

Monitoring report

Project Name: Pingwu Renjiaba 12.6 MW Small Hydropower Project, P.R.China

UNFCCC Reference Number: 1190

Monitoring Period: 21 August 2008 to 20 August 2009

Second periodic verification

Version: 01

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General Information

Purpose of a Monitoring Report

In order to achieve real, measurable and verifiable emission reduction, it is crucial that all data necessary for the calculation of emission reductions are properly measured, recorded and reported, in line with the approved methodology used and the monitoring plan contained in the registered PDD.

Project Description

Pingwu Renjiaba 12.6 MW Small Hydropower Project, P. R. China is a renewable electricity generation project activity located in Shuijing Town of Pingwu County, Sichuan Province, P. R. China.

The total installed capacity of the project is 12.6 MW (6.3 MW*2). The Project has delivered 69288.8 MWh of electricity to the China Central Power Grid (CCPG) during this monitoring period (from August 21, 2008 to August 20, 2009), which is about 77.91% of that estimated in the Preliminary Design Report.

Electricity generated by the proposed project will displace part of the electricity generated by Central China Power Grid which is dominated by fossil fuel-fired power plants, and thus greenhouse gas (GHG) emission reductions could be achieved. The GHG emission reductions during this monitoring period are 65381 tCO₂e.

A more detailed description of the project activity is available in the registered PDD and related documentation.

Monitored Parameters

In line with the approved methodology used and the monitoring plan in the registered PDD, the following parameters have to be monitored:

Data / Parameter:	EG _{ex}
Data unit:	MWh
Description:	Electricity supplied to the power grid by the project
Source of data to be used:	Revenue meter reading (bi-directional type)
Description of measurement methods and procedures to be applied:	The revenue meter reading is hourly measured and monthly recorded. The meter reading time is at 8:00 O'clock in the morning on 20 th each month. It is jointly carried out by the power grid company and the project owner.
QA/QC procedure applied:	The meters are calibrated periodically by qualified third party against national standard. Measured data can be cross checked with electricity sales receipts. In case of malfunction of the revenue, backup meter reading will be adopted.
Any comment:	Uncertainty level is low.

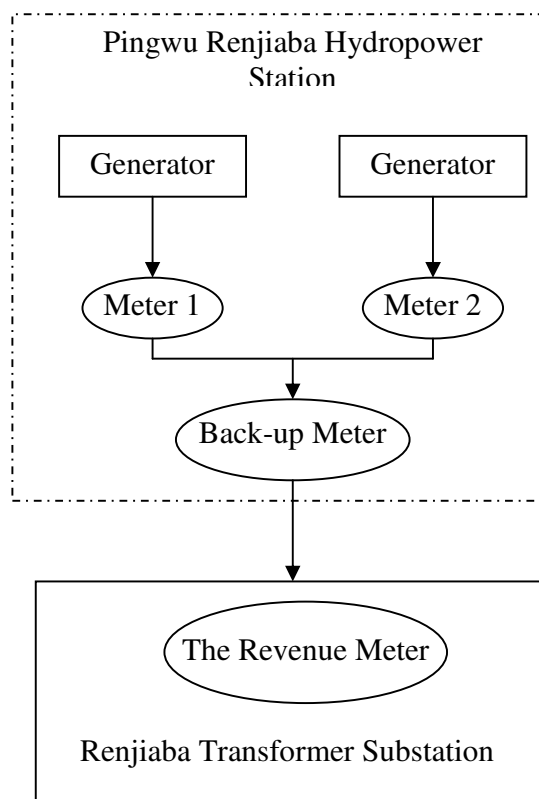
Data / Parameter:	EG _{im}
Data unit:	MWh
Description:	Electricity purchased from the power grid by the project
Source of data to be used:	Revenue meter reading (bi-directional type).
Description of measurement methods and procedures to be applied:	The revenue meter reading is hourly measured and monthly recorded. The meter reading time is at 8:00 O'clock in the morning on 20 th each month.

	It is jointly carried out by the power grid company and the project owner.
QA/QC procedure applied:	The meters are calibrated periodically by qualified third party against national standard. Measured data can be cross checked with electricity sales receipts. In case of malfunction of the revenue, backup meter reading will be adopted.
Any comment:	Uncertainty level is low.

The location of the meters

The Revenue meter, which is the data source for CER calculation, locates at Renjiaba Transformer Substation that is owned and managed by the power grid company. The backup meter is located at the project site which is owned and managed by the project owner.

The sketch map of the meters location is as following:



Electricity supply during the monitoring period (21 August 2008 to 20 August 2009)

Date	Exported (MWh)	Imported (MWh)	Net supply (MWh)
	A	B	C = B-A
Aug.21-Sep.20,2008	6935.950	0.000	6935.950
Sep.21-Oct.20,2008	6558.300	0.350	6557.950
Oct.21-Nov.20,2008	6643.700	0.000	6643.700
Nov.21-Dec.20,2008	4796.050	1.050	4795.000
Dec.21,2008-Jan.20,2009	4212.250	0.000	4212.250
Jan.21-Feb.20,2009	3356.850	0.000	3356.850
Feb.21-Mar.20,2009	2891.350	0.350	2891.000
Mar.21-Apr.20,2009	4968.600	0.700	4967.900
Apr.21-May.20,2009	8032.500	0.000	8032.500
May.21-Jun.20,2009	5359.200	0.000	5359.200
Jun.21-Jul.20,2009	7200.900	0.350	7200.550
Jul.21-Aug.20,2009	8336.650	0.700	8335.950
Total	69292.3	3.500	69288.800

Note: The source of the data above is from power Grid Company.

Data Collection Process QA/QC

Roles and responsibilities

Overall responsibility for monitoring and carrying out the monitoring following this monitoring plan lies with Pingwu Chuanjiang Hydropower Development Co. Ltd.

Mr. Lianggui Yue, Operation Department Manager of Pingwu Renjiaba 12.6 MW Small Hydropower Project, P.R.China, is responsible for the operation and maintenance, which includes the monitoring of the project.

Mr. Li Li, Project Manager of Operation Department Manager, is responsible for the implementation and management of the monitoring plan overall; check and supervise the activities such as recording, collecting and archiving of the monitoring data;

Ms. Hongyu LIU, Professor of Hunan University, CDM consultant, is responsible for the CER calculation and the monitoring report writing.

Training

College of Environmental Science and Engineering, Hunan University has carried out the training works about CDM knowledge and the monitoring requirements for Pingwu Chuanjiang Hydropower Development Co. Ltd.

The staffs that are responsible for electricity meter reading and recording have been trained according to the CDM monitoring and management manual for Pingwu Renjiaba 12.6 MW Small Hydropower Project, P.R.China.

Quality control

Monthly power supply data has been approved and signed off by staffs of the power grid company that are responsible for meter reading at Renjiaba Transformer Substation. No meter errors have occurred to-date at Pingwu Renjiaba 12.6 MW Small Hydropower Project, P.R.China during this monitoring period. Calibration of meters was carried by a qualified third party. The calibration results showed that all meters operate in accordance with the industry standards and are qualified to measure the electricity supplied to the grid and consumed by the proposed project.

All data will be kept at least two years after the crediting period.

Emission Reduction Calculations

Step 1. Baseline emission

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The emission factor of the project has been determined ex-ante. According to the registered PDD, the combined baseline emission factor is 0.9436 tCO₂/MWh.

The baseline emission of the project is calculated as below:

Date	Net electricity exported (MWh)	EF (tCO ₂ /MWh)	Baseline emission (tCO ₂)
Aug.21-Sep.20,2008	6935.950	0.9436	6545
Sep.21-Oct 20,2008	6557.950	0.9436	6188
Oct 21-Nov.20,2008	6643.700	0.9436	6269
Nov.21-Dec.20,2008	4795.000	0.9436	4525
Dec.21,2008-Jan.20,2009	4212.250	0.9436	3975
Jan.21-Feb.20,2009	3356.850	0.9436	3168
Feb.21-Mar.20,2009	2891.000	0.9436	2728
Mar.21-Apr.20,2009	4967.900	0.9436	4688
Apr.21-May.20,2009	8032.500	0.9436	7579
May.21-Jun.20,2009	5359.200	0.9436	5057

Jun.21-Jul.20,2009	7200.550	0.9436	6794
Jul.21-Aug.20,2009	8335.950	0.9436	7866
Total	69288.800		65381

Step.2 Project emissions

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According to AMS. I. D (Version 10), there is no expected project emissions related to the generation of electricity, as generation is based on a renewable resource. Also, given that there is no flooded area associated with the project activity, therefore, $PE = 0$

Step 3 Leakage

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As described in PDD, the leakage of the Project (L_y) is 0 tCO₂e.
Therefore, $L_y = 0$

Step 4 Emission Reduction Calculations

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According to AMS. I. D (Version 10), Emission Reduction ($ER_y, tCO_2e/y$) = $BE_y - PE_y - L_y$. So $ER_y = BE_y$

Table 4 Calculation of the emission reductions:

Date	Baseline Emissions (tCO ₂)	Project Emissions (tCO ₂)	Leakage (tCO ₂)	Emission Reductions (tCO ₂)
Aug.21-Sep.20,2008	6545	0	0	6545
Sep.21-Oct 20,2008	6188	0	0	6188
Oct 21-Nov.20,2008	6269	0	0	6269
Nov.21-Dec.20,2008	4525	0	0	4525
Dec.21,2008-Jan.20,2009	3975	0	0	3975
Jan.21-Feb.20,2009	3168	0	0	3168
Feb.21-Mar.20,2009	2728	0	0	2728
Mar.21-Apr.20,2009	4688	0	0	4688
Apr.21-May.20,2009	7579	0	0	7579
May.21-Jun.20,2009	5057	0	0	5057
Jun.21-Jul.20,2009	6794	0	0	6794
Jul.21-Aug.20,2009	7866	0	0	7866
Total	65381	0	0	65381