

VCS VERIFICATION REPORT FOR GROUPED HYDROPOWER PLANTS IN CHONGQING, YUNNAN, SICHUAN AND GUIZHOU PROVINCES, P.R. CHINA



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Summary:

China Building Material Test and Certification Group Co., Ltd (CTC), commissioned by Swiss Carbon Value Ltd., has performed the seventh periodic verification of the Grouped Hydropower Plants in Chongqing, Yunnan, Sichuan and Guizhou Provinces, P.R. China (hereafter referred to as “the Project”) covering the monitoring period from 26/09/2016 to 25/06/2018, on the basis of requirements of Verified Carbon Standard (VCS) Version 3.7.

The Project involves the installation and operation of 88 run-of-river hydropower plants in Chongqing, Sichuan, Guizhou and Yunnan Provinces, People’s Republic of China. The Project is expected to export annual electricity of 450,914 MWh and 356,851 MWh to the Central China Power Grid (CCPG) and Southern China Power Grid (SCPG) respectively utilizing renewable hydro resources. The project activity achieves greenhouse gas (GHG) emissions reductions by displacing electricity from existing fossil fuel based power plants and likely capacity additions within the given grid.

The Project has been registered as a VCS project (VCS Registration No. 438) under VCS 2007.1 using approved CDM methodology AMS-I.D- “Grid connected renewable electricity generation” (Version 13.0) with the first renewable crediting period from 28/03/2006 to 27/03/2016. And the project has been updated the second crediting period from 28/03/2016 to 27/03/2026 under Verified Carbon Standard (VCS) Version 3.7 using the approved CDM methodology AMS-I.D. “Grid connected renewable electricity generation” (Version 18.0) on 7th April 2017.

The verification process includes three phases:

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

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

In the course of the verification, No Corrective Action Request (CAR) or Clarification Requests (CL) was raised.

As a result of this verification, the verification team confirms that:

- All operations of the Project are implemented and installed as planned and described in the validated Project Description;
- The registered monitoring plan is in accordance with the applied approved CDM methodology, i.e., AMS-I.D- “Grid connected renewable electricity generation” (Version 18.0).
- The implementation of monitoring is in compliance with the registered monitoring plan.
- The monitoring system is in place and functional;
- The installed equipment for measuring parameters required for calculating emission reductions are calibrated appropriately.

Based on the information observed and evaluated, the verification team confirms that the emission reductions are correctly calculated in the MR (Version 2.0 dated 26/12/2018).

In conclusion, it is CTC’s opinion that the project activity “Grouped Hydropower Plants in Chongqing, Yunnan, Sichuan and Guizhou Provinces, P.R. China”, as described in the Monitoring Report (Version 2.0), meets all relevant requirements for VCS and all relevant host Party criteria. Hence, CTC is able to certify that the emission reductions from the Project during the monitoring period from 26/09/2016 to 25/06/2018 amount to 605,109 tCO₂e with 387,615 tCO₂e and 217,494 tCO₂e to CCPG and SCPG respectively, and requests issuance of the equivalent VCUs.

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1 INTRODUCTION

1.1 Objective

Swiss Carbon Value Ltd. has commissioned CTC to verify and provide a verification statement of the emission reductions of the Grouped Hydropower Plants in Chongqing, Yunnan, Sichuan and Guizhou Provinces, P.R. China (hereafter referred to as “the Project”) which is located in Chongqing City, Sichuan Province, Guizhou Province and Yunnan Province, People's Republic of China for the seventh monitoring period from 26/09/2016 to 25/06/2018. This monitoring period is the second monitoring period of the second crediting period following the sixth monitoring period from 28/03/2016 to 25/09/2016, on the basis of requirement of VCS Standard (Version 3.7) /5/ as well as criteria to provide for consistent project operations, monitoring and reporting.

CTC 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 14065:2013 /10/.

Verification of emission reductions from a project activity is the independent review and ex post determination by VVB of the monitored reductions in GHG emissions during the reported monitoring period. The objectives of verification are to:

- a) Ensure that the project activity has been implemented and operated as per the updated VCS project description (updated VCS-PD) /3/ 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 /9/ 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 /6/;
- d) Evaluate the data recorded and stored as per the monitoring methodology /6/.

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 CTC. The verification scope covers the relevant documents (e.g. the updated VCS-PD /3/, the monitoring plan, the VCS monitoring report (VCS-MR) /1/, the emission reduction calculation spreadsheet /2/, 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 and associated interpretations.

The above verification activities are conducted according to the VCS 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

CTC has undertaken a reasonable assurance engagement in accordance with VCS Standard (Version 3.7) /5/. 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 updated VCS-PD /3/, VCS-MR /1/, and supporting evidences made available to the verifier and information collected through performing interviews and during the on-site inspection.

1.4 Summary Description of the Project

The Grouped Hydropower Plants in Chongqing, Yunnan, Sichuan and Guizhou Provinces, P.R. China is a grouped project, which consists of 88¹ run-of-river hydropower stations with a total installed capacity of 210.25 MW, and the maximum installed capacity of an individual power plant is 14 MW, spread widely across the less developed rural areas of southwestern China. There are four sub-groups (i.e. 9 projects are located in Yunnan Province, 60 in Chongqing City, 13 in Sichuan Province and 6 in Guizhou Province), which are determined by the geographical boundary.

The electricity generated from the Project will be supplied to Central China Power Grid (CCPG) and Southern China Power Grid (SCPG), where geographic and system boundaries can be clearly identified and information on the grid and calculation of baseline emissions is published and public available according to China DNA's Guidance on China Grid Baseline Emission Factors dated on 6th June 2016 /15/.

The CCPG and SCPG are both dominated by thermal power plants as per the China Electrical Power Yearbook 2012~2014 /13/. By exporting expected annual electricity of 450,914MWh and 356,851 MWh to the CCPG and SCPG respectively, the project activity achieves greenhouse gas (GHG) emissions reductions by displacing electricity from fossil fuel-based power plants connected to the grid.

According to the VCS website, the Project has been registered as a VCS project (VCS Registration No. 438) on 08/06/2009 and the current seventh verification has been finalized for the monitoring period from 26/09/2016 to 25/06/2018. This monitoring period is the second monitoring period of second crediting period.

During the monitoring period from 26/09/2016 to 25/06/2018, the total GHG emission reductions generated by the Project are 605,109 tCO₂e, with 387,615 tCO₂e within the CCPG and 217,494 tCO₂e within the SCPG.

2 VERIFICATION PROCESS

2.1 Method and Criteria

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

CTC verified the Project against the requirements set in VCS /5//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 updated VCS-PD /3/, the renew crediting period validation report /4/, the previous verification reports /18/, the registered VCS-PD /18/ and the registered validation report/18/, the applied monitoring methodology /6/, the VCS monitoring report (VCS-MR) /1/ 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 /1/ with respect to the monitoring plan and the applied methodology /6/. Particular attention was given to the sampling approach, the quality of the metering equipment including calibration requirements, the monitored data and its evidence, and the emission reduction calculation. 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.

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

2.3 Interviews

From 13/12/2018 to 16/12/2018, CTC performed an on-site assessment at the physical site of sampled individual projects of the Project.

The verification team verified that the actual implementation of the Project was as described in the updated VCS-PD /3/ 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.

¹ Previously there were 98 hydropower plants included in the grouped project, now three hydropower plants (17_Luotian, 19_Baidongyan and 89_Dashi Stage I) have been withdrawn from the grouped project according to the agreement between DOE and the project proponents. There are seven hydropower plants (8_Mayuexi, 14_Lianmeng, 16_Gaodongzi, 20_Dibao, 26_Xiangyang Stage II, 43_Leyuan, 64_Banqiao Stage II) have excluded from the grouped project in a conservative manner, according to the 4th verification review response to VCS on 16th Oct 2015 .

Date: 13/12/2018 to 16/12/2018	
Interview topics	Interviewed Organizations and persons
--The status of VCS project implementation. -- Any changes of the VCS project. -- The project on-site inspection —The evidences of construction status and operation of key equipment, parameters monitoring and data processing activities, monitor equipment and calibration. -- Monitoring data. --Quality Management; organizational structure, responsibilities and competencies; Internal QA/QC Management procedures and document control. --Compliance with National Laws and Regulations.	37. Baijia Hydroelectric Plant Wei Chuan, manager 38. Xinqiao Hydroelectric Plant Yang Yang, manager Li Da, electrician 44. Yong'an Hydroelectric Plant Zhang Li, manager Li Yun, electrician 55. Canglong Hydroelectric Plant Chen Shihong, manager 56. Daheba Hydroelectric Plant Zhang Wen, manager Wang Zhi, electrician 57. Heixigou Hydroelectric Plant Chen Hua, manager 63. Songshigou Hydroelectric Plant Ran Ruibi, manager 69. Baiyang Hydroelectric Plant Yan Lin, manager 70. Xinmin Tailwater Stage II Hydroelectric Plant Fang Jiang, manager Wang Yifan, electrician Tang Wenguang, maintenance man 72. Dahegou Hydroelectric Project Chen Jun, manager Chen Qingsong, staff 73. Xinmin Stage II Hydroelectric Project Zheng Guohong, manager Liang Yongxin, staff Li Xiang, maintenance man 78. Mayihe Hydroelectric Plant Li Bo, manager Li Xiangyun, electrician Chen Jiang, maintenance man 80. Toudaoshui Hydroelectric Station Yang Liang, manager Wang Hua, electrician

	Huang Yu, maintenance man 87. Zhuyeshan Hydroelectric Station Wu Dequan, manager Song Wenzhe, staff 88. Lianghekou Hydroelectric Plant Fang Jiangshui, manager Du Jiang, maintenance man Duan Yu, electrician 90. Dabaishu Hydroelectric Plant Shen Shichang, manager Li Fuying, staff 95. Jinghong City Chuangye Hydropower Station Li Shu, manager Fang Lan, electrician Wang Ren, maintenance man 98. Fugong County Lishadi Hydropower Plant Project Chen Yanjun, manager Fang Yun, staff Jiang Shan, staff
-- Preparation of Monitoring Report. -- Compliance of the monitoring plan with the monitoring methodology -- Compliance of monitoring with the monitoring plan -- Assessment of data and calculation of GHG emission reductions	Swiss Carbon Value Ltd. (the Consultant) Sui Yang, 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 updated VCS-PD /3/;
- 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 /1/ 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 updated VCS-PD /3/ and the selected methodology /6/;
- 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 VCS 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 CTC'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.

One CAR has been raised during the current 7th verification.

2.5.1 Forward Action Requests

No Forward Action Requests were raised during the current 7th verification.

2.6 Eligibility for Validation Activities

The VVB of “China Building Material Test and Certification Group Co., Ltd” commissioned by the project participant is one of eligible VVBs listed on the VCS website (<https://verra.org/project/china-classification-society-certification-company-CTC/>), and it holds the accreditation for validation/verification for the sectoral scope: “1. Energy (renewable/non-renewable)”, to which the project activity belongs. Therefore, CTC is eligible for the validation/verification of the project activity.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The verification team has checked the official website of other GHG Programs like CDM, GS VER, and is able to confirm that none of any individual project activities under the Grouped Project is included in any GHG programs or any other mechanisms that include GHG allowance trading. The net GHG emission reductions generated by the Grouped Project during this monitoring period have not been used for compliance under any emission trading programs or mechanisms. The Project have not sought or received any other form of GHG-related environmental credit during this monitoring period.

The Project has been registered as a VCS project, and it did not apply for any other approved or not approved GHG programs.

Therefore, the Verification Team confirms that the project is eligible to participate under the VCS Program.

3.2 Methodology Deviations

No deviation from the methodology is needed to be submitted.

3.3 Project Description Deviations

Through on-site interviews and document review, the verification team confirms that there are no project description deviations according to the updated PD /3/.

3.4 Grouped Project

There is no inclusion of new project activity instances into the Grouped Project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

4.1.1 Project Implementation in accordance with the VCS PD

The proposed Grouped Project involves the installation and operation of 88 run-of-river hydropower plants in Chongqing City, Sichuan Province, Guizhou Province and Yunnan Province, People's Republic of China.

It was confirmed by site inspection of sampling projects in Chongqing City, Sichuan Province, Guizhou Province and Yunnan Province that all the individual projects were developed as run-of-river hydropower projects, consisting of water intake structure, the water conveyance system and the power house. The power generating technology, installed capacity, technical specifications of the water turbine generators and electricity delivering systems have been verified to be consistent with the updated VCS-PD /3/ by site assessment of the sampling projects.

Besides generating renewable energy electric power, the proposed Grouped Project will contribute positive effects for the local sustainable development through the following aspects:

- 1) To improve the local and regional economy development by providing electricity to meet its increasing demands;
- 2) To displace electricity from coal-fired power plants and thus directly reduces environmental pollution caused by the burning of coal;
- 3) To make greater commercial use of hydroelectric resources, increase tax revenue of the local government and income of local residents, improve local traffic conditions, boost local standard of living, create new job opportunities for local people and thus promote the sustainable development in the local regions.

Through document review, the verification team has verified that the project commissioning start date has been appropriately described in the monitoring report /1/ in accordance with the updated VCS-PD /3/.

Therefore, the verification team confirms that no data and/or variables presented in the monitoring report /1/ and the associated emission reduction calculations /2/ differ significantly from the ones stated in the updated VCS-PD /3/, which may lead to an increase in the emission reductions for this period in relation to the estimates in the updated VCS-PD /3/.

According to the updated VCS-PD /3/, the Project is a grouped project, and it consists of four sub-groups (i.e. 9 projects are located in Yunnan Province, 60 in Chongqing City, 13 in Sichuan Province and 6 in Guizhou Province), which are classified by geographical boundary.

The verification team has independently carried out a sampling approach for the Grouped Project according to the guideline set out in Annex A.2.4.6 of ISO 14064-3, Clause A.2.4.6.4. Since the monitoring data of 9 individual projects (i.e. project No. 1, 25, 29, 45, 74, 75, 76, 82, 93) are not available for verification and the project participant claimed zero emission reduction during this monitoring period, these projects are not included in the samples.

For projects located in Chongqing City, Sichuan Province, Guizhou Province and Yunnan Province, the verification team has visited the project sites by sampling method. By evaluating the potential risks (i.e. project types, installed capacity, estimated emission reductions, financial return rate and environmental impact) underlying the individual project activities, the verification team finally determined 18 sampling projects from the Grouped Project and carried out a complete verification of these 18 sampling projects as listed in the following tables.

Table 4-1 Sampling projects

Grid	Province	Number of Projects	Number Samples Required	of	Sampling Project Serial No.
Central China Power Grid (CCPG)	Sichuan	13	4		78, 80, 87, 88
	Chongqing	60	8		37, 38, 44, 55, 56, 57, 63, 69

Southern China Power Grid (SCPG)	Yunnan	9	3	90, 95, 98
	Guizhou	6	3	70, 72, 73
Total Number of Projects		88	18	-

The verification team has confirmed by on-site assessment that the total generation capacity of the sampling projects are consistent with the updated VCS-PD /3/. The relevant evidence on how the GHG data were monitored and collected during the monitoring period (including monthly monitoring records, the electricity transaction receipts/electricity sales receipts, the accuracy and calibration of the electricity meters²) have been reviewed during onsite assessment. The major technical specifications of the sampling projects have been verified during the site visit and listed in the table below and the team confirmed they are consistent with the updated VCS-PD /3/.

Table 4-2 Verified Technical Specifications of the Water Turbine Generators (sampling projects)

No	Project Title	Project Owner	Major Generating Facilities	
37	Baijia Hydroelectric Plant	Wulong Boneng Electric Power Co., Ltd.	Capacity	0.4MW
			Hydro Turbine	HL200-WJ-35
			Generators	SFW-W-W400-6/850
38	Xinqiao Hydroelectric Plant	Wulong Boneng Electric Power Co., Ltd.	Capacity	0.4 MW
			Hydro Turbine	XJA—W50/1×12.5
			Generators	SFW400—6/850
44	Yong'an Hydroelectric Plant	Wulong Haiheng Agriculture Co., Ltd.	Capacity	0.63 MW
			Hydro Turbine	CJ237-W-70/1×7
			Generators	SFW-W630-6/990
55	Canglong Suokousi Hydroelectric Plant	Wulong Canglong Hydropower Co., Ltd.	Capacity	0.88 MW
			Hydro Turbine	HLA-WJ-50 HL110-WJ-42
			Generators	SFW-W630-6/990 SFW-W250-6/740
56	Daheba Hydroelectric Plant	Wulong Dexin Hydropower Development Co., Ltd.	Capacity	1 MW
			Hydro Turbine	CJA23-W—90/1×4
			Generators	SFW—W500-6/850
57	Heixigou Hydroelectric Plant	Wulong Landi Hydropower Co., Ltd.	Capacity	1 MW
			Hydro Turbine	CJA237-W-115/1×13
			Generators	SFW1000-12/1430

² The detailed references of each sampled project have been Listed in the Appendix A of this report.

63	Songshigou Hydroelectric Plant	Wulong Tukan Songshigou Hydroelectric Plant	Capacity	3×0.5 MW
			Hydro Turbine	GJ22-W-70/1×9
			Generators	SFW-W500-8/990
69	Baiyang Hydroelectric Plant	Chongqing Wulong Yuxiang Water Resource Development Co., Ltd.	Capacity	2×2.5 MW
			Hydro Turbine	CJA237-W-100/1×11
			Generators	SFW2500-8/17300
70	Xinmin Tailwater Stage II Hydroelectric Plant	Daozhenxianghe Hydropower Development Co., Ltd.	Capacity	1.26 MW
			Hydro Turbine	HLA153-WJ-500
			Generators	SFW – W630 – 6/990
72	Dahekou Hydroelectric Project	Chongqing Fengyuanjinhui Hydropower Development Co., Ltd.	Capacity	5×0.63 MW
			Hydro Turbine	CJ237-9/1×5(2) CJ237-9/1×6(3)
			Generators	SFW630-6/990
73	Xinmin Hydroelectric Project	Wulong Yuqian Comprehensive Development Co., Ltd.	Capacity	5.5MW
			Hydro Turbine	HLD54-WJ-78(2)
				HLD54-WJ-75(1)
			Generators	SFW-2000-6/1430(2)
				TYPEWEK1500-6/1431(1)
78	Mayihe Hydroelectric Plant	Yingjing Mayihe Hydropower Station	Capacity	1.26 MW
			Hydro Turbine	DL54—WJ—60
			Generators	SFW-W630-6/990
80	Toudaoshui Hydroelectric Station	Yingjing County Toudaoshui Hydropower Station	Capacity	3.2 MW
			Hydro Turbine	XJE-W-60B/2×11.5
			Generators	SFW1600-6/1430
87	Zhuyeshan Hydroelectric Plant	Sichuan E'bian Heizhugou Hydropower Co., Ltd.	Capacity	5MW
			Hydro Turbine	HLD261-WJ-75
			Generators	SFWE-K2500-6/1430
88	Lianghekou Hydroelectric Plant	E'bian Longxin Electric Power Co., Ltd.	Capacity	10 MW (2×4 + 1×2MW)
			Hydro Turbine	CJA237-W-130/2×13.6 CJA237-W-105/1×11
			Generators	SFW4000-12/2150 SFW2000-8/1430
90	Dabaishu Hydroelectric Plant	Lincang Runda Hydropower Co., Ltd.	Capacity	3.2 MW
			Hydro Turbine	HL120-WJ-61
			Generators	HPWE-K1600-6/1180 SFWE-K1600-6/1430

95	Jinghong City Chuangye Hydropower Station	Xishuangbanna Chuangye Hydropower Development Co., Ltd.	Capacity	8 MW
			Hydro Turbine	CJA237-W-115/2×12
			Generators	SFW4000—10/2150
98	Fugong County Lishadi Hydropower Plant Project	Yunnan Fugong Huatai Electricity Development Co., Ltd.	Capacity	14 MW
			Hydro Turbine	HLA1794-WJ-100
			Generators	SFW7000-6/2150

According to the updated VCS-PD /3/ and the emission reductions calculation spreadsheet /2/, the total net electricity export to Southern China Power Grid (SCPG) is the accumulated electricity supply by the individual projects that are located in Yunnan Province (i.e. project No. 90–98) and Guizhou Province (i.e. project No. 70, 71, 73, 74, 75). The total net electricity export to Central China Power Grid (CCPG) is the accumulated electricity supply by the individual projects that are located in Chongqing City (i.e. project No. 1–69 excluding 8, 14, 16, 17, 19, 20, 26, 43, 64) and Sichuan Province (i.e. project No. 76–88) and Guizhou Province (i.e. project No.72³). The total electricity export to SCPG and CCPG has been summarized in the emission reduction calculation spreadsheet /2/ and checked to be correctly accounted. The actual net electricity export to SCPG and CCPG is listed in the table below and compared with the estimated values in the updated VCS-PD /3/.

Table 4-3 Net Electricity Export to SCPG (Unit: MWh)

Year	Actual Net Electricity Export to SCPG (EG _{Export,y})	Estimated values in the Validated PD
2016 26/09/2016-31/12/2016	72,197.040	356,851×97/365=94,834.375
2017 01/01/2017-31/12/2017	256,039.975	356,851
2018 01/01/2018-25/06/2018	109,005.510	356,851×186/365=181,847.359
Total	437,241.525	633,532.734

Note: The monitoring period within year 2016 and 2018 covers 97 days and 186 days respectively.

Table 4-4 Net Electricity Export to CCPG (Unit: MWh)

Year	Actual Net Electricity Export to CCPG(EG _{Export,y})	Estimated values in the Validated PD
2016 26/09/2016-31/12/2016	107,242.335	450,914×97/365=119,831.940
2017 01/01/2017-31/12/2017	472,830.972	450,914
2018 01/01/2018-25/06/2018	195,049.267	450,914×176/365=217,427.025
Total	775,122.574	788,172.965

³ According to the power purchase agreement, the No.72 Dahegou Hydroelectric Plant is owned by Chongqing Feng Yuan Jin Hui Hydroelectric Development Limited Liability Company. The power is exported to CCPG by Chongqing Nanchuan power grid.

Note: The monitoring period within year 2016 and 2018 covers 97 days and 176 days respectively.

From the tables above, the verification team confirms that the total net electricity exports to SCPG and CCPG are both less than the estimated values in the updated VCS-PD /3/ and therefore the team confirmed there are no changes of the Project from the updated VCS-PD /3/ that cause increase of emission reductions.

According to the information collected during on-site visit and the relevant evidence provided by project owner, CTC can confirm that no project design change occurred during the monitoring period and the Project was implemented in accordance the updated VCS-PD /3/.

4.1.2 Compliance of monitoring with the monitoring plan

The verification team has assessed the implementation of monitoring by the project owner against the registered monitoring plan. A short summary on the verification of every parameter listed in the monitoring plan and used for emission reduction calculation is provided below:

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in the monitoring plan of PD):	EG_{PJ,y} The accumulated net electricity exported to the Southern China Power Grid by all the hydropower plants under the Project located in Yunnan Province and Guizhou Province in the year y
Measuring frequency:	Continuously measurement
Reporting frequency:	Monthly recorded
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Type of monitoring equipment:	Gateway meters at each individual project
Is accuracy of the monitoring equipment as stated in the PD? If the PD does not specify the accuracy of the monitoring equipment, does the monitoring equipment represent good monitoring practise?	Yes. Accuracy level of monitoring meters is as described in the updated VCS- PD /3/. For details see Table 4-5.
Calibration frequency /interval:	Periodically as per relevant sectoral standards in China
Is the calibration interval in line with the monitoring plan of the PD? If the PD does not specify the frequency of calibration, does the selected frequency represent good monitoring practise?	Yes.
Company performing the calibration:	See Table 4-5
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes.
Is(are) calibration(s) valid for the whole reporting period?	Yes. For details see Table 4-5.
If applicable, has the reported data been cross-checked with other available data?	Yes, the reported data has been cross-checked with the electricity transaction receipts in line with the updated VCS-PD /3/.
How were the values in the monitoring report verified?	The verification details have been reported in Section 4.2 of this report.

Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	Not applicable.

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of PD):	EG_{PJ,y} The accumulated net electricity exported to the Central China Power Grid by all the hydropower plants under the Project located in Chongqing City and Sichuan Province in the year y
Measuring frequency:	Continuously measurement
Reporting frequency:	Monthly recorded
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Type of monitoring equipment:	Gateway meters at each individual project
Is accuracy of the monitoring equipment as stated in the PD? If the PD does not specify the accuracy of the monitoring equipment, does the monitoring equipment represent good monitoring practise?	Yes. Accuracy level of monitoring meters is as described in the updated PD /3/. For details see Table 4-5.
Calibration frequency /interval:	Periodically as per relevant sectoral standards in China
Is the calibration interval in line with the monitoring plan of the PD? If the PD does not specify the frequency of calibration, does the selected frequency represent good monitoring practise?	Yes.
Company performing the calibration:	See Table 4-5
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes.
Is(are) calibration(s) valid for the whole reporting period?	Yes. For details see Table 4-5.
If applicable, has the reported data been cross-checked with other available data?	Yes, the reported data has been cross-checked with the electricity transaction receipts in line with the updated VCS-PD.
How were the values in the monitoring report verified?	The verification details have been reported in Section 4.2 of this report.
Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes.
In case only partial data are available because activity levels or non-activity parameters have not been	Not applicable.

monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	
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Furthermore, the verification team has verified that the accuracy of measure of the monitoring equipment was set according to the requirements and all calibration procedures were carried out according to the monitoring plan and manufacturer specifications. The calibration information of all the sampling projects in this monitoring period has been listed in Table 4-5 below. The monitoring equipment has been installed in the project activity according to registered monitoring plan. In summary, the verification team is able to verify that the accuracy the monitoring equipments were set according to the registered monitoring plan and relevant sectoral standard of China.

Table 4-5 Verified calibration information of monitoring meters (sampling projects)

Project No.	Project title	Meter Serial No.	Meter Model Number	Accuracy Class	Calibration Entity	Calibration Date	Calibration Valid Until
37	Baijia Hydroelectric Plant	6016055005	DSZ188	0.2S	Chongqing City Wulong County Power Supply Limited Company	11/08/2015	10/08/2018
38	Xinqiao Hydroelectric Plant	6016055007	DSZ188	0.5	Chongqing City Wulong County Power Supply Limited Company	25/02/2015 25/02/2018	24/02/2018 24/02/2021
44	Yong'an Hydroelectric Plant	6016252043	DSZ323	0.5	Chongqing City Wulong County Power Supply Limited Company	25/02/2015 25/02/2018	24/02/2018 24/02/2021
55	Canglong Hydroelectric Plant	099476	ZMH405	0.5S	Chongqing City Wulong County Power Supply Limited Company	26/05/2015 26/05/2017	25/05/2017 25/05/2019
56	Daheba Hydroelectric Plant	088263	ZFH405	0.5	Chongqing City Wulong County Power Supply Limited Company	26/01/2015 26/01/2018	25/01/2018 25/01/2021
57	Heixigou Hydroelectric Plant	6012584355	DSSD71	0.2S	Chongqing City Wulong County Power Supply Limited Company	26/05/2015 26/05/2017	25/05/2017 25/05/2019
63	Songshigou Hydroelectric Plant	099521	ZFH405	0.5S	Chongqing City Wulong County Power Supply Limited Company	26/06/2015 26/06/2017	25/06/2017 25/06/2019
69	Baiyang Hydroelectric Plant	6012693715	DSSD71	0.5S	Chongqing City Wulong County Power Supply Limited Company	01/08/2015 01/08/2017	31/07/2017 31/07/2019
70	Xinmin Tailwater Stage II Hydroelectric Plant	4011588921	DSSD323	0.2	Chongqing City Wulong County Power Supply Limited Company	01/05/2015 01/05/2018	30/04/2018 30/04/2021

72	Dahegou Hydroelectric Plant	6011788924	DSSD71	0.5S	Chongqing City Wulong County Power Supply Limited Company	01/07/2015 01/07/2017	30/06/2017 30/06/2019
73	Xinmin Stage II Hydroelectric Plant	099512	ZFH405	0.5S	Chongqing Fuling Electric Power Industrial Co., Ltd.	01/08/2015 01/08/2017	31/07/2017 31/07/2019
78	Mayihe Hydroelectric Plant	30092	DSSD331	1.0	Ya'an Yingjing Power Supply Limited Company Metrological Verification Station	28/08/2015	27/08/2018
80	Toudaoshui Hydroelectric Station	328998	DSSD331	1.0	Ya'an Yingjing Power Supply Limited Company Metrological Verification Station	28/03/2015 28/03/2018	27/03/2018 27/03/2021
87	Zhuyeshan Hydroelectric Plant	0097635245	DSZY719-G	1	Leshan Local Energy Measurement Test Station	24/11/2015	23/11/2018
88	Lianghekou Hydroelectric Plant	60666413219	DSSD132	0.5S	Ebian Measurement Calibration Station	2016-05-06 2017-05-06 2018-05-06	2017-05-05 2018-05-05 2019-05-05
90	Dabaishu Hydroelectric Plant	021620	DSSD103F4	0.5S	Yunnan Power Grid Company Lincang Power Supply Bureau Power Energy Metrological Center	18/01/2013 24/10/2017	23/10/2017 23/10/2022
95	Jinghong City Chuangye Hydropower Station	01110705022 4	DSSD3000	0.5S	Jinghong Power Supply Limited Company	07/05/2016 07/05/2017 07/05/2018	06/05/2017 06/05/2018 06/05/2019
98	Fugong County Lishadi Hydropower Plant Project	ZZ00063	DTSD341	0.2S	Yunnan Institute of Metrology And Testing Technology	20/01/2016 20/01/2017 20/01/2018	19/01/2017 19/01/2018 19/01/2019

4.1.3 Remaining Issues from Previous Validation or Verification

This is the 7th verification and the verification team can confirm that there were no any remaining issues from the renew crediting period validation and verification report/18/.

4.2 Accuracy of GHG Emission Reduction and Removal Calculations

4.2.1 Parameters and information flow

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

Parameters monitored ex-post:

- 1) **EG_{PJ,y}**: The accumulated net electricity exported to the Southern China Power Grid by all the hydropower plants under the Grouped Project located in Yunnan and Guizhou Provinces in the year y;
- 2) **EG_{PJ,y}**: The accumulated net electricity exported to the Central China Power Grid by all the hydropower plants under the Grouped Project located in Chongqing City and Sichuan Province in the year y.
- 3) **Cap_{PJ}**: Installed capacity of the hydro power plant after the implementation of the project activity, monitored once at the beginning of each crediting period.
- 4) **A_{PJ}**: Area of the single or multiple reservoirs measured in the surface of the water, after the implementation of the project activity, when the reservoir is full, monitored once at the beginning of each crediting period.

According to the VCS-MR /1/ of the Project and the updated VCS-PD /3/, only the net electricity export to the grid shall be taken into account. This means that the monitoring measurement method shall exclude electricity imported from the grid by the project activity. The electricity exported (EG_{out}) and imported (EG_{in}) are both continuously monitored through bi-lateral gateway meters installed at a point which are both agreed by the grid company and the project owners. The net electricity is the difference of the electricity export and the electricity import, i.e. $EG_{PJ,y} = EG_{out} - EG_{in}$. The daily and monthly monitoring records of all sampling projects have been verified during onsite assessment.

The verification team has cross-checked the input values in the emission reductions calculation spreadsheet /2/ with the electricity sales invoices/electricity transaction receipts of each individual project. It was confirmed that the electricity sales invoices can only identify the electricity exported to the local grid (EG_{out}) while the electricity transaction receipts can identify the electricity import from the grid and electricity export to the grid (EG_{out} and EG_{in}). The electricity transaction receipts have been the basis for the grid company and project owner to issue the electricity invoices to each other.

It was also confirmed that most of the individual projects have complete electricity transaction receipts during the monitoring period, which means that the electricity exported and imported can be directly determined through cross-check with the electricity transaction receipts available to verification team. However, for some individual projects (i.e. project No. 39, 46, 50, 62, 63, 70, 73, 78-81, 83-86, 88, 94-98), the electricity transaction receipts have not been completely collected while the electricity sales invoices issued by the project owner have been used for cross-check to determine the net electricity supply to the grid. In this case, the project proponents have conducted a conservative approach to determine the imported electricity for projects which only have the electricity invoices issued by the project owner and for projects which don't have imported electricity on electricity transaction receipts. As per the ER spreadsheet /2/, the discount factor of 0.63% is applied and determined according to the highest average ratio of import electricity to export electricity of 60 individual projects which have the complete transaction receipts of electricity imported and exported during the monitoring period. The verification team has conducted the described process and is able to confirm the selected discount factor is conservative since:

- ◆ The discount factor is selected as the yearly highest average electricity import to export ratio, which is calculated according to the average import to export ratios in separate years over the entire monitoring period for 58 individual projects that have complete electricity import/export data. This is consistent with the individual projects which have adopted the discount factor to estimate the electricity import since the discount factor has been applied during the entire monitoring period in the emission reduction calculation spreadsheet /2/.
- ◆ The ratio of 0.63% is deemed as conservative through cross-checking with the Hydroenergy Design Code for Small Hydropower Projects (SL76-94) /17/ issued by Ministry of Water Resources of People's Republic of China, which indicates that the internal consumption for hydropower plants should be within range of 0.5%-1%. The verification team has listed the ratios of imported electricity to exported electricity of other projects in the following table for cross-check.

Table 4-6 Statistic Monitoring Results of EG_{in}/EG_{out} within the Project

EG_{in}/EG_{out}	0%~0.5%	0.5%~1.0%
Total Project Number in 2016	57	1
Total Project Number in 2017	57	1
Total Project Number in 2018	57	1
Percent	98.3%	1.7%

From the statistic monitoring results indicated in the table above, the verification team is able to confirm it is very unlikely the ratio of EG_{in}/EG_{out} crosses the selected discount factor within the Project considering the technical competences, operation and management experiences and hydro resources utilization are similar in the same region.

By applying the discount factor of 0.63%, the electricity imported from the grid has been conservatively determined for project No. 39, 46, 50, 62, 63, 70, 73, 78-81, 83-86, 88, 94-98.

Parameter determined ex-ante:

EF_y: The grid CO₂ emission factor of the power grid where the project connected to, i.e. SCPG and CCPG.

According to the updated PD /3/, the EF_y is ex-ante determined as 0.5003 tCO₂e/MWh for CCPG and 0.4975 tCO₂e/MWh for SCPG over the second crediting period. The emission factors used in the monitoring report have been verified against the updated VCS-PD /3/ and found them to be consistent.

4.2.2 Assessment Data and Calculation

It was verified that all the individual projects are all new run-of-river hydropower plant except project 74_Puti 1 and 75_Puti 2. And the installation capacity of projects 74_Puti 1 and 75_Puti 2 are 6MW and 9.5 MW respectively, which are in line with the hydro-generator nameplates of the two projects. Furthermore, the CTC validation team has confirmed the area of projects 74_Puti 1 and 75_Puti 2 are respective 0.334km² and 0.161km² by monitoring report of the reservoirs, and the power densities of the two individual components are shown to be 18 W/m² and 59 W/m².⁴ Therefore, the project emission of the Grouped Project is zero under AMS-I.D. Version 18.0 /6/ (PE_y=0).

The individual projects are newly-built, with no transferred from another activity or to another activity. The main generating equipment including water turbine generators are newly purchased, and the name plates have been verified during site assessment. Therefore, no leakage needs to be considered for the project activity according to the methodology /6/. (L_y=0).

Since the project emission and the leakage emission has been justified as zero under AMS-I.D Version 18.0 /6/, the calculation of the emission reductions simply involves the calculation of the baseline emissions.

Formula 1: $ER_y = BE_y - 0 - 0 = EG_{Export,y} \times EF_y$

Where:

ER_y: Emission reductions (Unit: tCO₂e)

EG_{Export,y}: Net electricity supplied to the grid (Unit: MWh)

EF_y: Baseline emission factor of the SCPG (0.4975 tCO₂e/MWh) and CCPG (0.5003 tCO₂e/MWh), calculated ex-ante and will not be updated during the second crediting period.

⁴ 74_Puti 1 and 75_Puti 2 plants are newly built hydropower plant, hence A_{BL} and Cap_{BL} of this two plants are zero. The A_{PJ} of these two plants are 0.334km² and 0.161 km² respectively. The Cap_{BL} of these two projects are 6MW and 9.5 MW. Therefore, the PD of 74_Puti 1 plant is 18W/m² = (6-0)*10⁶/(0.334-0)*10⁶, the PD of 75_Puti 2 plant is 59W/m² = (9.5-0)*10⁶/(0.161-0)*10⁶.

BE_y: The baseline emissions (Unit: tCO₂e)

The net electricity delivered to the grid (EG_{PJ,y}) is the difference between the electricity exported to the grid (EG_{out}) and the electricity imported from the grid (EG_{in}) i.e.:

$$\text{Formula 2: } EG_{\text{Export},y} = EG_{\text{out}} - EG_{\text{in}}$$

Following the approach described in section 4.2.1 above, EG_{PJ,y} was verified as below:

Table 4-7 Net Electricity Export of the Project (Unit: MWh)

Year	EG _{PJ,y} to SCPG (MWh)	EG _{PJ,y} to CCPG (MWh)
2016 26/09/2016-31/12/2016	72197.040	107,242.335
2017 01/01/2017-31/12/2017	256039.975	472,830.972
2018 01/01/2018-25/06/2018	109005.510	195,049.267
Total	437241.525	775,122.574

The verification team has confirmed the emission reductions of each individual project have been conservatively calculated in line with above mentioned Formula 1&2 in the emission reduction calculation spreadsheet /2/. The total emission reductions within SCPG are the accumulated emission reductions achieved by the individual projects that are located in Yunnan Province (i.e. project No. 90~98) and Guizhou Province (i.e. project No. 70, 71, 73, 74, 75). The total emission reductions within CCPG are the accumulated emission reductions achieved by the individual projects that are located in Chongqing City (i.e. project No. 1~69 excluding 8, 14, 16, 17, 19, 20, 26, 43, 64) and Sichuan Province (i.e. project No. 76~88) and Guizhou Province (i.e. Project No. 72). The total emission reductions within SCPG and CCPG have been summarized in the emission reduction calculation spreadsheet /2/ and checked to be correctly accounted.

Table 4-8 Verified Emission Reductions within CCPG and SCPG

Year	ERs within CCPG (tCO ₂ e)	ERs within SCPG (tCO ₂ e)	ERs within CCPG and SCPG (tCO ₂ e)
2016 26/09/2016-31/12/2016	53,609	35,909	89,518
2017 01/01/2017-31/12/2017	236,478	127,366	363,844
2018 01/01/2018-25/06/2018	97,528	54,219	151,747
Total	387,615	217,494	605,109

Notes: The detailed ERs of each individual project are listed in Section 5 of this report.

By cross-check with the electricity sale receipts/19/ and electricity transaction receipts⁵, the verification team confirms that the monitoring results as listed in the Monitoring Report /1/ and emission reductions calculation spread sheet /2/ are conservative. The verification team confirms that the applied spreadsheet formulas and connections are correct and in line with the indicated emission reduction calculation in the monitoring plan contained in the updated VCS-PD /3/ and the applied methodology /6/.

Comparison of ERs

Based on the above assessment, CTC can conclude that the emission reduction during the monitoring period from 26/09/2016 to 25/06/2018 have been quantified correctly in accordance with the project description and applied methodology /6/, and the emission reduction during the monitoring period is verified as 605,109 tCO₂e. Compared with the estimated emission reductions under the same days of 638 from 26/09/2016 to 25/06/2018 in the updated VCS-PD /3/, 704,598(=403,101*638/365) tCO₂e, the verified emission reduction is (14.12%) less than the estimated value.

4.3 Quality of Evidence to Determine GHG Emission Reductions and Removals

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

Assessment of the Evidence Quality	
Parameters monitored	(i) EG_{out} ; (ii) EG_{in}
Monitoring method	The quantity of electricity supplied to the grid (EG_{out}) and electricity imported from the grid (EG_{in}) by individual projects are measured by bi-direction gateway meters.
Measuring/Reading/Recording frequency	The parameters are continuously measured and monthly recorded.
Calibration frequency/ interval	See Table 4-5 Verified calibration information of monitoring meters (sampling projects). Through on-site observation and checking the calibration records of meters, the team confirmed that all the monitoring meters meet the rated accuracy level and the calibration frequency fulfils the requirement as described in the monitoring plan.
Calibration cover the monitoring period	The verification team confirms that the validity period of all conducted calibrations covers this monitoring period from 26/09/2016 to 25/06/2018.
Data reported	Through cross checking with the electricity sale receipts and electricity transaction receipts, the monitored data can be confirmed as acceptable to calculate emission reductions. Furthermore, a conservative approach of discount factor has been applied as described in section 4.2.1 above.

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

⁵ All the electricity receipts and electricity transaction receipts of each individual project have been used for cross-check to determine the actual electricity imported and exported to the grid. The reference list of the electricity sales receipts and electricity transaction receipts for sampling projects has been listed in Appendix A of this report.

identified internal records and consistent with the values stated in the Monitoring Report /1/ and ER calculation spreadsheet /2/. Key data have been cross-checked via external sources, such as electricity sale receipts and electricity transaction receipts.

4.4 Non-Permanence Risk Analysis

A central information system has been established for the Project in line with the monitoring report. The monitoring organization structure, quality assurance process and monitoring roles and responsibility have been implemented in accordance with the monitoring report /1/. The central GHG information system has integrated four functional units: projects owners, Intermediary companies, South Pole's China team and Global Quality Control and Technical Support Team, where the coordination effectiveness has been verified during site assessment. South Pole is responsible for gathering and managing individual projects' information and their monitoring relevant documents by using their central information control tool (i.e. PMT software).

The monitoring data and records will be archived in electronic documents and paper documents. The project owners will keep the copies of electricity generation records and sales receipts. Calibration of Meters & Metering has been implemented periodically according to DL/T448-2000 /16/. After calibrated by qualified entity, the electricity metering equipment is sealed and stamped, which has been verified during onsite assessment. It was also confirmed during the site assessment that all the staff involved in the individual projects has received periodic training on operation and maintenance of the hydropower plant.

In summary, the verification team has ensured that the quality management system for the Project is in place. The documented instructions including the responsibilities have been properly implemented and in line with the monitoring report /1/ and updated VCS-PD /3/. The internal review at a regular interval ensures the quality assurance of the monitoring procedures.

5 SAFEGUARDS

5.1 No Net Harm

The Grouped Project consists of 88 individual hydropower plants, and all projects are run-of-river hydropower stations, therefore, it is scarcely any net harm.

5.2 Local Stakeholder Consultation

This is the seventh verification of the project activity, no further local stakeholders' consultation were applied.

6 VERIFICATION CONCLUSION

CTC has carried out the seventh periodic verification of the project "Grouped Hydropower Plants in Chongqing, Yunnan, Sichuan and Guizhou Provinces, P.R. China". The verification was performed based on the requirements set by Voluntary Carbon Standard (VCS) Version 3.7 /5/, as well as criteria given to provide for consistent project operations, monitoring and reporting. This verification covers the period from 26/09/2016 to 25/06/2018 inclusive.

In the course of the verification no Corrective Action Request (CAR) and no Clarification Request (CL) was raised. The verification is based on the VCS-MR /1/, the updated VCS-PD /3/, ER calculation spread sheet /2/ and supporting documents available to CTC.

As the result of the verification, CTC confirms that:

- The project activity has been implemented and operated as per the updated VCS-PD /3/ and that all physical features (technology, project equipment, and monitoring and metering equipment) of the Project are in place;
- The VCS-MR /1/ 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. Version 18.0 /6/;
- 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, CTC confirms the following statement:

Verification period: From 26/09/2016 to 25/06/2018.

Verified GHG emission reductions and removals in the above verification period:

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
2016 26/09/2016-31/12/2016	89,518	0	0	89,518
2017 01/01/2017-31/12/2017	363,844	0	0	363,844
2018 01/01/2018-25/06/2018	151,747	0	0	151,747
Total	605,109	0	0	605,109

The verified emission reductions of each individual project are listed in the following table:

Project Title	Verified Emission Reductions		
1. Zengfuyoujiang Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		

	Project emissions:	0	tCO ₂ e
	Baseline emissions:	0	tCO ₂ e
	Emission reductions:	0	tCO ₂ e
	Emission reductions within 2016:	0	tCO ₂ e
	Emission reductions within 2017:	0	tCO ₂ e
	Emission reductions within 2018:	0	tCO ₂ e
	2. Jianshitan Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018
Verified emission in the above reporting period:			
Project emissions:		0	tCO ₂ e
Baseline emissions:		2,093	tCO ₂ e
Emission reductions:		2,093	tCO ₂ e
Emission reductions within 2016:		256	tCO ₂ e
Emission reductions within 2017:		1,322	tCO ₂ e
Emission reductions within 2018:		515	tCO ₂ e
3. Jinxing Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	3,550	tCO ₂ e
	Emission reductions:	3,550	tCO ₂ e
	Emission reductions within 2016:	498	tCO ₂ e
	Emission reductions within 2017:	2,058	tCO ₂ e
	Emission reductions within 2018:	994	tCO ₂ e
4. Huzhong Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	14,099	tCO ₂ e
	Emission reductions:	14,099	tCO ₂ e
	Emission reductions within 2016:	1,832	tCO ₂ e
	Emission reductions within 2017:	7,899	tCO ₂ e
	Emission reductions within 2018:	4,368	tCO ₂ e
5. Chongqing Wanzhou Fengmu Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	567	tCO ₂ e
	Emission reductions:	567	tCO ₂ e
	Emission reductions within 2016:	73	tCO ₂ e
	Emission reductions within 2017:	318	tCO ₂ e
	Emission reductions within 2018:	176	tCO ₂ e
6. Chongqing Wanzhou Longdong Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	562	tCO ₂ e
	Emission reductions:	562	tCO ₂ e
	Emission reductions within 2016:	44	tCO ₂ e
	Emission reductions within 2017:	402	tCO ₂ e
	Emission reductions within 2018:	116	tCO ₂ e
7. Chongqing Wanzhou Dengta Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	589	tCO ₂ e

	Emission reductions:	589	tCO ₂ e
	Emission reductions within 2016:	62	tCO ₂ e
	Emission reductions within 2017:	420	tCO ₂ e
	Emission reductions within 2018:	107	tCO ₂ e
9. Chongqing Wanzhou Xiaolong Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	765	tCO ₂ e
	Emission reductions:	765	tCO ₂ e
	Emission reductions within 2016:	77	tCO ₂ e
	Emission reductions within 2017:	411	tCO ₂ e
	Emission reductions within 2018:	277	tCO ₂ e
10. Chongqing Wanzhou Yihe Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	599	tCO ₂ e
	Emission reductions:	599	tCO ₂ e
	Emission reductions within 2016:	76	tCO ₂ e
	Emission reductions within 2017:	341	tCO ₂ e
	Emission reductions within 2018:	182	tCO ₂ e
11. Chongqing Wanzhou Tiande Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	1,007	tCO ₂ e
	Emission reductions:	1,007	tCO ₂ e
	Emission reductions within 2016:	117	tCO ₂ e
	Emission reductions within 2017:	621	tCO ₂ e
	Emission reductions within 2018:	269	tCO ₂ e
12. Chongqing Wanzhou Puziling Hydroelectric Plant	Reporting period:	2013-06-26 to 2015-05-25	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	516	tCO ₂ e
	Emission reductions:	516	tCO ₂ e
	Emission reductions within 2016:	72	tCO ₂ e
	Emission reductions within 2017:	306	tCO ₂ e
	Emission reductions within 2018:	138	tCO ₂ e
13. Chongqing Wanzhou Yanshan Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	1,373	tCO ₂ e
	Emission reductions:	1,373	tCO ₂ e
	Emission reductions within 2016:	205	tCO ₂ e
	Emission reductions within 2017:	880	tCO ₂ e
	Emission reductions within 2018:	288	tCO ₂ e
15. Chongqing Wanzhou Wanlin Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e

	Baseline emissions:	1,328	tCO ₂ e
	Emission reductions:	1,328	tCO ₂ e
	Emission reductions within 2016:	277	tCO ₂ e
	Emission reductions within 2017:	734	tCO ₂ e
	Emission reductions within 2018:	317	tCO ₂ e
18. Chongqing Wanzhou Yanjingxi Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	1,084	tCO ₂ e
	Emission reductions:	1,084	tCO ₂ e
	Emission reductions within 2016:	114	tCO ₂ e
	Emission reductions within 2017:	634	tCO ₂ e
	Emission reductions within 2018:	336	tCO ₂ e
21. Chongqing Wanzhou Xianfeng Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	7,335	tCO ₂ e
	Emission reductions:	7,335	tCO ₂ e
	Emission reductions within 2016:	908	tCO ₂ e
	Emission reductions within 2017:	4,025	tCO ₂ e
	Emission reductions within 2018:	2,402	tCO ₂ e
22. Heba Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	945	tCO ₂ e
	Emission reductions:	945	tCO ₂ e
	Emission reductions within 2016:	84	tCO ₂ e
	Emission reductions within 2017:	525	tCO ₂ e
	Emission reductions within 2018:	336	tCO ₂ e
23. Sandaoguai Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	308	tCO ₂ e
	Emission reductions:	308	tCO ₂ e
	Emission reductions within 2016:	45	tCO ₂ e
	Emission reductions within 2017:	183	tCO ₂ e
	Emission reductions within 2018:	80	tCO ₂ e
24. Beiya Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	361	tCO ₂ e
	Emission reductions:	361	tCO ₂ e
	Emission reductions within 2016:	62	tCO ₂ e
	Emission reductions within 2017:	212	tCO ₂ e
	Emission reductions within 2018:	83	tCO ₂ e
	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		

25. Wulong Guanqiao Hydroelectric Plant	Project emissions:	0	tCO ₂ e
	Baseline emissions:	0	tCO ₂ e
	Emission reductions:	0	tCO ₂ e
	Emission reductions within 2016:	0	tCO ₂ e
	Emission reductions within 2017:	0	tCO ₂ e
	Emission reductions within 2018:	0	tCO ₂ e
27. Qingtongxi Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	600	tCO ₂ e
	Emission reductions:	600	tCO ₂ e
	Emission reductions within 2016:	84	tCO ₂ e
	Emission reductions within 2017:	350	tCO ₂ e
	Emission reductions within 2018:	166	tCO ₂ e
28. Heping Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	544	tCO ₂ e
	Emission reductions:	544	tCO ₂ e
	Emission reductions within 2016:	90	tCO ₂ e
	Emission reductions within 2017:	321	tCO ₂ e
	Emission reductions within 2018:	133	tCO ₂ e
29. Guanziya Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	0	tCO ₂ e
	Emission reductions:	0	tCO ₂ e
	Emission reductions within 2016:	0	tCO ₂ e
	Emission reductions within 2017:	0	tCO ₂ e
	Emission reductions within 2018:	0	tCO ₂ e
30. Baiyangping Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	574	tCO ₂ e
	Emission reductions:	574	tCO ₂ e
	Emission reductions within 2016:	87	tCO ₂ e
	Emission reductions within 2017:	347	tCO ₂ e
	Emission reductions within 2018:	140	tCO ₂ e
31. Chengmendong Hydroelectric Plants	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	1,658	tCO ₂ e
	Emission reductions:	1,658	tCO ₂ e
	Emission reductions within 2016:	148	tCO ₂ e
	Emission reductions within 2017:	997	tCO ₂ e
	Emission reductions within 2018:	513	tCO ₂ e
	Reporting period:	26/09/2016 to 25/06/2018	

32. Shuanglong Hydroelectric Plant	Verified emission in the above reporting period:	
	Project emissions:	0 tCO ₂ e
	Baseline emissions:	992 tCO ₂ e
	Emission reductions:	992 tCO ₂ e
	Emission reductions within 2016:	96 tCO ₂ e
	Emission reductions within 2017:	613 tCO ₂ e
	Emission reductions within 2018:	283 tCO ₂ e
33. Chushuitang Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018
	Verified emission in the above reporting period:	
	Project emissions:	0 tCO ₂ e
	Baseline emissions:	1,784 tCO ₂ e
	Emission reductions:	1,784 tCO ₂ e
	Emission reductions within 2016:	271 tCO ₂ e
	Emission reductions within 2017:	1,000 tCO ₂ e
	Emission reductions within 2018:	513 tCO ₂ e
34. Shuangqiao Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018
	Verified emission in the above reporting period:	
	Project emissions:	0 tCO ₂ e
	Baseline emissions:	754 tCO ₂ e
	Emission reductions:	754 tCO ₂ e
	Emission reductions within 2016:	102 tCO ₂ e
	Emission reductions within 2017:	428 tCO ₂ e
	Emission reductions within 2018:	224 tCO ₂ e
35. Shiqiao Hydroelectric Plant	Reporting period:	2013-06-26 to 2015-05-25
	Verified emission in the above reporting period:	
	Project emissions:	0 tCO ₂ e
	Baseline emissions:	969 tCO ₂ e
	Emission reductions:	969 tCO ₂ e
	Emission reductions within 2016:	106 tCO ₂ e
	Emission reductions within 2017:	589 tCO ₂ e
	Emission reductions within 2018:	274 tCO ₂ e
36. Shuanglian Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018
	Verified emission in the above reporting period:	
	Project emissions:	0 tCO ₂ e
	Baseline emissions:	1,161 tCO ₂ e
	Emission reductions:	1,161 tCO ₂ e
	Emission reductions within 2016:	113 tCO ₂ e
	Emission reductions within 2017:	654 tCO ₂ e
	Emission reductions within 2018:	394 tCO ₂ e
37. Baijia Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018
	Verified emission in the above reporting period:	
	Project emissions:	0 tCO ₂ e
	Baseline emissions:	1,273 tCO ₂ e
	Emission reductions:	1,273 tCO ₂ e
	Emission reductions within 2016:	0 tCO ₂ e
	Emission reductions within 2017:	908 tCO ₂ e
	Emission reductions within 2018:	365 tCO ₂ e

38. Xinqiao Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	1,512	tCO ₂ e
	Emission reductions:	1,512	tCO ₂ e
	Emission reductions within 2016:	175	tCO ₂ e
	Emission reductions within 2017:	835	tCO ₂ e
	Emission reductions within 2018:	502	tCO ₂ e
39. Luchi Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	543	tCO ₂ e
	Emission reductions:	543	tCO ₂ e
	Emission reductions within 2016	93	tCO ₂ e
	Emission reductions within 2017:	375	tCO ₂ e
	Emission reductions within 2018:	75	tCO ₂ e
40&48 . Xiangyang Stage III & I Hydroelectric Plants	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	4,914	tCO ₂ e
	Emission reductions:	4,914	tCO ₂ e
	Emission reductions within 2016	696	tCO ₂ e
	Emission reductions within 2017:	3,056	tCO ₂ e
	Emission reductions within 2018:	1,162	tCO ₂ e
41. Xiangyun Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	1,321	tCO ₂ e
	Emission reductions:	1,321	tCO ₂ e
	Emission reductions within 2016	101	tCO ₂ e
	Emission reductions within 2017:	768	tCO ₂ e
	Emission reductions within 2018:	452	tCO ₂ e
42. Hongshan Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	1,074	tCO ₂ e
	Emission reductions:	1,074	tCO ₂ e
	Emission reductions within 2016:	154	tCO ₂ e
	Emission reductions within 2017:	616	tCO ₂ e
	Emission reductions within 2018:	304	tCO ₂ e
44. Yong'an Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	1,452	tCO ₂ e
	Emission reductions:	1,452	tCO ₂ e
	Emission reductions within 2016:	171	tCO ₂ e
Emission reductions within 2017:	871	tCO ₂ e	

	Emission reductions within 2018:	410	tCO ₂ e
45. Suokousi Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	0	tCO ₂ e
	Emission reductions:	0	tCO ₂ e
	Emission reductions within 2016:	0	tCO ₂ e
	Emission reductions within 2017:	0	tCO ₂ e
	Emission reductions within 2018:	0	tCO ₂ e
46. Xinli Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	1,110	tCO ₂ e
	Emission reductions:	1,110	tCO ₂ e
	Emission reductions within 2016:	136	tCO ₂ e
	Emission reductions within 2017:	690	tCO ₂ e
	Emission reductions within 2018:	284	tCO ₂ e
47. Caijiagou Stage III Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	2,481	tCO ₂ e
	Emission reductions:	2,481	tCO ₂ e
	Emission reductions within 2016:	321	tCO ₂ e
	Emission reductions within 2017:	1,492	tCO ₂ e
	Emission reductions within 2018:	668	tCO ₂ e
49. Cheqingyan Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	2,462	tCO ₂ e
	Emission reductions:	2,462	tCO ₂ e
	Emission reductions within 2016:	292	tCO ₂ e
	Emission reductions within 2017:	1,441	tCO ₂ e
	Emission reductions within 2018:	729	tCO ₂ e
50. Lianghekou Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	3,139	tCO ₂ e
	Emission reductions:	3,139	tCO ₂ e
	Emission reductions within 2016:	395	tCO ₂ e
	Emission reductions within 2017:	2,035	tCO ₂ e
	Emission reductions within 2018:	709	tCO ₂ e
51. Wuhe Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	1,412	tCO ₂ e
	Emission reductions:	1,412	tCO ₂ e
	Emission reductions within 2016:	186	tCO ₂ e

	Emission reductions within 2017:	802	tCO ₂ e
	Emission reductions within 2018:	424	tCO ₂ e
52. Sihe Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	4,251	tCO ₂ e
	Emission reductions:	4,251	tCO ₂ e
	Emission reductions within 2016:	575	tCO ₂ e
	Emission reductions within 2017:	2,421	tCO ₂ e
	Emission reductions within 2018:	1,255	tCO ₂ e
	53. Shilingyan Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018
Verified emission in the above reporting period:			
Project emissions:		0	tCO ₂ e
Baseline emissions:		1,042	tCO ₂ e
Emission reductions:		1,042	tCO ₂ e
Emission reductions within 2016:		92	tCO ₂ e
Emission reductions within 2017:		640	tCO ₂ e
Emission reductions within 2018:		310	tCO ₂ e
54. Nanmu Hydroelectric Plant		Reporting period:	26/09/2016 to 25/06/2018
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	3,564	tCO ₂ e
	Emission reductions:	3,564	tCO ₂ e
	Emission reductions within 2016:	310	tCO ₂ e
	Emission reductions within 2017:	2,251	tCO ₂ e
	Emission reductions within 2018:	1,003	tCO ₂ e
	55. Canglong Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018
Verified emission in the above reporting period:			
Project emissions:		0	tCO ₂ e
Baseline emissions:		2,470	tCO ₂ e
Emission reductions:		2,470	tCO ₂ e
Emission reductions within 2016:		268	tCO ₂ e
Emission reductions within 2017:		1,375	tCO ₂ e
Emission reductions within 2018:		827	tCO ₂ e
56. Daheba Hydroelectric Plant		Reporting period:	26/09/2016 to 25/06/2018
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	4,396	tCO ₂ e
	Emission reductions:	4,396	tCO ₂ e
	Emission reductions within 2016:	447	tCO ₂ e
	Emission reductions within 2017:	2,685	tCO ₂ e
	Emission reductions within 2018:	1,264	tCO ₂ e
	57. Heixigou Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018
Verified emission in the above reporting period:			
Project emissions:		0	tCO ₂ e
Baseline emissions:		3,617	tCO ₂ e
Emission reductions:		3,617	tCO ₂ e

	Emission reductions within 2016:	560	tCO ₂ e
	Emission reductions within 2017:	1,955	tCO ₂ e
	Emission reductions within 2018:	1,102	tCO ₂ e
58. Yanchanghe Stage III Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	3,105	tCO ₂ e
	Emission reductions:	3,105	tCO ₂ e
	Emission reductions within 2016:	322	tCO ₂ e
	Emission reductions within 2017:	1,898	tCO ₂ e
	Emission reductions within 2018:	885	tCO ₂ e
	59. Muzonghe Stage IV Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018
Verified emission in the above reporting period:			
Project emissions:		0	tCO ₂ e
Baseline emissions:		4,145	tCO ₂ e
Emission reductions:		4,145	tCO ₂ e
Emission reductions within 2016		183	tCO ₂ e
Emission reductions within 2017:		2,644	tCO ₂ e
Emission reductions within 2018:		1,318	tCO ₂ e
60. Dengta Hydroelectric Plant		Reporting period:	26/09/2016 to 25/06/2018
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	2,122	tCO ₂ e
	Emission reductions:	2,122	tCO ₂ e
	Emission reductions within 2016:	293	tCO ₂ e
	Emission reductions within 2017:	1,203	tCO ₂ e
	Emission reductions within 2018:	626	tCO ₂ e
61. Banqiao Stage II Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	3,998	tCO ₂ e
	Emission reductions:	3,998	tCO ₂ e
	Emission reductions within 2016:	435	tCO ₂ e
	Emission reductions within 2017:	2,373	tCO ₂ e
	Emission reductions within 2018:	1,190	tCO ₂ e
62. Shuangchahe Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	3,910	tCO ₂ e
	Emission reductions:	3,910	tCO ₂ e
	Emission reductions within 2016:	418	tCO ₂ e
	Emission reductions within 2017:	2,677	tCO ₂ e
	Emission reductions within 2018:	815	tCO ₂ e
63. Songshigou Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	3,397	tCO ₂ e
	Emission reductions:	3,397	tCO ₂ e

	Emission reductions within 2016:	439	tCO ₂ e
	Emission reductions within 2017:	2,268	tCO ₂ e
	Emission reductions within 2018:	690	tCO ₂ e
65. Shujiahe Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	4,713	tCO ₂ e
	Emission reductions:	4,713	tCO ₂ e
	Emission reductions within 2016:	502	tCO ₂ e
	Emission reductions within 2017:	2,940	tCO ₂ e
	Emission reductions within 2018:	1,271	tCO ₂ e
	66. Yangyan Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018
Verified emission in the above reporting period:			
Project emissions:		0	tCO ₂ e
Baseline emissions:		7,557	tCO ₂ e
Emission reductions:		7,557	tCO ₂ e
Emission reductions within 2016:		1,003	tCO ₂ e
Emission reductions within 2017:		4,509	tCO ₂ e
Emission reductions within 2018:		2,045	tCO ₂ e
67. Baiguo Hydroelectric Plant		Reporting period:	26/09/2016 to 25/06/2018
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	8,669	tCO ₂ e
	Emission reductions:	8,669	tCO ₂ e
	Emission reductions within 2016:	1,020	tCO ₂ e
	Emission reductions within 2017:	5,299	tCO ₂ e
	Emission reductions within 2018:	2,350	tCO ₂ e
	68. Longqiao Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018
Verified emission in the above reporting period:			
Project emissions:		0	tCO ₂ e
Baseline emissions:		17,747	tCO ₂ e
Emission reductions:		17,747	tCO ₂ e
Emission reductions within 2016:		2,489	tCO ₂ e
Emission reductions within 2017:		11,333	tCO ₂ e
Emission reductions within 2018:		3,925	tCO ₂ e
69. Baiyang Hydroelectric Plant		Reporting period:	26/09/2016 to 25/06/2018
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	11,497	tCO ₂ e
	Emission reductions:	11,497	tCO ₂ e
	Emission reductions within 2016:	1,388	tCO ₂ e
	Emission reductions within 2017:	6,982	tCO ₂ e
	Emission reductions within 2018:	3,127	tCO ₂ e
	70. Xinmin Tailwater Stage II Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018
Verified emission in the above reporting period:			
Project emissions:		0	tCO ₂ e
Baseline emissions:		4,753	tCO ₂ e

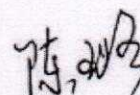
	Emission reductions:	4,753	tCO ₂ e
	Emission reductions within 2016:	638	tCO ₂ e
	Emission reductions within 2017:	2,702	tCO ₂ e
	Emission reductions within 2018:	1,413	tCO ₂ e
71. Dongliuhe Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	4,041	tCO ₂ e
	Emission reductions:	4,041	tCO ₂ e
	Emission reductions within 2016:	448	tCO ₂ e
	Emission reductions within 2017:	2,560	tCO ₂ e
	Emission reductions within 2018:	1,033	tCO ₂ e
	72. Dahegou Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018
Verified emission in the above reporting period:			
Project emissions:		0	tCO ₂ e
Baseline emissions:		5,392	tCO ₂ e
Emission reductions:		5,392	tCO ₂ e
Emission reductions within 2016:		690	tCO ₂ e
Emission reductions within 2017:		3,191	tCO ₂ e
Emission reductions within 2018:		1,511	tCO ₂ e
73. Xinmin Stage II Hydroelectric Plant		Reporting period:	26/09/2016 to 25/06/2018
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	20,292	tCO ₂ e
	Emission reductions:	20,292	tCO ₂ e
	Emission reductions within 2016:	3,478	tCO ₂ e
	Emission reductions within 2017:	11,237	tCO ₂ e
	Emission reductions within 2018:	5,577	tCO ₂ e
	74. Guizhou Province Xingyi City Puti Hydropower Plant Technical Reform Project	Reporting period:	26/09/2016 to 25/06/2018
Verified emission in the above reporting period:			
Project emissions:		0	tCO ₂ e
Baseline emissions:		0	tCO ₂ e
Emission reductions:		0	tCO ₂ e
Emission reductions within 2016:		0	tCO ₂ e
Emission reductions within 2017:		0	tCO ₂ e
Emission reductions within 2018:		0	tCO ₂ e
75. Guizhou Province Xingyi City Puti 2nd Stage (Xiniutang) Hydropower Plant Technical Reform Project		Reporting period:	26/09/2016 to 25/06/2018
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	0	tCO ₂ e
	Emission reductions:	0	tCO ₂ e
	Emission reductions within 2016:	0	tCO ₂ e
	Emission reductions within 2017:	0	tCO ₂ e
	Emission reductions within 2018:	0	tCO ₂ e
	76. Wumaxi Stage I Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018
Verified emission in the above reporting period:			
Project emissions:		0	tCO ₂ e

	Baseline emissions:	0	tCO ₂ e
	Emission reductions:	0	tCO ₂ e
	Emission reductions within 2016:	0	tCO ₂ e
	Emission reductions within 2017:	0	tCO ₂ e
	Emission reductions within 2018:	0	tCO ₂ e
77. Mozigou Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	4,310	tCO ₂ e
	Emission reductions:	4,310	tCO ₂ e
	Emission reductions within 2016:	515	tCO ₂ e
	Emission reductions within 2017:	2,464	tCO ₂ e
	Emission reductions within 2018:	1,331	tCO ₂ e
78. Mayihe Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	6,126	tCO ₂ e
	Emission reductions:	6,126	tCO ₂ e
	Emission reductions within 2016:	886	tCO ₂ e
	Emission reductions within 2017:	3,695	tCO ₂ e
	Emission reductions within 2018:	1,545	tCO ₂ e
79. Jinyatan Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	5,193	tCO ₂ e
	Emission reductions:	5,193	tCO ₂ e
	Emission reductions within 2016:	855	tCO ₂ e
	Emission reductions within 2017:	3,289	tCO ₂ e
	Emission reductions within 2018:	1,049	tCO ₂ e
80. Toudaoshui Hydroelectric Station	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	7,716	tCO ₂ e
	Emission reductions:	7,716	tCO ₂ e
	Emission reductions within 2016:	1,121	tCO ₂ e
	Emission reductions within 2017:	4,718	tCO ₂ e
	Emission reductions within 2018:	1,877	tCO ₂ e
81. Sanhui Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	21,365	tCO ₂ e
	Emission reductions:	21,365	tCO ₂ e
	Emission reductions within 2016:	3,716	tCO ₂ e
	Emission reductions within 2017:	13,823	tCO ₂ e
82. Yunwushan Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		

	Project emissions:	0	tCO ₂ e
	Baseline emissions:	0	tCO ₂ e
	Emission reductions:	0	tCO ₂ e
	Emission reductions within 2016:	0	tCO ₂ e
	Emission reductions within 2017:	0	tCO ₂ e
	Emission reductions within 2018:	0	tCO ₂ e
	83. Gongjiagou Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018
Verified emission in the above reporting period:			
Project emissions:		0	tCO ₂ e
Baseline emissions:		30,892	tCO ₂ e
Emission reductions:		30,892	tCO ₂ e
Emission reductions within 2016:		4,573	tCO ₂ e
Emission reductions within 2017:		18,477	tCO ₂ e
Emission reductions within 2018:		7,842	tCO ₂ e
84. Chahe Stage III Hydroelectric Plant		Reporting period:	26/09/2016 to 25/06/2018
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	19,659	tCO ₂ e
	Emission reductions:	19,659	tCO ₂ e
	Emission reductions within 2016:	2,612	tCO ₂ e
	Emission reductions within 2017:	11,849	tCO ₂ e
	Emission reductions within 2018:	5,198	tCO ₂ e
	85. Daihuanggou Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018
Verified emission in the above reporting period:			
Project emissions:		0	tCO ₂ e
Baseline emissions:		24,638	tCO ₂ e
Emission reductions:		24,638	tCO ₂ e
Emission reductions within 2016:		3,476	tCO ₂ e
Emission reductions within 2017:		15,003	tCO ₂ e
Emission reductions within 2018:		6,159	tCO ₂ e
86. Gaoqiaohe Hydroelectric Plant		Reporting period:	26/09/2016 to 25/06/2018
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	40,253	tCO ₂ e
	Emission reductions:	40,253	tCO ₂ e
	Emission reductions within 2016:	5,663	tCO ₂ e
	Emission reductions within 2017:	24,096	tCO ₂ e
	Emission reductions within 2018:	10,494	tCO ₂ e
	87. Zhuyeshan Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018
Verified emission in the above reporting period:			
Project emissions:		0	tCO ₂ e
Baseline emissions:		19,484	tCO ₂ e
Emission reductions:		19,484	tCO ₂ e
Emission reductions within 2016:		2,543	tCO ₂ e
Emission reductions within 2017:		12,404	tCO ₂ e
Emission reductions within 2018:		4,537	tCO ₂ e
	Reporting period:	26/09/2016 to 25/06/2018	

88. Lianghekou Hydroelectric Plant	Verified emission in the above reporting period:	
	Project emissions:	0 tCO ₂ e
	Baseline emissions:	43,577 tCO ₂ e
	Emission reductions:	43,577 tCO ₂ e
	Emission reductions within 2016:	7,592 tCO ₂ e
	Emission reductions within 2017:	27,537 tCO ₂ e
	Emission reductions within 2018:	8,448 tCO ₂ e
90. Dabaishu Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018
	Verified emission in the above reporting period:	
	Project emissions:	0 tCO ₂ e
	Baseline emissions:	15,528 tCO ₂ e
	Emission reductions:	15,528 tCO ₂ e
	Emission reductions within 2016:	2,920 tCO ₂ e
	Emission reductions within 2017:	8,798 tCO ₂ e
	Emission reductions within 2018:	3,810 tCO ₂ e
91&92. Dashi Stage III& II Hydroelectric Plant	Reporting period:	26/09/2016 to 25/06/2018
	Verified emission in the above reporting period:	
	Project emissions:	0 tCO ₂ e
	Baseline emissions:	31,589 tCO ₂ e
	Emission reductions:	31,589 tCO ₂ e
	Emission reductions within 2016:	4,843 tCO ₂ e
	Emission reductions within 2017:	18,585 tCO ₂ e
	Emission reductions within 2018:	8,161 tCO ₂ e
93. Yunnan Midu County Taishanhe Hydropower Station	Reporting period:	26/09/2016 to 25/06/2018
	Verified emission in the above reporting period:	
	Project emissions:	0 tCO ₂ e
	Baseline emissions:	0 tCO ₂ e
	Emission reductions:	0 tCO ₂ e
	Emission reductions within 2016:	0 tCO ₂ e
	Emission reductions within 2017:	0 tCO ₂ e
	Emission reductions within 2018:	0 tCO ₂ e
94. Zhenyuan County Xiaojiehe Hydropower Station	Reporting period:	26/09/2016 to 25/06/2018
	Verified emission in the above reporting period:	
	Project emissions:	0 tCO ₂ e
	Baseline emissions:	16,305 tCO ₂ e
	Emission reductions:	16,305 tCO ₂ e
	Emission reductions within 2016:	2,620 tCO ₂ e
	Emission reductions within 2017:	9,684 tCO ₂ e
	Emission reductions within 2018:	4,001 tCO ₂ e
95. Jinghong City Chuangye Hydropower Station	Reporting period:	26/09/2016 to 25/06/2018
	Verified emission in the above reporting period:	
	Project emissions:	0 tCO ₂ e
	Baseline emissions:	26,783 tCO ₂ e
	Emission reductions:	26,783 tCO ₂ e
	Emission reductions within 2016:	3,760 tCO ₂ e
	Emission reductions within 2017:	15,952 tCO ₂ e
	Emission reductions within 2018:	7,071 tCO ₂ e

96. Yingjiang Husa River 5th Stage Hydropower Plant	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	18,774	tCO ₂ e
	Emission reductions:	18,774	tCO ₂ e
	Emission reductions within 2016:	3,100	tCO ₂ e
	Emission reductions within 2017:	10,975	tCO ₂ e
	Emission reductions within 2018:	4,699	tCO ₂ e
97. Yunnan Province Jinping County Mengqiao Village Datan Hydropower Station	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	27,397	tCO ₂ e
	Emission reductions:	27,397	tCO ₂ e
	Emission reductions within 2016:	4,791	tCO ₂ e
	Emission reductions within 2017:	16,343	tCO ₂ e
	Emission reductions within 2018:	6,263	tCO ₂ e
98. Fugong County Lishadi Hydropower Plant Project	Reporting period:	26/09/2016 to 25/06/2018	
	Verified emission in the above reporting period:		
	Project emissions:	0	tCO ₂ e
	Baseline emissions:	52,032	tCO ₂ e
	Emission reductions:	52,032	tCO ₂ e
	Emission reductions within 2016:	9,311	tCO ₂ e
	Emission reductions within 2017:	30,530	tCO ₂ e
	Emission reductions within 2018:	12,191	tCO ₂ e



Chen Lu

Deputy General Manager

APPENDIX A: Reference

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

Ref no.	Reference Document
/1/	Swiss Carbon Value Ltd , VCS Monitoring report Version 1.0 dated 25/10/2018 Swiss Carbon Value Ltd , VCS Monitoring report Version 2.0 dated 26/12/2018
/2/	Swiss Carbon Value Ltd , ER calculation spreadsheet
/3/	Swiss Carbon Value Ltd, updated VCS-PD dated 27/02/2017
/4/	China Classification Society Certification Company Renew crediting period Validation Report Version 1.0 dated 07/04/2017
/5/	VCS Association, Voluntary Carbon Standard Version 3.7
/6/	CDM Executive Board, AMS-I.D. Grid connected renewable electricity generation Version 18.0
/7/	VCS Association, Monitoring Report Template Form Version 3.4
/8/	VCS Board, VCS Program Guide Version 3.7
/9/	VCS Association, Registration & Issuance Process Version 3.8
/10/	International Organization for Standardization, ISO 14064-2:2006, ISO 14064-3:2006 and ISO 14065:2013 (ISO, www.iso.org).
/11/	CDM Executive Board, Tool to calculate the emission factor for an electricity system, Version05.0
/12/	IPCC: Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories Reference Manual
/13/	China Electric Power Yearbook 2012~2014
/14/	China Energy Statistical Yearbook 2012~2014
/15/	Chinese DNA, 2015 Baseline Emission Factors for Regional Power Grids in China
/16/	China National Economic Trading Commission, Technical Administrative Code of Electric Energy Metering, DL/T 448-2000

/17/	Ministry of Water Resources of People's Republic of China, Hydroenergy Design Code for Small Hydropower Projects (SL76-94).
/18/	the previous verification reports, the registered VCS-PD and the registered validation report
/19/	the electricity sale receipts

The specific project documents of the sampling projects have been reviewed during verification process as indicated below:

Document Review List for Sampling Project No. 37: Baijia Hydroelectric Plant

- <37-01> Electricity sale receipts covering this monitoring period
- <37-02> Contract of power combined to the grid
- <37-03> Calibration Illustration Letter for Meter Measurement with the validity covering this monitoring period
- <37-04> Business License

Document Review List for Sampling Project No. 38: Xinqiao Hydroelectric Plant

- <38-01> Electricity sale receipts covering this monitoring period
- <38-02> Calibration Illustration Letters for Meter Measurement with the validity covering this monitoring period
- <38-03> Contract of power combined to the grid
- <38-04> Power Purchasing Agreement
- <38-05> Electrical Connection Scheme of the Plant
- <38-06> Business License

Document Review List for Sampling Project No. 44: Yong'an Hydroelectric Plant

- <44-01> Electricity sale receipts covering this monitoring period
- <44-02> Calibration Illustration Letters for Meter Measurement with the validity covering this monitoring period
- <44-03> Contract of power combined to the grid
- <44-04> Power Purchasing Agreement
- <44-05> Water-Intaking Permit Certificates with the validity covering this monitoring period
- <44-06> Electrical Connection Scheme of the Plant
- <44-07> Installation capacity demonstrated document
- <44-08> Business License

Document Review List for Sampling Project No. 55: Canglong Hydroelectric Plant

- <55-01> Electricity sale receipts covering this monitoring period
- <55-02> Calibration Illustration Letters for Meter Measurement with the validity covering this monitoring period
- <55-03> Contract of power combined to the grid
- <55-04> Monitoring Manual
- <55-05> Electrical Connection Scheme of the Plant
- <55-06> Business License

Document Review List for Sampling Project No. 56: Daheba Hydroelectric Plant

- <56-01> Electricity sale receipts covering this monitoring period
- <56-02> Calibration Illustration Letters for Meter Measurement with the validity covering this monitoring period
- <56-03> Power Purchasing Agreement
- <56-04> Electrical Connection Scheme of the Plant
- <56-05> Business License

Document Review List for Sampling Project No.57: Heixigou Hydroelectric Plant

- <57-01> Electricity sale receipts covering this monitoring period
- <57-02> Calibration Illustration Letters for Meter Measurement with the validity covering this monitoring period
- <57-03> Electrical Connection Scheme of the Plant
- <57-04> Monitoring Manual
- <57-05> Power Purchasing Agreement
- <57-06> Business License

Document Review List for Sampling Project No. 63: Songshigou Hydroelectric Plant

- <63-01> Electricity sale receipts covering this monitoring period
- <63-02> Calibration Illustration Letters for Meter Measurement with the validity covering this monitoring period
- <63-03> Contract of power combined to the grid
- <63-04> Monitoring Manual
- <63-05> Business License
- <63-06> Electrical Connection Scheme of the Plant

Document Review List for Sampling Project No. 69: Baiyang Hydroelectric Plant

- <69-01> Electricity sale receipts covering this monitoring period

- <69-02> Calibration Illustration Letters for Meter Measurement with the validity covering this monitoring period
- <69-03> Power Purchasing Agreement
- <69-04> Electrical Connection Scheme of the Plant
- <69-05> Monitoring Manual
- <69-06> Business License

Document Review List for Sampling Project No. 70: Xinmin Tailwater Stage II Hydroelectric Plant

- <70-01> Electricity sale receipts covering this monitoring period
- <70-02> Electrical Connection Scheme of the Plant
- <70-03> Calibration Illustration Letters for Meter Measurement with the validity covering this monitoring period
- <70-04> Business License
- <70-05> Power Purchasing Agreement

Document Review List for Sampling Project No. 72: Dahegou Hydroelectric Plant

- <72-01> Electricity sale receipts covering this monitoring period
- <72-02> Calibration Illustration Letters for Meter Measurement with the validity covering this monitoring period
- <72-03> Business License
- <72-04> Power Purchasing Agreement
- <72-05> Monitoring Manual
- <72-06> Electrical Connection Scheme of the Plant

Document Review List for Sampling Project No. 73: Xinmin Stage II Hydroelectric Plant

- <73-01> Electricity sale receipts covering this monitoring period
- <73-02> Calibration Illustration Letters for Meter Measurement with the validity covering this monitoring period
- <73-03> Electrical Connection Scheme of the Plant
- <73-04> Power Purchasing Agreement
- <73-05> Business License

Document Review List for Sampling Project No. 78: Mayihe Hydroelectric Plant

- <78-01> Electricity sale receipts covering this monitoring period
- <78-02> Electrical Connection Scheme of the Plant
- <78-03> Calibration Certificates for Meter Measurement with the validity covering this monitoring period

- <78-04> Certificate of Metrological Authorization for Special Items with the validity covering this monitoring period
- <78-05> Monitoring Manual
- <78-06> Nameplate of hydro-generators
- <78-07> Pictures of on-site visit
- <78-08> Business License
- <78-09> Power Purchasing Agreement

Document Review List for Sampling Project No. 80: Toudaoshui Hydroelectric Station

- <80-01> Electricity sale receipts covering this monitoring period
- <80-02> Electrical Connection Scheme of the Plant
- <80-03> Calibration Certificates for Meter Measurement with the validity covering this monitoring period
- <80-04> Certificate of Metrological Authorization for Special Items with the validity covering this monitoring period
- <80-05> Business License

Document Review List for Sampling Project No. 87: Zhuyeshan Hydroelectric Plant

- <87-01> Electricity sale receipts covering this monitoring period
- <87-02> Calibration Certificates for Meter Measurement with the validity covering this monitoring period
- <87-03> Business License
- <87-04> Power Purchasing Agreement
- <87-05> Electrical Connection Scheme of the Plant

Document Review List for Sampling Project No. 88: Lianghekou Hydroelectric Plant

- <88-01> Electricity sale receipts covering this monitoring period
- <88-02> Calibration Certificates for Meter Measurement with the validity covering this monitoring period
- <88-03> Power Purchasing Agreement
- <88-04> Business License
- <88-05> Certificate of Metrological Authorization for Special Items with the validity covering this monitoring period
- <88-06> Electrical Connection Scheme of the Plant

Document Review List for Sampling Project No. 90: Dabaishu Hydroelectric Plant

- <90-01> Electricity sale receipts covering this monitoring period

- <90-02> Calibration Certificates for Meter Measurement with the validity covering this monitoring period
- <90-03> Power Purchasing Agreement
- <90-04> Business License
- <90-05> Electrical Connection Scheme of the Plant
- <90-06> Monitoring Manual

Document Review List for Sampling Project No.95: Jinghong City Chuangye Hydropower Station

- <95-01> Electricity sale receipts covering this monitoring period
- <95-02> Calibration Certificates for Meter Measurement with the validity covering this monitoring period
- <95-03> Business License
- <95-04> Electrical Connection Scheme of the Plant
- <95-05> Metrological Authorization Certificate of the person implemented the calibration

Document Review List for Sampling Project No. 98: Fugong County Lishadi Hydropower Plant Project

- <98-01> Electricity sale receipts covering this monitoring period
- <98-02> Calibration Certificates for Meter Measurement with the validity covering this monitoring period
- <98-03> Electrical Connection Scheme of the Plant
- <98-04> Business License
- <98-05> Metrological Authorization Certificate of the person implemented the calibration
- <98-06> Contract of power combined to the grid
- <98-07> Monitoring Manual
- <98-08> Pictures of on-site visit

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

1 CAR, 0 CL and 0 FAR were raised in this 7th verification.

Findings	PP's response	Verification teams conclusion
CAR-1: There're some errors in the ER's calculation, i.e. the inconsistency between the MR and the evidence, the selection of the discount factor.	All errors have been corrected and updated.	The verification team has checked the revised ER's sheet, MR and relevant evidences and confirmed all the errors have been corrected. Hence, this CAR is closed.

8 APPENDIX C: CERTIFICATES OF COMPETENCE

ctc 中国建材检验认证集团股份有限公司
China Building Material Test & Certification Group Co., Ltd.

CERTIFICATE OF APPOINTMENT

Mr. Tang Zhi'ang

Satisfies the requirements as specified in the CTC CCP and is hereby appointed as

CDM Validator/verifier.

The present appointment will terminate on 2019-12-01.

Date of Issue: 2016-12-01.



Ma Zhenzhu
CTC General Manager

ctc 中国建材检验认证集团股份有限公司
China Building Material Test & Certification Group Co., Ltd.

CERTIFICATE OF APPOINTMENT

Mr. Zhang Yi

Satisfies the requirements as specified in the CTC CCP and is hereby appointed as

CDM Validator/verifier.

The present appointment will terminate on 2019-12-01.

Date of Issue: 2016-12-01.



Ma Zhenzhu
CTC General Manager

ctc 中国建材检验认证集团股份有限公司
China Building Material Test & Certification Group Co., Ltd.

CERTIFICATE OF APPOINTMENT

Ms. Zhao Jinlan

Satisfies the requirements as specified in the CTC CCP and is hereby appointed as

CDM Validator/verifier.

The present appointment will terminate on 2020-11-30.

Date of Issue: 2017-11-30.



Ma Zhenzhu
CTC General Manager