



VCS VERIFICATION REPORT

GANSU HUANGHE CHAIJIAXIA HYDROPOWER STATION PROJECT

(VCS PROJECT ID: 435)



Document Prepared By

Shenzhen CTI International Certification Co., Ltd

Project Title	Gansu Huanghe Chaiji Xia Hydropower Station Project
Version	02.0
Report ID	CTI/NB-2022-0726-5

Report Title	VCS Verification Report of Gansu Huanghe Chaiji Xia Hydropower Station Project
Client	Gansu Carbon Checking Consulting Pty Ltd.

Pages	42
Date of Issue	14-November-2022
Prepared By	Shenzhen CTI International Certification Co., Ltd
Contact	Address: F8-A CTI Building, No.4 LiuXianSan Road, Xin'an Street, Bao'an District, 518101, Shen Zhen, China Tel: +86 10 65580012 Email: linshunrong@cti-cert.com Website: http://www.cti-cert.org
Approved By	Zhou Lu 
Work Carried Out By	Team Leader& Verifier: Feng Tian Technical Reviewer: Lin Shunrong

Summary:

Shenzhen CTI International Certification Co., Ltd (CTI) has performed the verification of the emission reductions reported for the project activity “Gansu Huanghe Chaiji Xia Hydropower Station Project” (VCS Project ID:435) for the monitoring period 30/05/2012-08/01/2018 within the 1st VCS crediting period 09/01/2008-08/01/2018, to review and determine the monitored reductions in GHG emissions that have occurred as a result of the project activity. These emission reductions are claimed as Verified Carbon Units (VCU) under the VCS Standard Version 4.3.

The verification was performed on the basis of VCS Standard Version 4.3 for the VCS projects, as well as criteria given to provide for consistent project operations, monitoring and reporting. The verification was conducted by means of document review, follow-up interviews and site inspections, and the resolution of outstanding issues. The verification team identified one CL, and no CAR or FAR is raised in this monitoring period.

In CTI’s opinion, the GHG emission reductions reported for the project in the monitoring report (version 2.0 dated 11/11/2022) are fairly stated. The GHG emission reductions of the period from 30/05/2012-08/01/2018 within the 1st VCS crediting period were calculated correctly on the basis of approved methodology ACM0002 “Consolidated methodology for grid-connected electricity generation from renewable sources” (version 6) and the monitoring plan contained in the registered VCS PD (version 3.2, dated 20/02/2009).

CTI does not assume any responsibility towards the issuance and utilization of the VCU's hereby verified and certified. Request for issuance of VCU's shall be made by the project proponent to an approved VCS Program Registry based on the requirements set out under the most recent version of the VCS Program Guidelines clause on VCS Registration.

The verification of reported emission reductions is based on the information made available to CTI and the engagement conditions detailed in this report. CTI cannot be held liable by any party for decisions made or not made based on this report.

Hence, CTI is able to certify that the emission reductions from the "Gansu Huanghe Chaiji Xia Hydropower Station Project" during this monitoring period from 30/05/2012-08/01/2018 amount to 2,424,578 tCO₂e.

CONTENTS

Contents	4
1 Introduction	6
1.1 Objective	6
1.2 Scope and Criteria	6
1.3 Level of Assurance	7
1.4 Summary Description of the Project	7
2 Verification Process	8
2.1 Method and Criteria	8
2.2 Document Review	8
2.3 Interviews	9
2.4 Site Inspections	10
2.5 Resolution of Findings	10
2.6 Eligibility for Validation Activities	11
3 Validation Findings	11
3.1 Participation under Other GHG Programs	11
3.2 Methodology Deviations	11
3.3 Project Description Deviations	11
3.4 Grouped Project	12
4 Verification Findings	12
4.1 Project Implementation Status	12
4.2 Safeguards	15
4.3 AFOLU-Specific Safeguards	17
4.4 Accuracy of GHG Emission Reduction and Removal Calculations	17
4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals	32
4.6 Non-Permanence Risk Analysis	32
5 Verification conclusion	33
APPENDIX A: Abbreviations	35
APPENDIX B: references	36

APPENDIX C: Competence of team members and technical reviewers	40
APPENDIX D: Corrective Action Requests, clarification requests and Forward Action Requests.....	42

1 INTRODUCTION

Gansu Carbon Checking Consulting Pty Ltd. has commissioned Shenzhen CTI International Certification Co., Ltd (CTI) to carry out the verification and certification of emission reductions reported for the “Gansu Huanghe Chaiji Xia Hydropower Station Project” (the Project) for the monitoring period 30/05/2012-08/01/2018. This report contains the findings from the verification and includes a verification statement for the verified carbon units.

1.1 Objective

Verification is the periodic independent review and ex-post determination by an accredited verification body of the monitored reductions in GHG emissions that have occurred as a result of the registered VCS project activity during a defined verification period.

A verification statement is the written assurance by a verification body that, during a specific period in time, a project activity achieved the emission reductions as verified.

The objective of this verification was to verify and provide a verification statement of emission reductions reported for the “Gansu Huanghe Chaiji Xia Hydropower Station Project” for the period 30/05/2012-08/01/2018.

1.2 Scope and Criteria

The scope of the verification is:

- To verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan;
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emissions reduction data is free from material misstatement;
- To verify that reported GHG emissions data is sufficiently supported by evidence.

The criteria of the verification are:

- VCS Program Guide (version 4.2)/47/
- VCS Standard (version 4.3)/46/ and other relevant requirements defined by Verra;
- The approved methodology ACM0002 (version 6)/50/ applied by the project.

The verification shall ensure that reported emission reductions are complete and accurate in order to be verified.

1.3 Level of Assurance

The verification report expresses a conclusion with a reasonable level of assurance about whether the reported GHG emissions reduction data is free from material misstatement. As per the para 3.9.1 of the VCS Standard Version 4.3, the project size categorization belongs to 'Project' as the expected annual emission reductions is 379,896 tCO₂e larger than 300,000 tCO₂e. Therefore, according to the requirement of para 4.1.8 (4) of VCS standard Version 4.3 "The threshold for materiality with respect to the aggregate of errors, omissions and misrepresentations relative to the total reported GHG emission reductions and/or removals shall be five percent for projects and one percent for large projects.", CTI applied a materiality threshold of 1% with respect to omission or misstatements concerning reported quantities of the project activity.

1.4 Summary Description of the Project

Sectoral Scope and Project Type

According to the VCS Program Guide (version 4.2)/47/ and Annex A of the Kyoto Protocol, the project is applicable under the following activity categories:

- Sectoral Scope: 1. Energy (Renewable/non-renewable)
- Project Type: Grid-connected hydropower project

Project Background

The project is located at the main stream of the Yellow River near Liangjiawan Village of Dongchuan Town, Xigu District, Lanzhou City, Gansu Province of P.R.China. The site location's approximate coordinates are north latitude 36°07'11" and east longitude 103°32'08". The project activity was registered as a CDM project with Ref.2103 on 20/02/2009 and the renewable crediting period was selected starting on 20/02/2009. The project has been registered as VCS project with VCS ID. 435 under VCS Standard Version 2007.1 with the crediting period start date 09/01/2008 when the commencement of operations activities started as confirmed by checking the Commissioning Report /39/, operation logs/7/, the VCS monitoring report and verification report for the period of 09/01/2008-19/02/2009 /34//35/.

The amount of 291,486 tCO₂e VCU's have been issued for the monitoring period 09/01/2008-19/02/2009 within the 1st VCS crediting period. GHG emission reductions have been applied for CERs under CDM of which total 1,301,279 tCO₂e have been issued for the monitoring periods 20/02/2009-30/06/2009, 01/07/2009-28/06/2010, 29/06/2010-29/07/2011 and 30/07/2011-29/05/2012.

The installed capacity of the project is 96MW equipped with 4 sets of turbines in type of GZ995-WP-720 and generators in type of SFWG24-88/7820, with unit capacity of 24MW, manufactured by Guangdong Shaoguan Zhongli Generation Equipments Co., Ltd. The electricity generated by the project activity is supplied to the Northwest China Grid, and the project is estimated to deliver 379,896 tCO₂e emission reductions annually.

2 VERIFICATION PROCESS

2.1 Method and Criteria

The verification was performed through means of the following three phases in accordance with the requirement of the registered VCS PD (version 3.2 dated 20/02/2009) and monitoring plan contained in the registered VCS PD, the applied methodology, and the VCS Standard (Version 4.3) and other relevant VCS requirements:

- A desk review of the monitoring report and all support documents;
- Follow-up interviews with project stakeholders and site inspection;
- The resolution of outstanding issues and the issuance of the verification report and statement.

The following sections outline each step in more detail.

The verification of the emission reductions has assessed all factors and issues that constitute the basis for emission reductions from the project. These include:

- The emission reduction calculations and the relevant data records;
- The calibration and maintenance records for the monitoring instruments;
- The management systems to support the project operation and monitoring.

2.2 Document Review

Based on the requirements of competency, experience and qualified sectoral scopes, CTI appointed a verification team in accordance with CTI's internal procedures.

Function	Name	Technical competence	Task Performance*
Team Leader& Verifier	Feng Tian	1.2	☒ DR ☒ SV ☒ RP ☐ TR
Technical Reviewer	Lin Shunrong	1.2, 14.1, 15.1	☒ DR ☐ SV ☐ RP ☒ TR

*DR=Document review; SV=Site visit; RP=Reporting; TR=Technical review

In addition to the VER/VCU monitoring report/1/, the monitoring plan contained in the registered VCS PD /12/, emission reduction calculation spreadsheet/2/ during this monitoring period, the following documents also were assessed as a part of the verification audit:

- The VCS validation report /32/;
- The CDM registered PDD and corresponding validation report /32/;
- The previous VER/VCU monitoring report/34/ and verification report/35/, and previous CDM/CER monitoring reports /36/and verification reports/37/;

- Baseline and monitoring methodology ACM0002 (version 6) applied by the project/50/;
- Relevant decisions, clarifications and guidance from the Verra/46/-/49/; and
- Other information and references relevant to the project activity.

During the desk review, CTI has applied standard auditing techniques to assess the quality of information provided. The following activities were performed:

- A review of the data and information presented to verify their completeness;
- A review of the monitoring plan and monitoring methodology, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures; and

An 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.

2.3 Interviews

On 29/07/2022, CTI visited the project proponent Gansu Chaiji Xia Hydropower Co., Ltd. to perform on-site assessment. The key personnel of the project were interviewed or assisted the verification team /50/. Main topics of the interview cover implementation of the project construction, applicability of selected methodology, implementation of project monitoring, emission reduction calculation, etc.

The key personnel interviewed /52/ are summarized in the table below:

Interviewed personnel	Role	Organization	Subject
Mr. Wang He	Plant Director	Gansu Chaiji Xia Hydropower Co., Ltd.	Operation of the project activity; Implementation of the monitor plan of the project activity; Data collection and data achievement; Calibration of meters and equipment maintenance; The complaint by local stakeholders; The stakeholder consultation during the operation of the project activity. Project's sustainable development contributions.
Mr. Kong Xuyong	O&M Staff		
Ms. Zhang Yufang	O&M Staff		
Mr. Su Shanhua	Local resident	Local Village	The impact of the project activity; The complaint by local stakeholders; The stakeholder consultation during the operation of the project activity; Project's sustainable development contributions.
Mr. Liu Dejun			
Mr. Wang Xingpeng	Staff	Local Environment Protection Bureau	
Mr. Fan Chaoyi	Project Manager	Gansu Carbon Checking Consulting Pty Ltd.	Data collection and ER calculation.

2.4 Site Inspections

During the on-site assessment, CTI has applied standard auditing techniques to assess the quality of information provided. The following aspects of the project activity have been verified:

- An assessment of the implementation and operation of the registered project activity is as per the registered VCS PD of the project activity;
- A review of information flows for generating, recording, aggregating and reporting the monitoring parameters; and
- Interviews with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan;
- A cross-check between information provided in the monitoring report and data from other sources such as plant logbooks and the electricity receipts;
- A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the registered VCS PD and the selected methodology;
- A review of calculations and assumptions made in determining the GHG data and emission reductions; and
- An identification that quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

In addition, all parameters required by the monitoring methodology ACM0002 (version 6), and the management system were assessed during the site visit.

2.5 Resolution of Findings

A corrective action request (CAR) shall be raised, where:

- i. Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;
- ii. Mistakes have been made in applying assumptions, data or calculations of emission reductions which will impair the estimate of emission reductions;
- iii. Issues identified in a FAR during validation to be verified during verification have not been resolved by the project proponents.

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

The verification team identified 1 CL and no CAR in this monitoring period. The CL was satisfactorily addressed by the project proponents in the updated monitoring report version 2.0 dated 11/11/2022 (refer to Appendix D for further details).

2.5.1 Forward Action Requests

A forward action request (FAR) is issued for actions if the monitoring and reporting require attention and/or adjustment for the next monitoring period.

CTI confirmed that there was no FAR identified in previous verification/35/, and no FAR was raised during this verification.

2.6 Eligibility for Validation Activities

The project has been validated by TÜV SÜD Industrie Service GmbH under the CDM rules and registered as CDM project on 20/02/2009, and was registered as VCS project under VCS standard version 2007.1 through gap validation by SGS United Kingdom Ltd.

CTI was accredited in Sectoral Scope 1 on validation and verification and thus is eligible for verification activities on the project. By checking the UNFCCC website, the VCS pipeline and the previous verification reports/37/, it is confirmed the verification for this monitoring period 30/05/2012-08/01/2018 which is no more than consecutive 6 years is the first verification undertaken by CTI. Therefore, the verification undertaken by CTI is in line with the requirement for VVB stipulated in Section 4.1.20 of VCS standard Version 4.3

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project has been registered as a CDM project on 20/02/2009 under the UNFCCC with Ref. 2103. The renewable CDM crediting period was selected starting on 20/02/2009. By checking the UNFCCC website: <https://cdm.unfccc.int/Projects/DB/TUEV-SUED1218542816.05/view>, it is confirmed that total 1,301,279tCO₂e of CERs have been issued for the monitoring periods 20/02/2009-30/06/2009, 01/07/2009-28/06/2010, 29/06/2010-29/07/2011 and 30/07/2011-29/05/2012.

3.2 Methodology Deviations

The validation process /23/ has assessed all factors and issues that constitute the basis for emission reductions from the project according to the applicable CDM methodology ACM0002 (version 6) /50/. There was not any methodology deviation applied to this project. Details refer to section 4.1.

3.3 Project Description Deviations

By checking the previous VCS verification reports with the monitoring period 09/01/2008-19/02/2009, the Commissioning report of the project /39/, operation logs/7/ and through the site visit interview with

project owner, it is confirmed that the first set of turbine generator started operation on 09/01/2008 which is the project start date according to the requirement of VCS. A deviation was identified for the crediting period of the Project. The project is registered as VCS project under VCS version 2007.1 and completed validation before 19/03/2020. As per VCS requirement, it remains eligible to apply the crediting period requirements under VCS Version 3 which shall be a maximum of ten years and may be renewed at most twice. Therefore, the first renewable crediting period of the Project under VCS is updated from 09/01/2008-19/02/2009 to 09/01/2008-08/01/2018, which lasts for 10 years. As per VCS requirement, the project did not conduct the validation of crediting period renewal within the two years after the end of the first VCS crediting period. Thus, the total VCS crediting period of the project ends on 08/01/2018.

CTI confirms that the project remains in compliance with VCS Program rules and this deviation has no impact on the applicability of the methodology, additionality or the appropriateness of the baseline scenario and meet all appropriate rules and requirements of VCS standard.

3.4 Grouped Project

The project was not a grouped project; hence this clause is not applicable.

4 VERIFICATION FINDINGS

This section summarizes the findings from the verification of the emission reductions reported for the “Gansu Huanghe Chaijiaxia Hydropower Station Project” for the monitoring period 30/05/2012-08/01/2018.

4.1 Project Implementation Status

Project Implementation in accordance with the registered project design document

The project is a hydropower grid-connected plant and locates at the main stream of the Yellow River near Liangjiawan Village of Dongchuan Town, Xigu District, Lanzhou City, Gansu Province of P.R.China. The geographical coordinates are verified by GPS system as north latitude 36°07'11" and east longitude 103°32'08". The total installed capacity is 96MW equipped with 4 sets of turbines in type of GZ995-WP-720 and generators in type of SFWG24-88/7820, with unit capacity of 24MW. It was confirmed by checking the Commissioning report /39/, the operation logs/7/, the previous VCS monitoring report and verification report /34/-/35/ that the first set of turbine generator was put into operation since 09/01/2008 and the remaining three sets of turbine generators started operation on 23/04/2008, 18/10/2008 and 09/12/2008 successively. The actual implementation of the project during this verification period was verified in terms of nameplates of turbines and generators /38/ and the equipment purchase contract /41/. The details of the turbines and generators with respect to their installation and capacity have been verified to be consistent with description indicated in the registered

VCS PD. By checking the Layout of the main structures of the project /13/, the Survey report of the surface area reservoir /17/ and via on-site inspection, it is confirmed that the project is a dam/powerhouse type hydropower station consisting of a water retaining section, five flood gates and a water intake/powerhouse section and the project adopts a run-of-river design to utilize the natural water flow of the river and low head of 6.8 meters and the surface area at full reservoir level is 2,353,158m². The electricity generated by the project activity is supplied to the Northwest China Grid, which can be confirmed by the Power purchase agreement (PPA) signed between Gansu Chaiji Xia Hydropower Co., Ltd. and Gansu Province Electric Power Company/3/. All the monitoring system in operation period is consistent with the description in the monitoring plan. The control system at the power plant is automated and assures continuous operation, including monitoring on malfunction of equipment. By checking the daily operation and maintenance records/7/ and via on-site visit, CTI can confirm that no serious malfunction happened and the plant was under a normal operation as expected in this monitoring period.

On-site training for the related procedures including, recording and reporting was verified to be in place/6/ and their implementation was confirmed by interview with the key operators/52/ and observing the operation.

CTI confirms that the project implementation is in accordance with the project description contained in registered VCS PD. Furthermore, through visual inspection and document review, it is confirmed that all physical features of the project activity including data collection systems and storage systems have been implemented in accordance with the monitoring plan.

Participation or any rejection under any other GHG programs, any other form of environmental credit or emissions trading program since validation or previous verification

By checking the UNFCCC website: <https://cdm.unfccc.int/Projects/DB/TUEV-SUED1218542816.05/view>, it is confirmed that the emission reductions within the monitoring periods 20/02/2009-30/06/2009, 01/07/2009-28/06/2010, 29/06/2010-29/07/2011 and 30/07/2011-29/05/2012 have been issued as CERs and no other issuance request was submitted under CDM.

Therefore, it is concluded no double counting issuance has occurred for this verified monitoring period 30/05/2012-08/01/2018 under both VCS and CDM programmes. Via the on-site interview, the project proponent confirmed the emission reductions for this verified period are only requested for VCUs issuance.

The verification team has also checked other GHGs programs and forms of credit such as exchange platform of Chinese Certified Emission Reduction (CCER) projects, Gold Standard, EU ETS, IREC, China ETS and based on the interview with the project proponent, during this monitoring period, it is confirmed that except CDM and VCS scheme:

- No evidence showing that the project has participated or been rejected under any other GHG programs since validation or previous verification.
- There is no observation that the project has received or sought any other emission trading program and form of environmental credit, or has become eligible to do so since validation or previous verification.

The project is completely voluntary CDM and VCS project, not included in an emissions trading program or any other mechanism that includes GHG allowance trading. Although the national emission trading scheme has been launched since 16/07/2021, it only covers the high-emission and energy intensive industries that emit at least 26,000 tonnes of CO₂e/year as per the regulation/26/ including thermal power generation, petrochemical, chemical, building materials, iron and steel, etc. By checking the business license/18/of the project proponent, it is confirmed that the PP is qualified in business scope of renewable energy investment, thus is not included the mandatory emission control scheme and there is no emission cap enforced for the PP by further checking the compulsive company list under China ETS in public information/27/.

Moreover, it is confirmed by CTI the project is not registered as a CCER project in China, the emission reductions generated by the project activity are not eligible for transaction under China ETS as per the regulation/26/. Also, CCER mechanism has been suspended by Chinese government since 2017/27/, the project activity will not and is not allowed to registered under CCER mechanism. Thus, the assessment team concluded that the project activity not involved on other emissions trading programs and other binding limits.

The Statement on no double counting made by PP /42/ submitted by PP was checked by the verification team and confirmed to be correct in terms of the regulations and database of CCER and China ETS.

SD contributions resulted by implementation of the project activity

Via the on-site inspection, and through the interviews with the project proponent, local villagers and official from local environment bureau, and by checking the evidences provided by the project proponent, the verification team agrees on the following points regarding to the promotion of sustainability development by the project activity:

- *SDG 7, Indicator 7.2 Volumes of grid-connected electricity generated from renewable sources*

The project provides clean and renewable energy through making use of hydro-power, displacing fossil fuel power in the grid Northwest China Grid. During this monitoring period, 2,883,006.737MWh of net electricity generated by hydro-power was delivered to the Northwest China Grid. It is verified by checking the daily and monthly reading records/8/ and via on-site inspection. Meanwhile, by checking the approved VCS monitoring reports for the previous monitoring, it is confirmed 3,229,607.977MWh of cumulative renewal electricity has been supplied to the grid since the project operation. This contributes to increasing the share of clean energy consumption of China's "Action Plan for Carbon Dioxide Peaking Before 2030". /44/

- *SDG 8, Indicator Numbers of decent job opportunities provided by implementation of the project*

It is verified by interviewing with project proponent, staff and local villagers and checking the Statement on the annual income of employees from 2012 to 2018 /28/ and Per capita disposable income of residents in Gansu Province in 2012 and 2018 /29/, that the project activity provides 86-92 long-term job opportunities from 2012 to 2018 during this monitoring period for local residents and provides higher salary from 73,075.09 RMB/year in 2012 to 115,519.7 RMB/year in 2018 above the local average level of 17,156.89 RMB/year in 2012 and 29,957 RMB/year in 2018. Hence, the contribution to this SDG has been confirmed and the provisions for monitoring

and reporting this goal is verified as reasonable. This also contributes to one of the China's actions for promoting sustainable developing, "Increase labor force participation rate through implementation of the classification policy. Vigorously enforce the Law on Promotion of Employment" /43/

- *SDG 13, Indicator Tonnes of greenhouse gas emissions avoided or removed*

As verified by on-site inspection, and via checking the emission reduction calculation sheet/2/ and the monthly reading records/8/, 2,424,578 tCO₂e GHG emission reductions are generated by the project activity during this monitoring period. And by checking the approved VCS monitoring report for the previous monitoring period, it is confirmed the cumulative emission reductions are 2,716,064 tCO₂e since operation of the project activity. This contributes achieve one of China's stated sustainable development priorities "Actively adapt to climate change and strengthen resistance capacity to climate risks in agriculture, forestry, water resources and other key fields, as well as cities, coastal regions and ecologically vulnerable areas". /45/

In conclusion, Verification Team was able to confirm that the project implementation is in accordance with the project description contained in the VCS PD. All required equipments and procedures are available and implemented in an appropriate manner. All necessary monitoring instruments are installed and operated. The project is completely operational and the same has been confirmed on-site. Neither mistakes nor malfunction on main meters have been observed during this monitoring period.

4.2 Safeguards

4.2.1 No Net Harm

Via on-site inspection and checking the EIA summary and conclusion provided in the registered VCS PD, it is confirmed that the impact caused by the project activity on the surrounding ecosystem and residents, wastewater, noise, solid waste and air pollution etc. is very little, there would be no net harm caused due to the project activity. Appropriate mitigation measures have been undertaken by the project proponent to avoid the potential impacts during the construction and operation. The EIA of the project are approved by the government.

Particular attention was paid by the verification team to the wastewater and solid waste management practices during the operation phase of the project. By checking the EIA and its approval /19/, reasonable measures to mitigate the possible impacts caused by waste water and solid waste have been formulated, Via on-site visit and checking the solid waste and domestic sewage treatment records /20/, it is confirmed that domestic sewage generated during the monitoring period is treated with water supply zone disposal equipment and used for irrigation. The solid waste i.e. domestic waste is being collected and sent to the disposal site near the project. By checking the Reservoir area salvage records/21/ and interview with on-site staff during on-site visit, it is confirmed that the floating materials and cadavers have been collected periodically and sent to a landfill after disinfection during this monitoring period. In conclusion, the wastewater and solid waste have been properly handled during this monitoring period and do not cause significant negative impacts on the environment.

Moreover, by checking the EIA and EIA approval, on-site observation and interviewing with the staff from local environmental protection bureau during on-site visit, it is confirmed that the project is a run-off river hydro-power station of which the reservoir has no regulating ability and does not impact the trend of runoff variation and therefore would not cause further impacts on the downstream. Furthermore, after the construction of the reservoir of the project, the transparency of the water was improved which improves the potential of phytoplankton for photosynthesis and thus, providing a better environment for aquatic lives. Therefore, the project does not cause significant negative impacts on aquatic animals and plants.

Also, no potential environment or social economic matter was found during the site visit. It is verified by interviewing with project proponent, staff and local villagers and checking the Statement on the annual income of employees from 2012 to 2018/28/ and Per capita disposable income of residents in Gansu Province in 2012 and 2018 /29/, that the project has contributed to the local employment and improved income levels by providing job opportunities and offering permanent employees wages well above local average income levels. As stated by the plant staff during the on-site interviews, they have gained knowledge and skills in the regular training organized by the project proponent, so it can be judged that the project has, to some extent, improved the marketability of the employees as well as the possibility of lifelong learning for them.

In conclusion, the implementation of the project activity does not cause any significant negative environmental or socio-economic impacts and is beneficial to the local socio-economic environment.

4.2.2 Local Stakeholder Consultation

During the preparation of the project, the local authorities held several meetings to discuss impacts of the project on stakeholders and achieved agreement on the compensation. The project proponent carried out a stakeholder consultation during 09/06/2006 to 09/07/2006 which includes: establishment of a website and a stakeholder's meeting.

The local stakeholder's meeting was held in Xigu district of Lanzhou city, Gansu Province on 19/06/2006. Representatives from the local government and local residents attended the meeting. The project owner introduced the proposed project and the opinions expressed by the stakeholders were recorded and are available on request.

The stakeholder meeting showed that the proposed project receives strong support from the local community. They all believe the proposed project will promote local economic development and agree with the project development and construction.

For continuous communication with local stakeholders, the project owner has informed the local authority, the neighborhood committee, and local residents of any key implementation schedules and changes of the project. The project owner also invited the stakeholders to visit the project site and communicated with them every year to collect the relevant comments and suggestions, i.e. in Aug 2012, Sep 2013, Aug 2014, Sep 2015, Sep 2016 and Aug 2017 during this monitoring period and neither negative comment nor grievance was received by checking the filled questionnaires through on-site visit. Through interviewing with staff from local environmental protection bureau and local residents during

the site visit, it is confirmed by the verification team that during the implementation stage of this monitoring period, local authority has conducted spot checks on the implementation of the project periodically as per the request from the local governments' regulations, no negative comment and issues from the local stakeholders during this monitoring period were identified and the project passed all the periodic spot checks by local government.

All such conclusion has been verified through site visit and checking VCS PD.

4.3 AFOLU-Specific Safeguards

For non-AFOLU projects, this section is not required.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

Compliance of monitoring plan with monitoring methodology

CTI is able to confirm that the monitoring plan contained in the registered PD is in accordance with the approved methodology applied by the project activity, i.e. ACM0002 (version 6).

Compliance of monitoring with the monitoring plan

The monitoring has been carried out in accordance with the monitoring plan contained in the registered VCS PD /12/, CTI confirms that all parameters stated in the monitoring plan are monitored and reported appropriately. All parameters required to be monitored by the monitoring plan as per the monitoring methodology ACM0002 (version 6) and the management system was assessed during the site visit. The monitoring report lists each parameter required by the monitoring plan and the information flow (i.e. from data generation, recording, aggregation, calculation and reporting) for each parameter is provided. The information flow for each parameter is further verified in the following sections.

Parameters fixed ex ante

"Data and parameters fixed ex-ante" in the MR are checked against the registered VCS PD. The parameter EF_y is the combined emission factor of the grid which was determined ex-ante at the validation stage and has been fixed during the first crediting period. CTI verified and confirms that the emission factor used in the monitoring report is in compliance with the registered VCS PD. Other ex-ante parameters (i.e. Power generation by source, Internal power consumption of power plants, Primary fuel input for thermal power supply, Efficiency of advanced thermal power plant additions, Capacity by power generation source, Oxidation Factor, Fuel Emission Coefficients, Electricity imports from connected grids, Net Calorific Value) were used to calculate the parameter EF_y in the registered VCS PD, which were validated in the validation process. CTI verified and confirms that the emission factor used in the monitoring report is in compliance with the registered VCS PD.

Parameters monitored

CTI conducted document review and performed on-site assessment with project stakeholders to:

- A review of information flows for generating, aggregating and reporting the monitoring parameters;
- Determine whether the operational and data collection procedures are implemented in accordance with the registered monitoring plan;
- A cross-check between information provided in the monitoring report and data from other sources such as plant logbooks and sales receipts;
- An identification that quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

According to the monitoring plan and the applied methodology, the parameters to be monitored are as below:

EG _y	The net electricity supplied to the grid by the project
Surface area reservoir	Surface area at full reservoir level
Operational hours of emergency back-up diesel generator	Annual hours that the emergency back-up diesel generator is running either for the purpose of commissioning/maintenance or actual emergencies.

Monitored parameter EG_y

Based on the on-site inspection of the monitoring meters and checking the connection diagram /4/, PPA /3/, the monitoring plan and previous verification reports, it is confirmed the meters involved in determining EG_y are:

- Meters M2a and M2b with bidirectional function are located at the two main lines of the project site which are owned by the project proponent to monitor the electricity supplied to and received from the grid through the two main lines;
- Meters M3a (old and new) and M3b (old and new) with bidirectional function are installed at Lanxi 110/330kV Transformer Station which are owned by the grid company to monitor the electricity supplied to and received from the grid through the two main lines and the sales receipts are issued by the grid company based on the readings of M3a (old and new) and M3b (old and new);
- The unidirectional meter M4 located at project site is owned by the project proponent to monitor the electricity received from the grid through the back-up power line (Line 504);
- The meter M5 installed at 504 Factory Transformer Station was owned by the grid company to monitor the electricity received from the grid through the back-up power line (Line 504) and the sales receipts are issued by the grid company based on the readings of M5.

The verification team had on-site checked the location of the meters against the diagram of power connection system /4/ and found them to be consistent and installed in accordance with the monitoring plan. All the monitoring facilities and system have been verified by CTI during on-site visit.

Via the on-site interview and by checking the daily operation and maintenance records /7/, monthly and daily reading records /8/ and sales receipts issued by grid company /9/, it is confirmed by the verification team that the electricity data is continuously measured by M2a, M2b and M4, daily recorded and monthly aggregated by trained staff of the project as agreed with the grid company at 24:00 on the aggregating, antepenultimate day of each month. The sales receipts /9/ issued by the grid company based on the readings of M3a (old and new), M3b (old and new) and M5 have been used for cross-check with the electricity data measured by meters M2a, M2b and M4.

According to the monitoring plan, the net electricity supplied to the grid by the project (EG_y) is calculated as:

$$EG_y = ES_y - ED_y$$

Where,

ES_y: electricity supplied to the grid through the main lines;

ED_y: electricity received from the grid through main lines and back-up power line.

Data in the monthly reading records were used to the report, through a cross check with sales receipts, the most conservative values were used for the monitoring report and ERs calculation spreadsheet, which has been verified by the verification team. Supporting references and data required to determine the quantity of net electricity generation supplied by the project is found to be complete and transparent.

Monitored parameter Surface area reservoir

According to the monitoring plan, Surface area reservoir is measured on the surface of the water, after the implementation of the project activity, when the reservoir is full which was monitored once at the start of the project when the reservoir reaches full capacity. By checking the survey report /17/ issued by Gansu Provincial Investigation Design & Research Institute of Water Conservancy & Hydropower in 07/2008 which is after the operation of the project, it is confirmed that the Surface area reservoir of the project is 2,353,158m².

Monitored parameter Operational hours of emergency back-up diesel generator

Operational hours of emergency back-up diesel generator were logged by the project staff once the generator was operated during this monitoring period as per monitoring plan, which is verified during the on-site inspection and by checking the daily operation and maintenance records /7/. The operational duration was 41 hours during this monitoring period.

Monitoring equipment and calibration

The documents review was carried out. Particular attention was paid to the frequency of measurements, the quality of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the registered VCS PD and the methodology ACM0002(version 6) and corresponding tool(s), and the quality assurance and quality control procedures.

All monitoring meters have been calibrated annually as per the monitoring plan covering this monitoring period. The relevant information of the calibration is listed as below:

Monitoring equipment	Type	Serial NO.	Accuracy	Calibration frequency	Calibration date	Validity date	Calibration entity
M2a	SL7000	36125639	0.2S	At least Annually	07/03/2012	06/03/2013	Gansu Electric Power Company Calibration and Testing Centre
M2b	SL7000	36125640	0.2S		06/03/2013	05/03/2014	
M4	DSSD331	20061136030005	0.5S		06/03/2014	05/03/2015	
M5	DTS256	0901596187	0.5S		12/01/2015	11/01/2016	
					05/08/2015	04/08/2016	
					28/10/2015	27/10/2016	
					18/01/2016	17/01/2017	
					06/06/2016	05/06/2017	
					19/09/2016	18/09/2017	
					22/12/2016	21/12/2017	
					22/03/2017	21/03/2018	
M3a (old)	SL7000	36125630	0.2S		19/04/2017	18/04/2018	
					09/09/2017	08/09/2018	
				07/11/2017	06/11/2018		
M3b (old)	SL7000	36125632	0.2S	05/06/2018	04/06/2019		
M3a (new)	WU.TE432q	41501820	0.2S	07/03/2012	06/03/2013		
				06/03/2013	05/03/2014		
				06/03/2014	05/03/2015		
				12/01/2015	11/01/2016		
				15/07/2015	14/07/2016		
M3b (new)	WU.TE432q	41501860	0.2S	05/08/2015	04/08/2016		
				28/10/2015	27/10/2016		
				18/01/2016	17/01/2017		
				06/06/2016	05/06/2017		
				19/09/2016	18/09/2017		
				22/12/2016	21/12/2017		
				22/03/2017	21/03/2018		
				19/04/2017	18/04/2018		
09/09/2017	08/09/2018						
				07/11/2017	06/11/2018		
				05/06/2018	0/06/2019		

During this monitoring period, the old meters M3a (SN:36125630) and M3b (SN:36125632) have been replaced with two new meters M3a (SN:41501820) and M3b (SN:41501860) on 18/07/2015 and 28/07/2015 respectively. CTI confirmed through on-site interviews with PP and by reviewing the qualification documents of Gansu Electric Power Company Calibration and Testing Centre /14/, the meter calibration reports /15/ and the Meter changing notice /16/ that the meter replacement was carried out with the consent by the grid company and the new meters' accuracy is both 0.2S

which is the same as the old meters and thus, still met the accuracy requirements of the registered PD /12/.

Calibration records and accreditation certificates/14//15/have been verified by the verification team. The actual accuracy for meters M2a, M2b, M3a (old and new) and M3b (old and new) is verified to be 0.2S and the actual accuracy for meters M4 and M5 is verified to be 0.5S which is in line with requirement of the monitoring plan and the Technical administrative code of electric energy metering (DL/T448) /22/. The calibration frequency of all meters is at least annually, which is consistent with the monitoring plan. Based on the site visit and by checking the calibration reports, CTI confirms that:

- All meters have been installed in accordance with the monitoring plan;
- The meters' accuracy is in line with the requirement of the monitoring plan;
- The calibration frequency of the meters is annual, which is in line with the monitoring plan and national technical standard/22/ as required by VCS standard. And the calibrations are verified to be valid for the whole reporting period.

The calibration date and validity of each calibration for the electricity meters is not provided in the MR (version 1.0 dated 26/07/2022), thus CL01 was raised to clarify and has been successfully closed. Details refer to Appendix D.

Data management and control

Gansu Chaiji Xia Hydropower Co., Ltd. is responsible for operation and routine maintenance of power plant under the project activity. The quality assurance and quality control procedures have been addressed in the project management and monitoring manual/5/, including the organization structure with the responsibilities, personnel competencies, monitoring procedures and monitoring management. By interview with the staff/52/ and check records /7//8/ during on-site visit, it can be confirmed that the monitoring management system is implemented following the project management and monitoring manual.

All monitoring devices have been calibrated and maintained periodically to ensure the accuracy of measurement. Calibration records of instruments used in measurements were made available during the verification visit and found to be valid for the entire period of the verification. Competence and training records of in-plant personnel engaged in measurement of plant parameters were presented during verification and found to be in order.

As the above and document review, verification team considers that the project activity operated properly in the way complying with the implementation plan and approved revised monitoring plan and the monitoring was performed in a transparent and comprehensive manner during this monitoring period.

Emission reduction calculation

CTI confirms that appropriate methods and formulae for calculating baseline emissions, project emissions and leakage have been followed, and the assumptions, emission factors and default values that are applied in the calculation have been justified.

According to the applied methodology, the emission reductions are determined as the difference between the baseline emissions, project emissions and leakage:

$$ER_y = BE_y - PE_y - L_y$$

Baseline emissions

Baseline emissions are determined as multiplying quantity of net electricity generation supplied by the project plant to the grid (EG_y) by the validated ex-ante fixed grid emission factor (EF_y).

$$BE_y = EG_y \times EF_y$$

Combined margin CO₂ emission factor (EF_y)

EF_y is the grid emission factor of the which has been verified ex-ante in the validation stage in the VCS PD as 0.841 tCO₂e/MWh.

Quantity of net electricity supplied to the grid by the project (EG_y)

As per the Section 4.1 above, EG_y is calculated as:

$$EG_y = ES_y - ED_y$$

The verification team has checked the monthly reading records, sales receipts issued by the grid company and emission reduction calculation sheet, and confirmed the data and calculation applied are correct, complete and transparent. The reading records and EG_y calculation are summarized in the Tables as follow:

Table 1 Monitored monthly values of electricity supplied to the grid through main lines electricity received from the grid through the main lines

Period	Electricity supplied to the grid through main lines (MWh)					Electricity received from the grid through main lines (MWh)				
	Readings from M2a	Readings from M2b	Readings of M2a+M2b	Sales receipts based on (M3a+M3b)	Conservative values	Readings from M2a	Readings from M2b	Readings of M2a+M2b	Sales receipts based on (M3a+M3b)	Conservative values
	A1	A2	B(=A1+A2)	C	D=Min(B,C)	E1	E2	F(=E1+E2)	G	H=Max(F,G)
30/05/2012-28/06/2012	31,705.080	31,806.060	63,511.140	62,987.760	62,987.760	0	0	0	0	0
29/06/2012-29/07/2012	30,590.340	30,681.420	61,271.760	60,800.080	60,800.080	1.980	1.980	3.960	3.960	3.960
30/07/2012-29/08/2012	14,301.540	14,316.720	28,618.260	28,501.440	28,501.440	0	0	0	0	0
30/08/2012-28/09/2012	29,139.660	29,222.160	58,361.820	57,927.760	57,927.760	0	0	0	0	0
29/09/2012-29/10/2012	31,998.120	32,097.120	64,095.240	63,580.000	63,580.000	0	0	0	0	0
30/10/2012-28/11/2012	22,332.420	27,178.140	49,510.560	49,186.720	49,186.720	0	0	0	0	0
29/11/2012-29/12/2012	20,677.800	16,874.880	37,552.680	37,369.200	37,369.200	0	0	0	0	0
30/12/2012-31/12/2012	1,224.300	1,225.620	2,449.920	-	0	0	0	0	0	0
Subtotal 2012	-	-	-	-	360,352.960	-	-	-	-	3.960
01/01/2013-29/01/2013	17,495.940	17,510.460	35,006.400	-	0	0	0	0	0	0
30/01/2013-26/02/2013	14,766.180	14,765.520	29,531.700	29,413.120	29,413.120	0	0	0	0	0
27/02/2013-29/03/2013	18,155.280	18,164.520	36,319.800	36,140.720	36,140.720	0	0	0	0	0
30/03/2013-28/04/2013	22,843.920	22,892.760	45,736.680	45,461.680	45,461.680	0	0	0	0	0
29/04/2013-29/05/2013	29,081.580	29,173.320	58,254.900	57,844.160	57,844.160	0	0	0	0	0
30/05/2013-28/06/2013	30,408.840	30,493.320	60,902.160	58,461.920	58,461.920	0	0	0	0	0
29/06/2013-29/07/2013	32,435.700	32,530.740	64,966.440	66,388.960	64,966.440	0	0	0	0	0
30/07/2013-29/08/2013	32,876.580	32,968.980	65,845.560	65,312.720	65,312.720	0	0	0	0	0
30/08/2013-28/09/2013	26,999.280	27,073.200	54,072.480	53,693.200	53,693.200	0	0	0	0	0
29/09/2013-29/10/2013	29,090.160	29,173.320	58,263.480	57,838.000	57,838.000	0	0	0	0	0
30/10/2013-28/11/2013	24,582.360	24,643.740	49,226.100	48,924.480	48,924.480	0	0	0	0	0
29/11/2013-29/12/2013	19,202.700	19,234.380	38,437.080	38,267.680	38,267.680	0	0	0	0	0
30/12/2013-31/12/2013	1,181.400	1,183.380	2,364.780	-	0	0	0	0	0	0
Subtotal 2013	-	-	-	-	556,324.120	-	-	-	-	0
01/01/2014-29/01/2014	17,606.820	16,190.460	33,797.280	-	0	0	0	0	0	0
30/01/2014-26/02/2014	13,434.960	13,429.680	26,864.640	26,715.040	26,715.040	0	0	0	0	0
27/02/2014-29/03/2014	14,290.980	14,203.200	28,494.180	28,380.880	28,380.880	0	0	0	0	0
30/03/2014-28/04/2014	20,848.740	20,875.140	41,723.880	41,494.640	41,494.640	0	0	0	0	0
29/04/2014-29/05/2014	28,469.100	28,530.480	56,999.580	56,589.280	56,589.280	0	0	0	0	0

30/05/2014-28/06/2014	28,386.600	28,450.620	56,837.220	56,398.320	56,398.320	0	0	0	0	0
29/06/2014-29/07/2014	30,831.240	30,911.100	61,742.340	61,269.120	61,269.120	0	0	0	0	0
30/07/2014-29/08/2014	30,078.180	30,152.100	60,230.280	59,806.560	59,806.560	0	0	0	0	0
30/08/2014-28/09/2014	29,254.500	29,343.600	58,598.100	58,126.640	58,126.640	0	0	0	0	0
29/09/2014-29/10/2014	29,741.580	29,834.640	59,576.220	59,136.880	59,136.880	0	0	0	0	0
30/10/2014-28/11/2014	26,417.160	26,495.700	52,912.860	52,584.400	52,584.400	0	0	0	0	0
29/11/2014-29/12/2014	18,412.680	20,196.000	38,608.680	38,413.760	38,413.760	0	0	0	0	0
30/12/2014-31/12/2014	1,192.620	1,194.600	2,387.220	-	0	0	0	0	0	0
Subtotal 2014	-	-	-	-	538,915.520	-	-	-	-	0
01/01/2015-29/01/2015	23,813.460	9,632.700	33,446.160	-	0	0	0	0	0	0
30/01/2015-26/02/2015	18,259.560	9,951.480	28,211.040	28,067.600	28,067.600	0	0	0	0	0
27/02/2015-29/03/2015	20,370.900	13,573.560	33,944.460	33,791.120	33,791.120	0	0	0	0	0
30/03/2015-28/04/2015	27,710.760	13,907.520	41,618.280	41,318.640	41,318.640	0	0	0	0	0
29/04/2015-29/05/2015	34,420.980	23,109.240	57,530.220	57,097.920	57,097.920	0	1.320	1.320	1.320	1.320
30/05/2015-28/06/2015	26,188.800	28,830.120	55,018.920	54,432.400	54,432.400	0	0	0	0	0
29/06/2015-29/07/2015	42,464.400	22,111.320	64,575.720	63,992.940	63,992.940	0	0	0	0	0
30/07/2015-29/08/2015	25,247.640	25,319.580	50,567.220	50,567.220	50,567.220	0	0	0	0	0
30/08/2015-28/09/2015	21,082.380	21,143.100	42,225.480	42,225.480	42,225.480	0	0	0	0	0
29/09/2015-29/10/2015	25,285.260	25,359.840	50,645.100	50,645.100	50,645.100	0	0	0	0	0
30/10/2015-28/11/2015	22,473.660	22,540.320	45,013.980	45,013.980	45,013.980	0	0	0	0	0
29/11/2015-29/12/2015	16,097.400	16,146.240	32,243.640	32,243.640	32,243.640	0	0	0	0	0
30/12/2015-31/12/2015	964.920	967.560	1,932.480	-	0	0	0	0	0	0
Subtotal 2015	-	-	-	-	499,396.040	-	-	-	-	1.320
01/01/2016-29/01/2016	13,168.320	13,207.260	26,375.580	-	0	0	0	0	0	0
30/01/2016-27/02/2016	12,303.720	12,340.020	24,643.740	24,643.740	24,643.740	0	0	0	0	0
28/02/2016-29/03/2016	15,208.380	12,629.760	27,838.140	27,838.140	27,838.140	0	0	0	0	0
30/03/2016-28/04/2016	18,798.780	18,732.780	37,531.560	37,531.560	37,531.560	0	0	0	0	0
29/04/2016-29/05/2016	25,446.960	25,522.200	50,969.160	50,969.160	50,969.160	0	0	0	0	0
30/05/2016-28/06/2016	26,044.260	26,120.160	52,164.420	52,164.420	52,164.420	0	0	0	0	0
29/06/2016-29/07/2016	26,965.620	27,044.160	54,009.780	54,009.780	54,009.780	0	0	0	0	0
30/07/2016-29/08/2016	21,182.040	21,242.100	42,424.140	42,424.140	42,424.140	0	0	0	0	0
30/08/2016-28/09/2016	20,714.100	21,003.840	41,717.940	41,717.940	41,717.940	0	0	0	0	0

29/09/2016-29/10/2016	24,388.980	24,458.280	48,847.260	48,847.260	48,847.260	0	0	0	0	0
30/10/2016-28/11/2016	22,503.360	22,569.360	45,072.720	45,072.720	45,072.720	0	0	0	0	0
29/11/2016-29/12/2016	13,103.640	17,571.840	30,675.480	30,699.240	30,675.480	0	0	0	0	0
30/12/2016-31/12/2016	976.140	978.780	1,954.920	-	0	0	0	0	0	0
Subtotal 2016	-	-	-	-	455,894.340	-	-	-	-	0
01/01/2017-29/01/2017	12,839.640	12,881.220	25,720.860	-	0	0	0	0	0	0
30/01/2017-26/02/2017	11,273.460	11,309.100	22,582.560	22,578.600	22,578.600	0	0	0	0	0
27/02/2017-29/03/2017	13,867.920	11,746.020	25,613.940	25,619.220	25,613.940	0	0	0	0	0
30/03/2017-28/04/2017	17,299.260	17,350.080	34,649.340	34,678.380	34,649.340	0	0	0	0	0
29/04/2017-29/05/2017	30,269.580	22,065.120	52,334.700	52,325.460	52,325.460	0	0	0	0	0
30/05/2017-28/06/2017	24,757.260	24,837.120	49,594.380	49,604.940	49,594.380	0	0	0	0	0
29/06/2017-29/07/2017	30,146.820	24,735.480	54,882.300	54,892.860	54,882.300	0	0	0	0	0
30/07/2017-29/08/2017	30,375.180	15,015.000	45,390.180	45,383.580	45,383.580	0	0	0	0	0
30/08/2017-28/09/2017	22,062.480	22,131.780	44,194.260	44,202.180	44,194.260	0	0	0	0	0
29/09/2017-29/10/2017	28,320.600	28,406.400	56,727.000	56,725.680	56,725.680	0	0	0	0	0
30/10/2017-28/11/2017	26,051.520	26,135.340	52,186.860	52,147.920	52,147.920	0	0	0	0	0
29/11/2017-29/12/2017	17,168.580	17,228.640	34,397.220	34,401.840	34,397.220	0	0	0	0	0
30/12/2017-31/12/2017	1,050.060	1,054.020	2,104.080	-	0	0	0	0	0	0
Subtotal 2017	-	-	-	-	472,492.680	-	-	-	-	0
01/01/2018-08/01/2018	4,339.500	3,754.740	8,094.240	-	0	0	0	0	0	0
Subtotal 2018	-	-	-	-	0	-	-	-	-	0
Total (30/05/2012-08/01/2018)	-	-	-	-	2,883,375.660	-	-	-	-	5.280

Note:

- 1.All electricity data measured by meters M2a, M2b and M4 were daily recorded by project proponent and monthly reported. During this monitoring period, the cut-off time for electricity exports and imports through the main lines was at 24:00 on the antepenultimate day of each month, and sales receipts were issued by grid company based on the readings of M3a and M3b for cross-check.
2. Readings of electricity exports and imports for the periods 30th - 31st December and 1st -29th January each year were sourced from the daily records and CTI has checked the data provided in the MR and ER spreadsheet against the original copy of the reading records during on-site visit, and confirmed them to be correct.
3. As there is no separate sales receipts of electricity exports and imports through the main lines for 01st -29th Jan and 30th -31st Dec of each year. To be conservative, the electricity exports for the period 01st-29th Jan and 30th -31st Dec of each year are considered as 0. And for the electricity imported from the grid through the main lines during the period 01st -29th Jan and 30th - 31st Dec of each year, the whole month's (30th Dec.- 29th Jan.) values are applied for ER calculations. CTI accepts this approach as it is reasonable and conservative.

Table 2 Monitored monthly value of electricity received from the grid through backup power line

Period	Electricity received from the grid through back-up power line (MWh)		
	Readings from M4	Values from Sales Receipts based on M5	Conservative values
	I	J	K=Max (I, J)
30/05/2012-28/06/2012	0	4.480	4.480
29/06/2012-29/07/2012	0	4.480	4.480
30/07/2012-29/08/2012	0	1.960	1.960
30/08/2012-28/09/2012	0	4.200	4.200
29/09/2012-29/10/2012	0	5.040	5.040
30/10/2012-28/11/2012	0	4.760	4.760
29/11/2012-29/12/2012	0	33.320	33.320
30/12/2012-31/12/2012	0	3.920	3.920
Subtotal 2012	-	-	62.160
01/01/2013-29/01/2013	0	3.920	3.920
30/01/2013-26/02/2013	0	4.760	4.760
27/02/2013-29/03/2013	0	3.920	3.920
30/03/2013-28/04/2013	0	4.480	4.480
29/04/2013-29/05/2013	0	3.920	3.920
30/05/2013-28/06/2013	0	4.480	4.480
29/06/2013-29/07/2013	0	4.480	4.480
30/07/2013-29/08/2013	0	4.200	4.200
30/08/2013-28/09/2013	0	0.000	0.000
29/09/2013-29/10/2013	0	3.360	3.360
30/10/2013-28/11/2013	0	4.760	4.760
29/11/2013-29/12/2013	0	6.440	6.440
30/12/2013-31/12/2013	0	34.440	34.440
Subtotal 2013	-	-	83.160
01/01/2014-29/01/2014	0.600	34.440	34.440
30/01/2014-26/02/2014	0	4.760	4.760
27/02/2014-29/03/2014	0	4.480	4.480
30/03/2014-28/04/2014	0	4.200	4.200
29/04/2014-29/05/2014	0	4.760	4.760
30/05/2014-28/06/2014	0	4.480	4.480
29/06/2014-29/07/2014	0	4.480	4.480
30/07/2014-29/08/2014	0	4.760	4.760
30/08/2014-28/09/2014	0	4.480	4.480
29/09/2014-29/10/2014	0	4.480	4.480
30/10/2014-28/11/2014	0	4.760	4.760
29/11/2014-29/12/2014	0	6.160	6.160
30/12/2014-31/12/2014	0	3.360	3.360

Subtotal 2014	-	-	89.600
01/01/2015-29/01/2015	0	3.360	3.360
30/01/2015-26/02/2015	0	41.720	41.720
27/02/2015-29/03/2015	0	4.480	4.480
30/03/2015-28/04/2015	0	3.920	3.920
29/04/2015-29/05/2015	0	4.760	4.760
30/05/2015-28/06/2015	0	1.960	1.960
29/06/2015-29/07/2015	0	3.920	3.920
30/07/2015-29/08/2015	0	5.320	5.320
30/08/2015-28/09/2015	0	2.520	2.520
29/09/2015-29/10/2015	0	0	0
30/10/2015-28/11/2015	0	0	0
29/11/2015-29/12/2015	0	0	0
30/12/2015-31/12/2015	0	0	0
Subtotal 2015	-	-	71.960
01/01/2016-29/01/2016	0	0	0
30/01/2016-27/02/2016	0	0	0
28/02/2016-29/03/2016	0	0	0
30/03/2016-28/04/2016	0	1.575	1.575
29/04/2016-29/05/2016	0	2.025	2.025
30/05/2016-28/06/2016	0	2.070	2.070
29/06/2016-29/07/2016	0	2.070	2.070
30/07/2016-29/08/2016	0	1.980	1.980
30/08/2016-28/09/2016	0	1.800	1.800
29/09/2016-29/10/2016	0	2.700	2.700
30/10/2016-28/11/2016	0	1.800	1.800
29/11/2016-29/12/2016	0	3.204	3.204
30/12/2016-31/12/2016	0	1.233	1.233
Subtotal 2016	-	-	20.457
01/01/2017-29/01/2017	0	1.233	1.233
30/01/2017-26/02/2017	0	0.963	0.963
27/02/2017-29/03/2017	0	8.055	8.055
30/03/2017-28/04/2017	0	4.500	4.500
29/04/2017-29/05/2017	1.5	4.050	4.050
30/05/2017-28/06/2017	0	3.393	3.393
29/06/2017-29/07/2017	0	2.088	2.088
30/07/2017-29/08/2017	0	2.448	2.448
30/08/2017-28/09/2017	0	2.106	2.106
29/09/2017-29/10/2017	0	2.250	2.250
30/10/2017-28/11/2017	0	2.250	2.250
29/11/2017-29/12/2017	0	2.970	2.970
30/12/2017-31/12/2017	0	0	0

Subtotal 2017	-	-	36.306
01/01/2018-08/01/2018	0	0	0
Subtotal 2018	0	0	0
Total	-	-	363.643

Note:

1. Through on-site visit and checking the daily and monthly reading records, it is confirmed that Chaijiaxia Hydropower Station Project has almost no imported electricity through the back-up power line, thus, the meter readings from M4 at the project side are almost zero. However, the back-up power line is always in a live back-up status, so the values from sales receipts issued by the grid company derived from the line loss determined by the grid company. And the most conservative values are applied for ER calculations.

2. Readings of electricity received from the grid through backup power line for the periods 30th – 31st December and 1st -29th January each year were sourced from the daily records and CTI has checked the data provided in the MR and ER spreadsheet against the original copy of the reading records during on-site visit, and confirmed them to be correct.

3. Since the cut-off time of electricity received from the grid through backup power line is at 24:00 on the antepenultimate day of each month and the sales receipts are issued monthly, there are no separate sales receipts for 01st -29th Jan. and 30th-31st Dec. of each year. To be conservative, for the period 01st -29th Jan. and 30th -31st Dec. of each year, the whole month's (30th Dec.- 29th Jan.) values from the sales receipts are applied for ER calculations. CTI accepts this approach as it is reasonable and conservative.

The corresponding baseline emissions during this monitoring period is calculated as:

Year	EG _y (MWh)	EF _y (tCO ₂ /MWh)	BE _y (tCO ₂)
2012 30/05/2012-31/12/2012	360,286.840	0.841	303,001
2013	556,240.960	0.841	467,798
2014	538,825.920	0.841	453,152
2015	499,322.760	0.841	419,930
2016	455,873.883	0.841	383,389
2017	472,456.374	0.841	397,335
2018 01/01/2018-08/01/2018	0	0.841	0
Total	2,883,006.737	-	2,424,605

Project emissions

Project emissions from the water reservoir

According to the applied methodology: ACM0002 (version 6), as verified by checking the Survey report of the surface area reservoir /17/, the Surface area reservoir is 2,353,158m² and the installed capacity of the project is 96MW=96,000,000W, thus, the power density of the project is calculated as follows:

Power density = $96,000,000\text{W}/2,353,158\text{ m}^2 = 40.8\text{ W/m}^2$,

which is greater than 10W/m^2 , and as per applied methodology: ACM0002 (Version 6), the project emissions from the reservoir during this monitoring period are not considered.

Project emissions due to the operation of emergency back-up diesel generator

According to the monitoring plan, operational hours of back-up diesel generator is required to be monitored to calculate the project emissions. Though on-site visit, it is verified that the emergency back-up diesel generator with capacity of 250kW has been installed at the project site. During this monitoring period, the operational hours were recorded by the project staff as per the monitoring plan, which is confirmed by checking the daily operation and maintenance records /7/ during the on-site inspection. The monitored operational hours are total 37.45 hours and have been rounded up to 41 hours for conservativeness during this monitoring period.

As per registered PD, the emission factor for the diesel generator was selected as $2.4\text{kgCO}_2\text{e/kWh}$ which is highest value sourced from AMS.ID (version 10) /51/ determined during the validation stage. Thus, the project emissions due to the operation of emergency back-up diesel generator are calculated as follows:

Period	Installed Capacity of the Diesel Generator	Measured Operation Hours	Roundup Operation Hours	EF for the Diesel Generator	Emissions of the Diesel Generator	Project Emissions or Removals
	A	B	B' =ROUNDUP (B,0)	C	D=ROUNDUP ((A*B*C/1000),0)	PE _y =D
	kW	hour	hour	kg CO ₂ e/kWh	tCO ₂ e	tCO ₂ e
30/05/2012-31/12/2012	250	5.083	6	2.4	4	4
01/01/2013-31/12/2013		7.383	8		5	5
01/01/2014-31/12/2014		5.417	6		4	4
01/01/2015-31/12/2015		5.5	6		4	4
01/01/2016-31/12/2016		5.917	6		4	4
01/01/2017-31/12/2017		7.817	8		5	5
01/01/2018-08/01/2018		0.333	1		1	1
Total	/	37.45	41	/	27	27

Leakages

Leakage does not need to be accounted for this project as per the monitoring methodology ACM0002 (version 6).

Emission reductions

The emission reductions for this monitoring period were calculated as:

Monitoring period	GHG emission reductions or removals (tCO ₂ e)
30/05/2012 – 31/12/2012	302,997
01/01/2013 – 31/12/2013	467,793
01/01/2014 – 31/12/2014	453,148
01/01/2015 – 31/12/2015	419,926
01/01/2016 – 31/12/2016	383,385
01/01/2017 – 31/12/2017	397,330
01/01/2018 – 08/01/2018	-1
Total ERs claimed	2,424,578

Comparison of actual emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PD

The table below shows the comparison between the actual ERs claimed and the ex-ante ERs for this monitoring period:

From	To	Ex-ante ERs (tCO ₂ e)	Actual ERs (tCO ₂ e)	Difference ratio	Ex-ante EG _y (MWh)	Actual EG _y (MWh)	Difference ratio
30/05/2012	08/01/2018	2,133,662*	2,424,578	13.63%	2,537,057.534**	3,058,640.657***	20.56%

Note:

*There are 2,050 days within this monitoring period (30/05/2012-08/01/2018) and the estimated annual ERs are 379,896 tCO₂e. Thus, the ex-ante ERs during this monitoring period is calculated as $379,896/365d \times 2,050d = 2,133,662tCO_2e$.

** There are 2,050 days within this monitoring period (30/05/2012-08/01/2018) and the expected annual EG_y is 451,720MWh, thus, the ex-ante EG_y during this monitoring period is calculated as $451,720/365d \times 2,050d = 2,537,057.534MWh$.

*** The actual EG_y listed here is higher than the EG_y (i.e., 2,883,006.737MWh) verified in Section 4.4 for ER calculations due to that the net electricity supply is determined conservatively to calculate the final ERs for this monitoring period. However, when assessing the impact of the EG_y on the additionality, it is conservative to include all actual electricity data available derived from the meters' readings as it leads to a higher EG_y value.

The actual ERs claimed during this monitoring period is 13.63% higher than the ex-ante value and the actual EG_y during this monitoring period is 20.56% higher than the estimated values. The key parameter that affects the actual achieved ERs as well as the additionality of the project is the net electricity supply (EG_y), therefore, the reason for the higher achieved EG_y and the impact of the higher actual EG_y on the additionality of the project are assessed by the verification team. Via checking the Monthly water flow

records /10/, interviewing with the operation staff and technicians during on-site visit, it is confirmed that there is no low-water period during this monitoring period which means the water resource is abundant. By checking the training records /6/, daily operation and maintenance records /7/, Monthly water utilization rate records /10/ and interviewing with the operation staff and technicians during on-site visit, it is confirmed that the staff and technicians became skilled workers as they have received sufficient training and the overall management has been improved as the operating hours increase, therefore, the water utilization rate during the monitoring period has increased accordingly, i.e., the water utilization rate was 89% in 2012, 98% in 2013, 99% in 2014 and almost 100% during 2015 to 2017 and the overall monthly average during the monitoring period is 97.66%. The abundant water resource and high water utilization rate lead to higher than expected power generation and higher ERs accordingly which is considered as reasonable and appropriate.

Furthermore, by checking the validated IRR calculation sheet /33/ from CDM website: <https://cdm.unfccc.int/Projects/DB/TUEV-SUED1218542816.05/view> and the sensitivity analysis in the registered CDM PDD /32/ for the project, it is confirmed that 8% was selected as the IRR benchmark to demonstrate the additionality of the project and the IRR of the project could reach the benchmark 8% if the electricity supply increases by at least 22.4% over the entire lifetime (30 years) of the project. From the table above, the increase in the electricity supply is 20.56% which is below 22.4%. Therefore, the increased power supply has no impact on the additionality of the project.

Furthermore, PP has compared the actual ERs achieved with the ex-ante values during the entire crediting period (09/01/2008-08/01/2018) of the project as follows:

From	To	Ex-ante ERs (tCO ₂ e)	Actual ERs (tCO ₂ e)	Difference ratio
09/01/2008	08/01/2018	3,802,082*	4,017,343	5.66%

Note:*

There are 3,653 days during 09/01/2008-08/01/2018 and the estimated annual ERs are 379,896 tCO₂e. Thus, the ex-ante ERs during 09/01/2008-08/01/2018 is calculated as $379,896/365d \times 3,653d = 3,802,082tCO_2e$.

From the table above, the total ERs achieved during the entire crediting period is 5.66% higher than the ex-ante values. 5.66% is not a significant increase. Meanwhile, the impact of the total power supply on the additionality of the project during the entire crediting period is assessed as follows:

From	To	Ex-ante EG _y (MWh)	Actual EG _y (MWh)	Difference ratio
09/01/2008	08/01/2018	4,520,912.767*	4,952,554.317	9.55%

Note:

*There are 3,653 days during 09/01/2008-08/01/2018 and the expected annual EG_y is 451,720MWh, thus,

the ex-ante EG_y during 09/01/2008-08/01/2018 is calculated as $451,720/365d \times 3,653d = 4,520,912.767\text{MWh}$.

Through checking the validated IRR calculation sheet /33/ from CDM website: <https://cdm.unfccc.int/Projects/DB/TUEV-SUED1218542816.05/view> and the sensitivity analysis in the registered CDM PDD /32/ for the project, the IRR of the Project could reach the benchmark 8% if the electricity supply increased by at least 22.4% over the entire lifetime (30 years) of the project. From the table above, the increase in the electricity supply during 09/01/2008 to 08/01/2018 is 9.55% which is far below 22.4%. Therefore, it is confirmed that the increased power supply has no impact on the additionality of the project during the entire crediting period.

Based on the assessment above, CTI confirmed that the higher ERs achieved during this monitoring period is reasonable and does not impact the additionality of the project. Therefore, CTI is able to confirm that the actual power supply and also emission reductions reported in this monitoring period are reasonable and appropriate.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

The assessment of each parameter related to calculate the GHG emission reductions is justified in Sections 4.1 and 4.4 above. Via the on-site inspection and desk review, the verification team verified the supporting evidence provided by the project proponent as listed in Appendix B used to determine the GHG emission reductions

For each reported data, the evidence is provided and verified as sufficient and quality is appropriate. Also, the cross-checks have been performed on the reported data with different source of evidence. The information flow from data generation and aggregation, to recording, calculation and final transposition into the monitoring report has been assessed by VVB in Section 4.4. Moreover, the calibration is verified as stated in Section 4.1 via on-site inspection with evidences to confirm the meters' location, accuracy and calibration frequency are in line with requirement of the monitoring plan.

Therefore, it is concluded that the evidence provided are verified as sufficient and quality is appropriate and thus the evidence can be used to determine the GHG emission reductions and removals for this monitoring period.

4.6 Non-Permanence Risk Analysis

The project is not AFOLU project, and thus non-permanence risk analysis is not applicable for the project.

5 VERIFICATION CONCLUSION

Shenzhen CTI International Certification Co., Ltd (CTI) has performed the verification of the emission reductions that have been reported for the project activity “Gansu Huanghe Chaiji Xia Hydropower Station Project” in China (VCS Project ID: 435) for the period 30/05/2012-08/01/2018.

The verification is based on the baseline and monitoring methodology ACM0002 (version 6), the VCS PD. The verification consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification and certification report.

The project proponents are responsible for the collection, calculation and determination of the GHG data in accordance with the approved revised monitoring plan and the reporting of GHG emission reductions on the basis set out within the project monitoring report.

Our verification and validation approach was based on the requirements as defined under the applicable VCS Standard Version 4.3 and relevant UNFCCC requirements. Our approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these. The verification can confirm that:

- the project is implemented and operated as per the registered VCS PD;
- the monitoring plan is as per the applied methodology;
- the monitoring complies with the monitoring plan;
- the monitoring report and other supporting documents provided are complete and verifiable and in accordance with the applicable VCS Standard Version 4.3 and CDM requirements;
- the installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately;
- the monitoring system is in place and generates GHG emission reductions data;
- the GHG emission reductions are calculated without material misstatements.
- the project deviation is appropriately described and justified and verified as valid, and the project remains in compliance with the VCS rules.

It is CTI's responsibility to provide an independent verification statement on the reported GHG emission reductions for the project. Based on an understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these, CTI planned and performed our work to obtain the information and explanations that we considered necessary to provide reasonable assurance that reported GHG emission reductions are fairly stated.

CTI does not assume any responsibility towards the issuance and utilization of the VCUs hereby verified and certified. Request for issuance of VCUs shall be made by the project proponent to an approved VCS

Program Registry based on the requirements set out under the most recent version of the VCS Program Guidelines clause on VCS Registration.

The verification of reported emission reductions is based on the information made available to CTI and the engagement conditions detailed in this report. CTI cannot be held liable by any party for decisions made or not made based on this report.

In CTI's opinion the GHG emissions reductions of the "Gansu Huanghe Chaiji Xia Hydropower Station Project" for the period 30/05/2012-08/01/2018 are fairly stated in the monitoring report (version 2.0 dated 11/11/2022). The GHG emission reductions were calculated correctly on the basis of the approved methodology ACM0002 (version 6) and the monitoring plan contained in the registered VCS PD.

CTI can confirm that the GHG emission reductions are calculated without material misstatements. Based on the evidence and information that are considered necessary to guarantee that GHG emission reductions are appropriately calculated, CTI confirms the following statement:

Reporting period: 30/05/2012-08/01/2018

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

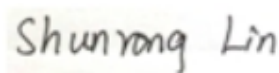
Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
2012 (30/05/2012-31/12/2012)	303,001	4	0	302,997
2013	467,798	5	0	467,793
2014	453,152	4	0	453,148
2015	419,930	4	0	419,926
2016	383,389	4	0	383,385
2017	397,335	5	0	397,330
2018 (01/01/2018-08/01/2018)	0	1	0	-1
Total	2,424,605	27	0	2,424,578



Mr. Feng Tian

Team Leader

14-November-2022



Ms. Lin Shunrong

Technical Reviewer

14-November-2022

APPENDIX A: ABBREVIATIONS

CAR	Corrective Action Request
CCER	Chinese Certified Emission Reduction
CER	Certified Emission Reduction(s)
CL	Clarification request
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
CTI	Shenzhen CTI International Certification Co., Ltd
DOE	Designated Operational Entity
EF	Emission Factor
EIA	Environmental Impact Assessment
ER	Emission Reduction
ETN	Electricity Transaction Note
EU ETS	EU Emissions Trading Scheme
FAR	Forward Action Request
FSR	Feasibility Study Report
GHG	Greenhouse Gas(es)
IREC	International Renewable Energy Certificates
MR	Monitoring Report
PD	Project Description
PP	Project Proponent
SN	Serial Number
VCS	Verified Carbon Standard
VCU	Verified Carbon Unit

APPENDIX B: REFERENCES

Documentation used to verify the information provided by the project proponents

/1/	Gansu Carbon Checking Consulting Pty Ltd.: VER/VCU Monitoring Report for Gansu Huanghe Chaiji Xia Hydropower Station Project, version 1.0 dated 26/07/2022, version 1.1 dated 22/08/2022, version 2.0 dated 11/11/2022
/2/	Gansu Carbon Checking Consulting Pty Ltd.: Emission reduction calculation spreadsheet for Gansu Huanghe Chaiji Xia Hydropower Station Project, version 02 dated 22/08/2022
/3/	Gansu Chaiji Xia Hydropower Co., Ltd. and Gansu Province Electric Power Company: Power Purchase Agreement for Gansu Huanghe Chaiji Xia Hydropower Station Project
/4/	Gansu Chaiji Xia Hydropower Co., Ltd.: Diagram of power connection system
/5/	Gansu Chaiji Xia Hydropower Co., Ltd.: VER monitoring manual and management procedure.
/6/	Gansu Chaiji Xia Hydropower Co., Ltd.: Records of training for on-site staff and technicians.
/7/	Gansu Chaiji Xia Hydropower Co., Ltd.: Daily operation and maintenance records.
/8/	Gansu Chaiji Xia Hydropower Co., Ltd.: Daily and Monthly reading records of Gansu Huanghe Chaiji Xia Hydropower Station Project from 30/05/2012-08/01/2018
/9/	Gansu Province Electric Power Company.: Electricity Sales Receipts from 30/05/2012-08/01/2018
/10/	Gansu Chaiji Xia Hydropower Co., Ltd.: Monthly water flow and utilization rate records of the water resources covering this monitoring period
/11/	Questionnaires filled by local stakeholders
/12/	Gansu Chaiji Xia Hydropower Co., Ltd.: Registered VSC PD (version 3.2 dated 20/02/2009)
/13/	Gansu Chaiji Xia Hydropower Co., Ltd.: Layout of the main structures of the project
/14/	Gansu Province Quality and Technical Supervision Bureau: Accreditation certificates of Gansu Electric Power Company Calibration and Testing Centre which validity covering this monitoring period 30/05/2012-08/01/2018

/15/	Gansu Electric Power Company Calibration and Testing Centre: Calibration certificates for meters: M2a, M2b, M3a (old and new), M3b (old and new), M4 and M5 covering this monitoring period
/16/	Gansu Province Electric Power Company: Meter changing notice of meter M3a and M3b
/17/	Gansu Provincial Investigation Design & Research Institute of Water Conservancy & Hydropower: Survey report of the surface area reservoir dated 07/2008
/18/	Business license of Gansu Chaiji Xia Hydropower Co., Ltd.
/19/	National Electric Power Company Northwest survey and design institute and Gansu water conservancy and hydropower survey and design institute: EIA of Gansu Huanghe Chaiji Xia Hydropower Station Project dated 05/2004 Environmental Protection Bureau of Gansu Province: EIA approval dated 12/05/2004
/20/	Gansu Chaiji Xia Hydropower Co., Ltd.: Solid waste and domestic sewage treatment records covering this monitoring period.
/21/	Gansu Chaiji Xia Hydropower Co., Ltd.: Reservoir area salvage records covering this monitoring period
/22/	State Economic and Trade Commission: Technical administrative code of electric energy metering (DL/T 448-2016)
/23/	UNFCCC, http://cdm.unfccc.int
/24/	Gold Standard, http://www.goldstandard.org/
/25/	China CCER Exchange Info-platform, http://cdm.ccchina.org.cn/ccer.aspx
/26/	Measures for the Administration of Carbon Emission Trading, issued by Ministry of Ecology and Environment of China, dated 31/12/2020
/27/	Enforced company list in China cap & trade scheme, issued by Ministry of Ecology and Environment of China
/28/	Gansu Chaiji Xia Hydropower Co., Ltd.: Statement on the annual income of employees from 2012 to 2018
/29/	Per capita disposable income of residents in Gansu Province in 2012 and 2018
/30/	National Electric Power Company Northwest Survey and Design Institute and Gansu Water Conservancy and Hydropower Survey and Design Institute: EIA Report for Gansu Huanghe Chaiji Xia Hydropower Station Project dated 05/2004
/31/	Environmental Protection Bureau of Gansu Province: EIA Approval dated 12/05/2004

/32/	CDM-PDD, version 3.2 dated 20/02/2009 TÜV SÜD Industrie Service GmbH: CDM Validation Report, Report No.1015810, dated 20/02/2009
/33/	IRR calculation sheet for Gansu Huanghe Chaiji Xia Hydropower Station Project
/34/	VER/VCU Monitoring Report for Gansu Huanghe Chaiji Xia Hydropower Station Project of previous monitoring period 09/01/2008-19/02/2009
/35/	SGS United Kingdom Ltd.: VCS Verification Report for Gansu Huanghe Chaiji Xia Hydropower Station Project of previous monitoring period 09/01/2008-19/02/2009
/36/	CDM/CER Monitoring Reports for Gansu Huanghe Chaiji Xia Hydropower Station Project of previous CDM monitoring periods 20/02/2009-30/06/2009, 01/07/2009-28/06/2010, 29/06/2010-29/07/2011 and 30/07/2011-29/05/2012
/37/	CDM Verification Reports for Gansu Huanghe Chaiji Xia Hydropower Station Project of previous monitoring period 20/02/2009-30/06/2009, 01/07/2009-28/06/2010, 29/06/2010-29/07/2011 and 30/07/2011-29/05/2012
/38/	Guangdong Shaoguan Zhongli Generation Equipments Co., Ltd.: Nameplates of the equipment
/39/	Gansu Chaiji Xia Hydropower Co., Ltd.: Commissioning report
/40/	Feasibility Study Report of Gansu Huanghe Chaiji Xia Hydropower Station Project
/41/	Co-signed by the Guangdong Shaoguan Zhongli Generation Equipments Co., Ltd., and Gansu Chaiji Xia Hydropower Co., Ltd.: Equipment Purchase Agreement
/42/	Gansu Chaiji Xia Hydropower Co., Ltd.: Statement on no double counting
/43/	Law of the People's Republic of China on Promotion of Employment Order of the President of the People's Republic of China
/44/	Action Plan for Carbon Dioxide Peaking Before 2030 published by the State Council on 24/10/2021
/45/	Responding to Climate Change: China's Policies and Actions released by the State Council on 10/2021

Methodologies, tools and other guidance

/46/	Verified Carbon Standard: VCS Standard, Version 4.3
/47/	Verified Carbon Standard: VCS Program Guide, version 4.2

/48/	Verified Carbon Standard: VCS Sectoral Scopes http://v-c-s.org/node/448
/49/	Verified Carbon Standard: Registration and Issuance Process, version 4.2
/50/	UNFCCC EB: Approved methodology, ACM0002 , version 6
/51/	UNFCCC EB: Approved methodology, AMS.ID, version 10

Persons interviewed

	Interviewed personnel	Role	Organization
/52/	Mr. Wang He	Plant Director	Gansu Chaiji Xia Hydropower Co., Ltd.
	Mr. Kong Xuyong	O&M Staff	
	Ms. Zhang Yufang	O&M Staff	
	Mr. Su Shanhua	Local resident	Local Village
	Mr. Liu Dejun		
	Mr. Wang Xingpeng	Staff	Local Environment Protection Bureau
	Mr. Fan Chaoyi	Project Manager	Gansu Carbon Checking Consulting Pty Ltd.

APPENDIX C: COMPETENCE OF TEAM MEMBERS AND TECHNICAL REVIEWERS

Mr. Tian FENG

Satisfies the requirements of competence management system of CTI Certification, and is hereby appointed as:

Qualification					
GHG Auditor	Validator	Verifier	Team Leader	Technical Reviewer	Technical Expert
√	-	√	√	-	-

Scope	Technical Area
SS 1: Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources

This appointment is valid for 3 years from its date of approval below and is bound by internal requirements of management system of the Certification Body of CTI.

Approved by:

Wu LIN

Wu Lin

Technical Competent Manager

Shenzhen, 10/02/2022

Ms. Shunrong LIN

Satisfies the requirements of competence management system of CTI Certification, and is hereby appointed as:

Qualification						
Status	GHG Auditor	Validator	Verifier	Team Leader	Technical Reviewer	Technical Expert
Date	√	√	√	√	√	√

Scope	Technical Area
SS 1: Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources
SS 14: Afforestation and reforestation	TA 14.1: Afforestation and reforestation
SS 15: Agriculture	TA 15.1: Agriculture

This appointment is valid for 3 years from its date of approval below and is bound by internal requirements of management system of the Certification Body of CTI.

Approved by: *Wu Lin*
Wu LIN
Technical Competent Manager
Shenzhen, 01/01/2021

APPENDIX D: CORRECTIVE ACTION REQUESTS, CLARIFICATION REQUESTS AND FORWARD ACTION REQUESTS

Table 1: Corrective Action Requests

CAR ID	Corrective Action Request	Response by Project Proponent	Verification Team Assessment
NA	NA	NA	NA

Table 2: Clarification Requests

CL ID	Clarification Request	Response by Project Proponent	Verification Team Assessment
CL 01	The calibration date and validity of each calibration for the electricity meters is not provided in the MR (version 1.0 dated 26/07/2022), thus CL01 was raised to clarify.	The calibration date and validity of each calibration for the electricity meters has been provided in the updated MR.	OK. It has been revised and verified by CTI by checking updated MR. Therefore, CL 01 is closed.

Table 3: Forward Action Requests

FAR ID	Forward Action Request	Response by Project Proponent	Verification Team Assessment
NA	NA	NA	NA