sub>2</sub> emission factor of the NWPG where the project connected to.

The emission factor of the 1<sup>st</sup> crediting period of the project has been determined ex-ante in the registered VCS-PD/6/. The emission factor used in the monitoring report has been verified against the registered VCS-PD/6/ and found them to be consistent.

## 4.2.2 Assessment Data and Calculation

A complete set of data of monitoring parameter  $EG_y$  from 26/06/2012 to 25/11/2013 are available for verification.

The critical parameter used for the determination of the Emission Reductions is the net electricity supplied to the grid by the project. The data pertaining to the above parameter are maintained in the identified records. All the data are in compliance with that stated in the VCS-MR (Version 02)/1/.

As per the methodology /10/, the emission reductions for the project are calculated as the baseline emissions minus the project emissions and leakage. Hence the emission reduction is determined by the following formula:

$$ER_y = BE_y - PE_y - LE_y$$

Where,

- $ER_y$  = the emission reduction in year y associated with the project (tCO<sub>2</sub>/yr)
- $BE_y$  = the baseline emission in year y (tCO<sub>2</sub>/yr)
- $PE_y$  = the project emission in year y associated with the project (tCO<sub>2</sub>/yr)
- $LE_y$  = the leakage in year y associated with the project (tCO<sub>2</sub>/yr)

### Baseline Emission

$$BE_y = EG_y \cdot EF_{grid,CM,y}$$

Where,

- $BE_y$  = Baseline emissions in year y (tCO<sub>2</sub>/yr)
- $EG_y$  = Electricity supplied by the project activity to the grid (MWh)
- $EF_{grid,CM,y}$  = Combined margin CO<sub>2</sub> emission factor for grid connected power generation in year y calculated using the "Tool to calculate the emission factor for an electricity system". As reported in the registered VCS PD/6/, the value has ex-ante determined as 0.8712 tCO<sub>2</sub>e/MWh and is not necessary to be monitored.

While the  $EG_y$  is calculated as:

$$EG_y = EG_{PtoG} - EG_{GtoP}$$

Where:

- $EG_y$  = Electricity supplied by the project activity to the grid in year y (MWh)
- $EG_{P to G}$  = The quantity of electricity exported to the grid (MWh)
- $EG_{G to P}$  = The quantity of electricity imported from the grid (MWh)

According to the VCS MR/1/ and VCS PD/6/, the parameter  $EG_y$  of net electricity supplied to the grid shall be continuously measured and recorded monthly.

The data used to calculate the emission reduction were measured by M1 and M2. The meters have been calibrated annually, and there is no malfunction happened during this monitoring period.

Besides that, the data and parameters used to calculate the  $EF_{Grid,CM,y}$  ( $NCV_{i,y}$ ,  $FC_{i,m,y}$ ,  $EFCO_{2,l,y}$ , installed capacity, electricity generation, efficiency of the best technology commercially, which are determined at registration and not monitored during the monitoring period, are included to be complete and established ex-ante in this reporting period of 26/06/2012 to 25/11/2013.

According to ASM-I.D. (Version 13)/10/, there are no other external data are required for determining the emission reductions of the project as the emission factor of the first crediting period has been determined ex-ante in the registered VCS PD/6/. The verification team has verified and confirmed that the emission factor used in the VCS MR/1/ is in compliance with the registered VCS PD/6/.

In order to ensure the accuracy of measurement, the net electricity supplied to the grid ( $EG_y$ ) has been cross-checked with the Balanced Advice Notes (BANs)/14/, and the conservative values were used. The verified values during the reporting period from 26/06/2012 to 25/11/2013 are shown in the following tables:

| Period                                                 | EG <sub>P to G</sub><br>(MWh) | Balanced<br>Advice Note<br>(BAN)<br>(MWh) | Verified EG <sub>P to G</sub><br>(MWh) | EG <sub>G to P</sub><br>(MWh) | Balanced<br>Advice (BAN)<br>(MWh) | Verified EG <sub>G to P</sub><br>(MWh) | EG <sub>y</sub><br>(MWh) |
|--------------------------------------------------------|-------------------------------|-------------------------------------------|----------------------------------------|-------------------------------|-----------------------------------|----------------------------------------|--------------------------|
|                                                        | A                             | B                                         | C=MIN(A,B)                             | D                             | E                                 | F=MAX(D,E)                             | G=C-F                    |
| 06.26.2012-<br>07.25.2012                              | 4594.240                      | 4594.240                                  | 4594.240                               | 0.140                         | 0.140                             | 0.140                                  | 4594.100                 |
| 07.26.2012-<br>08.25.2012                              | 5161.660                      | 5161.660                                  | 5161.660                               | 0.000                         | 0.000                             | 0.000                                  | 5161.660                 |
| 08.26.2012-<br>09.25.2012                              | 4880.540                      | 4880.540                                  | 4880.540                               | 0.000                         | 0.000                             | 0.000                                  | 4880.540                 |
| 09.26.2012-<br>10.25.2012                              | 4278.120                      | 4278.120                                  | 4278.120                               | 0.000                         | 0.000                             | 0.000                                  | 4278.120                 |
| 10.26.2012-<br>11.25.2012                              | 1516.340                      | 1516.340                                  | 1516.340                               | 2.660                         | 2.660                             | 2.660                                  | 1513.680                 |
| 11.26.2012-<br>12.25.2012                              | 812.000                       | 812.000                                   | 812.000                                | 4.620                         | 4.620                             | 4.620                                  | 807.380                  |
| <b>Sub-total from<br/>(06.26.2012-<br/>12.25.2012)</b> | <b>21242.900</b>              | <b>21242.900</b>                          | <b>21242.900</b>                       | <b>7.420</b>                  | <b>7.420</b>                      | <b>7.420</b>                           | <b>21235.480</b>         |
| 12.26.2012-<br>01.25.2013                              | 692.300                       | 692.300                                   | 692.300                                | 5.740                         | 5.740                             | 5.740                                  | 686.560                  |
| 01.26.2013-<br>02.25.2013                              | 545.160                       | 545.160                                   | 545.160                                | 5.460                         | 5.460                             | 5.460                                  | 539.700                  |
| 02.26.2013-<br>03.25.2013                              | 410.060                       | 410.060                                   | 410.060                                | 3.780                         | 3.780                             | 3.780                                  | 406.280                  |
| 03.26.2013-<br>04.25.2013                              | 399.980                       | 399.980                                   | 399.980                                | 2.520                         | 2.520                             | 2.520                                  | 397.460                  |
| 04.26.2013-<br>05.25.2013                              | 690.200                       | 690.200                                   | 690.200                                | 3.780                         | 3.780                             | 3.780                                  | 686.420                  |
| 05.26.2013-<br>06.25.2013                              | 1927.800                      | 1927.800                                  | 1927.800                               | 3.640                         | 3.640                             | 3.640                                  | 1924.160                 |
| 06.26.2013-<br>07.25.2013                              | 2661.960                      | 2652.300                                  | 2652.300                               | 1.540                         | 1.540                             | 1.540                                  | 2650.760                 |
| 07.26.2013-<br>08.25.2013                              | 3415.860                      | 3415.860                                  | 3415.860                               | 0.980                         | 0.980                             | 0.980                                  | 3414.880                 |
| 08.26.2013-<br>09.25.2013                              | 3542.840                      | 3542.840                                  | 3542.840                               | 1.120                         | 1.120                             | 1.120                                  | 3541.720                 |

|                                                        |                  |                  |                  |               |               |               |                  |
|--------------------------------------------------------|------------------|------------------|------------------|---------------|---------------|---------------|------------------|
| 09.26.2013-<br>10.25.2013                              | 1211.280         | 1211.280         | 1211.280         | 6.160         | 6.160         | 6.160         | 1205.120         |
| 10.26.2013-<br>11.25.2013                              | 1239.700         | 1239.700         | 1239.700         | 5.880         | 5.880         | 5.880         | 1233.820         |
| <b>Sub-total from<br/>(12.26.2012-<br/>11.25.2013)</b> | <b>16737.140</b> | <b>16727.480</b> | <b>16727.480</b> | <b>40.600</b> | <b>40.600</b> | <b>40.600</b> | <b>16686.880</b> |
| <b>Total</b>                                           | <b>37980.040</b> | <b>37970.380</b> | <b>37970.380</b> | <b>48.020</b> | <b>48.020</b> | <b>48.020</b> | <b>37922.360</b> |

In the spreadsheet for emission reduction calculation, the amount electricity exported by the project as per Balance Advice Note (BAN)/14/ during 26/06/2012 to 25/11/2013 is not consistent with the actual data. So **CAR2 was raised** requested PP to revise the spreadsheet and Monitoring Report. The PP has revised the spreadsheet and Monitoring Report, **CAR2 was closed**.

Therefore, the baseline emissions ( $BE_y$ ) are conservatively calculated as following:

$$\begin{aligned} BE_y &= EG_y \times EF_{\text{grid, CM, y}} \\ &= 37,922.36 \text{ MWh} \times 0.8712 \text{ tCO}_2\text{e/MWh} \\ &= 33,037 \text{ tCO}_2\text{e} \end{aligned}$$

### **Project Emission**

In accordance with the applied methodology/10/ and VCS PD/6/, the project emissions is 0, i.e.  $PE_y=0$ .

### **Leakage Emissions**

In accordance with the applied methodology/10/ and VCS PD/6/, the project emissions is 0, i.e.  $LE_y=0$ .

### **Emission reduction**

The emission reductions of the project are calculated as follows:

| Reporting period         | $ER_y(\text{tCO}_2\text{e})$ | $PE_y(\text{tCO}_2\text{e})$ | $LE_y(\text{tCO}_2\text{e})$ | $ER_y = BE_y - PE_y - LE_y (\text{tCO}_2\text{e})$ |
|--------------------------|------------------------------|------------------------------|------------------------------|----------------------------------------------------|
| 26/06/2012 to 25/11/2013 | 33,037                       | 0                            | 0                            | 33,037                                             |

### **Comparison of ERs**

Based on the above assessment, CCSC can conclude that the emission reduction during the monitoring period from 26/06/2012 to 25/11/2013 the have been quantified correctly in accordance with the project description and applied methodology. And the emission reduction during the monitoring periods verified as 33,037tCO<sub>2</sub>e. Compared with the estimated emission reductions under the same days of 518 from 26/06/2012 to 25/11/2013 in the registered VCS-PDD/6/, 34,691 (=24,445\*518/365) tCO<sub>2</sub>e, the verified emission reduction is 4.8% less than the estimated value. CCSC considers the value of verified emission reduction is reasonable.

## **4.3 Quality of Evidence to Determine GHG Emission Reductions or Removals**

**CL4** was raised to request the PP to specify the entity that carried out the meter calibration during the monitoring period in table 2. CCSC has reviewed the VCS-PD version 2 and the calibration

certificate and confirms that the calibration was carried out by Liupanshui City Power Supply Bureau. So **CL4** was closed.

The evidences used to determine the GHG emission reductions are assessed as follows:

| Assessment of the Evidence Quality    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                |      |    |    |            |         |         |          |                                            |                                |                |     |      |    |                |        |        |            |            |            |            |                |            |            |                    |                                                                 |  |                                  |                                               |  |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|------|----|----|------------|---------|---------|----------|--------------------------------------------|--------------------------------|----------------|-----|------|----|----------------|--------|--------|------------|------------|------------|------------|----------------|------------|------------|--------------------|-----------------------------------------------------------------|--|----------------------------------|-----------------------------------------------|--|
| Parameters monitored                  | (i) $EG_{P \text{ to } G};$ and<br>(ii) $EG_{G \text{ to } P};$<br>(iii) $EG_y$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                |      |    |    |            |         |         |          |                                            |                                |                |     |      |    |                |        |        |            |            |            |            |                |            |            |                    |                                                                 |  |                                  |                                               |  |
| Monitoring method                     | The meter M1 (primary gateway meter, bi-direction, accuracy 0.5) measures the electricity exported to the grid and electricity imported to the project from the grid. The meter M2 (backup gateway meter, bi-direction, accuracy 0.5s) is used as the backup meter for M1. When the main meter is in trouble, the project owner employs the data monitored by the backup meter.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                |      |    |    |            |         |         |          |                                            |                                |                |     |      |    |                |        |        |            |            |            |            |                |            |            |                    |                                                                 |  |                                  |                                               |  |
| Measuring/Reading/Recording frequency | The parameters are continuously measured and monthly recorded.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                |      |    |    |            |         |         |          |                                            |                                |                |     |      |    |                |        |        |            |            |            |            |                |            |            |                    |                                                                 |  |                                  |                                               |  |
| Calibration frequency/interval        | <p>The electricity meters are maintained and calibrated every year, the detailed information for the calibration of two meters are listed as follows:</p> <table border="1"> <tr> <th>Item</th><th>M1</th><th>M2</th></tr> <tr> <td>Type/Model</td><td>DDSD331</td><td>DY3050A</td></tr> <tr> <td>Location</td><td>Generator export<br/>(in the power station)</td><td>Yezhong transformer substation</td></tr> <tr> <td>Accuracy level</td><td>0.5</td><td>0.5S</td></tr> <tr> <td>SN</td><td>200408406Q0028</td><td>090056</td></tr> <tr> <td rowspan="2">On-sit</td><td>12/06/2012</td><td>10/05/2012</td></tr> <tr> <td>11/06/2013</td><td>09/05/2013</td></tr> <tr> <td>Validity until</td><td>10/06/2014</td><td>08/05/2014</td></tr> <tr> <td>Calibration Entity</td><td colspan="2">Liupanshui electricity supplying Bureau<br/>Certificate No: D206</td></tr> <tr> <td>Calibration Entity authorized by</td><td colspan="2">Metering office of Guizhou Power Grid Company</td></tr> </table> <p>All the meters meet the rated accuracy level as described in the monitoring plan and are in compliance with the industry standard Technical Administrative Code of Electric Energy Metering (DL/T 448-2000)/17/. The calibration frequency fulfils the requirement as described in the monitoring plan.</p> |                                | Item | M1 | M2 | Type/Model | DDSD331 | DY3050A | Location | Generator export<br>(in the power station) | Yezhong transformer substation | Accuracy level | 0.5 | 0.5S | SN | 200408406Q0028 | 090056 | On-sit | 12/06/2012 | 10/05/2012 | 11/06/2013 | 09/05/2013 | Validity until | 10/06/2014 | 08/05/2014 | Calibration Entity | Liupanshui electricity supplying Bureau<br>Certificate No: D206 |  | Calibration Entity authorized by | Metering office of Guizhou Power Grid Company |  |
| Item                                  | M1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | M2                             |      |    |    |            |         |         |          |                                            |                                |                |     |      |    |                |        |        |            |            |            |            |                |            |            |                    |                                                                 |  |                                  |                                               |  |
| Type/Model                            | DDSD331                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | DY3050A                        |      |    |    |            |         |         |          |                                            |                                |                |     |      |    |                |        |        |            |            |            |            |                |            |            |                    |                                                                 |  |                                  |                                               |  |
| Location                              | Generator export<br>(in the power station)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Yezhong transformer substation |      |    |    |            |         |         |          |                                            |                                |                |     |      |    |                |        |        |            |            |            |            |                |            |            |                    |                                                                 |  |                                  |                                               |  |
| Accuracy level                        | 0.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0.5S                           |      |    |    |            |         |         |          |                                            |                                |                |     |      |    |                |        |        |            |            |            |            |                |            |            |                    |                                                                 |  |                                  |                                               |  |
| SN                                    | 200408406Q0028                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 090056                         |      |    |    |            |         |         |          |                                            |                                |                |     |      |    |                |        |        |            |            |            |            |                |            |            |                    |                                                                 |  |                                  |                                               |  |
| On-sit                                | 12/06/2012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 10/05/2012                     |      |    |    |            |         |         |          |                                            |                                |                |     |      |    |                |        |        |            |            |            |            |                |            |            |                    |                                                                 |  |                                  |                                               |  |
|                                       | 11/06/2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 09/05/2013                     |      |    |    |            |         |         |          |                                            |                                |                |     |      |    |                |        |        |            |            |            |            |                |            |            |                    |                                                                 |  |                                  |                                               |  |
| Validity until                        | 10/06/2014                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 08/05/2014                     |      |    |    |            |         |         |          |                                            |                                |                |     |      |    |                |        |        |            |            |            |            |                |            |            |                    |                                                                 |  |                                  |                                               |  |
| Calibration Entity                    | Liupanshui electricity supplying Bureau<br>Certificate No: D206                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                |      |    |    |            |         |         |          |                                            |                                |                |     |      |    |                |        |        |            |            |            |            |                |            |            |                    |                                                                 |  |                                  |                                               |  |
| Calibration Entity authorized by      | Metering office of Guizhou Power Grid Company                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                |      |    |    |            |         |         |          |                                            |                                |                |     |      |    |                |        |        |            |            |            |            |                |            |            |                    |                                                                 |  |                                  |                                               |  |

|                                                |                                                                                                                                                                             |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Calibration cover the monitoring period</b> | It has been confirmed that the validity period of all conducted calibrations covers this monitoring period from 26/06/2012 to 25/11/2013.                                   |
| <b>Data reported</b>                           | Through a cross check with the BANs/14/, the most conservative values have been applied to calculate the electricity exported to and imported from the grid by the project. |

In summary, all necessary documentation is collected, referenced and is easily accessible in hard-copy or electronic format. The data pertaining to the monitored parameters are maintained in the identified internal records and consistent with the values stated in the Monitoring Report (version 02)/1/. Key data have been cross-checked via external sources, such as BANs.

#### **4.4 Non-Permanence Risk Analysis**

During on-site visit, the verification team observed that the monitoring personnel are well trained and have got relevant national operation qualifications, which demonstrate that they have sufficient competence to carry out the relevant monitoring tasks.

The routine requirements and log of the internal training for operating and maintaining the equipment were provided by the project owner. During the on-site visit, it has been observed that the maintenance staffs have performed the routine equipment maintenance in accordance with the internal requirements for equipment tour inspection of the company.

CCSC can confirm that the personnel training and the equipment maintenance have been implemented properly by checking the training and maintenance records, and by interviewing with site personnel.

All monitored data will be archived in electronic form and be kept for at least 2 years after the end of the last crediting period or till the last issuance of VERs for the project activity whichever occurs later.

## 5 VERIFICATION CONCLUSION

CCSC has carried out the verification of the project “*Wutuhe Erji Hydro power Project in Guizhou Province, China*”. The verification was performed based on the requirements set by Voluntary Carbon Standard (VCS) Version 3.4 /7/, as well as criteria given to provide for consistent project operations, monitoring and reporting. This verification covers the period from 26/06/2012 to 25/11/2013 inclusive.

In the course of the verification 2 Corrective Action Request (CAR) and 4 Clarification Requests (CLs) were raised and successfully closed. The verification is based on the VCS-MR (version01)/1/, the revised VCS-MR (version02)/1/, the VCS-PD/6/, ER calculation spread sheet/4/ and supporting documents available to CCSC.

As the result of the verification, CCSC confirms that:

- The project activity has been implemented and operated as per the VCS-PD and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- The VCS-MR and other supporting documents provided are complete in accordance with the latest applicable version of the VCS Registration & Issuance Process /9/ and in accordance with the additional requirements stated by the VCS Association (VCSA);
- The actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved methodology i.e. AMS-I.D./10/;
- The GHG emission reductions are calculated without material misstatements and in a conservative and appropriate manner.

Based on the evidence and information that are considered necessary to guarantee that GHG emission reductions are appropriately calculated, CCSC confirms the following statement:

*Reporting period: From 26/06/2012 to 25/11/2013*

*Verified GHG emission reductions or removals in the above reporting period:*

| Year                             | Baseline emissions or removals (tCO <sub>2</sub> e) | Project emissions or removals (tCO <sub>2</sub> e) | Leakage emissions (tCO <sub>2</sub> e) | Net GHG emission reductions or removals (tCO <sub>2</sub> e) |
|----------------------------------|-----------------------------------------------------|----------------------------------------------------|----------------------------------------|--------------------------------------------------------------|
| 2012<br>(06.26.2012-12.25. 2012) | 18,500                                              | 0                                                  | 0                                      | 18,500                                                       |
| 2013<br>(12.26.2012-11.25. 2013) | 14,537                                              | 0                                                  | 0                                      | 14,537                                                       |
| <b>Total</b>                     | <b>33,037</b>                                       |                                                    |                                        | <b>33,037</b>                                                |

## 6 APPENDIX A: REFERENCE

Documents provided by the Project Participant and relevant background documents have been reviewed or referenced for the periodic verification conclusions.

- /1/ VCS Monitoring report of Wutuhe Erji Hydro power Project in Guizhou Province, *China* dated 06/12/2013  
Version 02 dated 02/01/2014  
The monitoring period is 26/06/2012 to 25/11/2013.
- /2/ Previous verification report for the 1st and 2nd monitoring period
- /3/ TUV NORD CERT GmbH, validation report, 2007-11-19
- /4/ ER calculation spreadsheet for the period 26/06/2012 to 25/11/2013
- /5/ Tool to calculate the emission factor for an electricity system" (version 1.1)
- /6/ VCS Project Description (VCS-PD) of Wutuhe Erji Hydro power Project in Guizhou Province, *China* Version 06 dated 06/11/2009
- /7/ VCS Standard, version 3.4, dated 08/10/2013
- /8/ VCS Registration & Issuance Process, version 3.5, dated 08/10/2013
- /9/ VCS Program Definitions, version 3.5, dated 08/10/2013
- /10/ Approved baseline and monitoring methodology AMS-I.D. Renewable Energy Projects-Grid connected renewable electricity generation"
- /11/ Daily operation log
- /12/ The Grid Connection Agreement signed between Guizhou Electric Power Company and Shuicheng Wutuhe Hydro Power Development Co.,Ltd. dated on 2012.
- /13/ Monthly meter readings during the monitoring period from 26/06/2012 to 25/11/2013
- /14/ Balanced Advice Notes (BANs) during the monitoring period from 26/06/2012 to 25/11/2013
- /15/ Qualification certificate of Liupanshui City Power Supply Bureau
- /16/ Calibration certificates for meter M1 (SN 200408406Q0028) dated on 11/06/2013 and 12/06/2012; for meter M2 (SN 11107090056) dated 09/05/2013 and 10/05/2012.
- /17/ China National Technical Committee for Electric Energy Metering Standardization: DL/T448-2000 Technical Administration Code of Electric Energy Metering, dated 01/01/2001
- /18/ 2008 Baseline Emission Factors for Regional Power Grids in China issued by the DNA of China
- /19/ Business license of project owner issued by Administrative Bureau for Industry and Commerce of Shuicheng County
- /20/ Notice for permission of registration change issued by Administrative Bureau for Industry and Commerce of Shuicheng County dated on 04/07/2011

## 7 APPENDIX B: RESOLUTION OF CORRECTIVE ACTION REQUESTS AND CLARIFICATION REQUESTS

| No.         | CAR/CL/FAR                                                                                                                                                                                                                                                                                                                                  | Response by Project participants/ CCSC's conclusion of assessment                                                                                                                                                                                                                                                               |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CAR1</b> | The latest version of VCS Monitoring Report Template published in VCSA website is version 3.3, but the Monitoring Report uses the Template of version 3.2. Please update the version of Monitoring Report Template of the project.                                                                                                          | <p><u>Response by Project Participants:</u></p> <p>The VCS Monitoring Report version has been revised.</p> <p><u>CCSC's conclusion of assessment:</u></p> <p>CCSC has verified the revised VCS MR version 2 /1/, the latest template was used now. CAR1 was closed.</p>                                                         |
| <b>CAR2</b> | In the spreadsheet for emission reduction calculation, the amount electricity exported by the project as per Balance Advice Note(BAN)/14/ during 26/06/2012 to 25/11/2013 is not consistent with the actual data, please revise the spreadsheet and the monitoring report.                                                                  | <p><u>Response by Project Participants:</u></p> <p>The spreadsheet and the monitoring report have been revised.</p> <p><u>CCSC's conclusion of assessment:</u></p> <p>CCSC has verified the revised spreadsheet/4/ and the VCS MR version 2 /1/, the data has been corrected now. CAR2 was closed.</p>                          |
| <b>CL1</b>  | Please show the technical data of turbines and generators in separately in table 1 and specify more detailed technical information about the turbines and generators, such as serial number, power factor quantity, etc.                                                                                                                    | <p><u>Response by Project Participants:</u></p> <p>The technical data has been added in the table 1.</p> <p><u>CCSC's conclusion of assessment:</u></p> <p>CCSC has verified the technical information in the VCS MR version 2 /1/ and can confirm that it is consistent with the name plates on equipment. CL2 was closed.</p> |
| <b>CL2</b>  | The name of the project owner in the registered VCS-PD/6/ and the MR was Wutuhe Hydro Power Development Co., Ltd of Liupansh of Liupanshui Tuoyuan Group Co. Ltd, which is not consistent with the name on Business License/19/ and BAN/14/, i.e. Shuicheng Wutuhe Hydro Power Development Co.,Ltd. Please clarify the relationship between | <p><u>Response by Project Participants:</u></p> <p>The Wutuhe Hydro Power Development Co., Ltd of Liupansh has revised its name to Shuicheng Wutuhe Hydro Power Development Co., Ltd. on 04/07/2011.</p> <p><u>CCSC's conclusion of assessment:</u></p>                                                                         |

|            |                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|            | the two names.                                                                                                                                                       | CCSC has verified the former and current Business Licenses/19/, and the Notice for permission of registration change/20/ issued by Industrial and Commercial Bureau of Shuicheng County and confirmed that the Project Owner has change the name of company from Wutuhe Hydro Power Development Co., Ltd of Liupanshui of Liupanshui Tuoyuan Group Co. Ltd to Shuicheng Wutuhe Hydro Power Development Co.,Ltd. on 04/07/2011. The ownership of the project is not changed. CL1 was closed. |
| <b>CL3</b> | VCUs is the abbreviation of Verified Carbon Unit, for which the unit is tCO <sub>2</sub> e, please revise the monitoring report to make sure the correct units used. | <p><u>Response by Project Participants:</u></p> <p>The Unit has been revised in the MR.</p> <p><u>CCSC's conclusion of assessment:</u></p> <p>CCSC has verified the revised VCS MR version 2 /1/ and can confirm that the unit for emission reduction used is correct. CL3 was closed.</p>                                                                                                                                                                                                  |
| <b>CL4</b> | Please specify the entity that carried out the meter calibration during the monitoring period in table 2.                                                            | <p><u>Response by Project Participants:</u></p> <p>The information has been added.The entity is Liupanshui electricity supplying Bureau.</p> <p><u>CCSC's conclusion of assessment:</u></p> <p>CCSC has verified the calibration certificates/16/ and the Qualification certificate/15/ of the entity, and can confirm that the calibration was carried out by the qualified 3<sup>rd</sup> party entity, Liupanshui electricity supplying Bureau. CL4 was closed.</p>                      |

## 8 APPENDIX C: CERTIFICATES OF COMPETENCE

CCS 认证公司

Appendix C

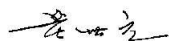
## CERTIFICATE OF COMPETENCE

Date of Qualification: 12/08/2013

Mr. Liu Dongsan

Has been qualified in accordance with *CDM Personnel Competence Requirements and Professional Competence Evaluation Instructions* (CDMI0301) as

- ☒ CDM validator for Technical Area(s): TA1.2
- ☒ CDM verifier for Technical Area(s): TA1.2
- ☐ Technical expert for Technical Area(s): \_\_\_\_\_
- ☒ Technical reviewer
- ☒ Financial expert
- ☒ Team leader
- ☐ CDM validation/verification trainee



Huang ShiYuan  
CCSC General Manager

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Appendix C

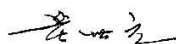
## CERTIFICATE OF COMPETENCE

Date of Qualification: 11/01/2013

Ms. Meng Cuiling

Has been qualified in accordance with *CDM Personnel Competence Requirements and Professional Competence Evaluation Instructions* (CDMI0301) as

- ☐ CDM validator for Technical Area(s): \_\_\_\_\_
- ☐ CDM verifier for Technical Area(s): \_\_\_\_\_
- ☒ Technical expert for Technical Area(s): TA1.2
- ☐ Technical reviewer
- ☒ Financial expert
- ☐ Team leader
- ☒ CDM validation/verification trainee



Huang ShiYuan  
CCSC General Manager

CCS 认证公司

Appendix C

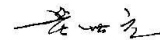
## CERTIFICATE OF COMPETENCE

Date of Qualification: 07/05/2013

Mr. Guo Kai

Has been qualified in accordance with *CDM Personnel Competence Requirements and Professional Competence Evaluation Instructions* (CDMI0301) as

- ☐ CDM validator for Technical Area(s): \_\_\_\_\_
- ☐ CDM verifier for Technical Area(s): \_\_\_\_\_
- ☒ Technical expert for Technical Area(s): TA1.2
- ☐ Technical reviewer
- ☒ Financial expert
- ☐ Team leader
- ☒ CDM validation/verification trainee



Huang ShiYuan  
CCSC General Manager

CCS 认证公司

Appendix C

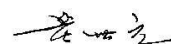
## CERTIFICATE OF COMPETENCE

Date of Qualification: 25/11/2013

Mr. Rui Qiguang

Has been qualified in accordance with *CDM Personnel Competence Requirements and Professional Competence Evaluation Instructions* (CDMI0301) as

- ☒ CDM validator for Technical Area(s): TA1.2/TA2.2/TA3.1
- ☒ CDM verifier for Technical Area(s): TA2.2/TA3.1
- ☐ Technical expert for Technical Area(s): \_\_\_\_\_
- ☒ Technical reviewer
- ☒ Financial expert
- ☒ Team leader
- ☐ CDM validation/verification trainee



Huang ShiYuan  
CCSC General Manager