



Voluntary Carbon Standard Version 2007

Validation Report of “28MW Jinkouba Hydropower Project”

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Validation Report of "28MW Jinkouba Hydropower Project"	Dr. Manfred Brinkmann
Client:	Project Title:
Gansu Huike center for Resource and Environmental Technology	28MW Jinkouba Hydropower Project
Summary:	
The validation team assigned by the DOE (TÜV Rheinland Japan Ltd.) has performed a validation of the 28MW Jinkouba Hydropower Project (hereafter referred to as "the Project") of Jintai Hydropower Co. Ltd of Wen County in Gansu Province (the project proponent) located on mainstream of Baishuijiang river, Jinkouba village, Hengdan Township, Wen County, Longnan District, Gansu Province, P.R. China on the basis of Voluntary Carbon Standard (VCS) 2007.1 and UNFCCC criteria for the CDM (with CDM Registration no. 1633), as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, as well as the host country criteria. The Project is a newly-built hydropower project with 28MW total installed capacity. The Project has been registered as a CDM project (No. 1633) with the starting crediting period from 18th February 2009. According to VCS 2007.1 dated 18/11/2008 and a Policy Announcement of Further Guidance for Projects that are registered in Two GHG Programs issued by the VCS Association on 19/03/2008, the Project registered under CDM program is eligible to claim Voluntary Carbon Units (VCUs) generated prior to the registration date under CDM program. The starting date of electricity generation for the Project is defined as 1st February 2008 in Project Description (PD), which is earlier than the Project being registered as the CDM project (i.e. 18th February 2009, the starting date of crediting period of the Project under CDM). Thus, the crediting period of the Project from 01/02/2008 to 17/02/2009 is eligible to claim the VCUs which is in compliance with the Policy Announcement from the VCS Association. Based on this announcement the validation for the Project under CDM program is to cover a validation of clauses 1.12, 1.13, 1.14, 8.1 and 8.2 set out in the VCS Project Description template and as an addendum to the CDM validation report of the Project for completion of VCS validation. The validation team validated the above mentioned clauses accordingly. Please refer to the attachment "Validation protocol of clauses 1.12, 1.13, 1.14, 8.1 and 8.2 of VCS2007.1PD". The validation process includes the following steps: - Desk review of registered PDD & validation report, PD and relevant documents; - On-site visit and interviews with the project proponent (14/10/2009 -15/10/2009); - Issue of checklist with corrective action requests (CARs) and clarification requests	

(CLs); - Desk review of revised PD and review of proposed corrections and clarifications; - Issue of the validation report In summary, the validation team confirms that the Project is implemented as planned and described in VCS PD and validated and registered PDD. The Project correctly applies the approved baseline and monitoring methodology ACM0002/ Version 06 and meets the relevant VCS requirements and the relevant host country criteria. No restriction or uncertainty is identified related to the validation.	
Work carried out by:	Number of pages:
Team Leader: Mr. Wilfred Chan Team Member: Mr. Harold Hai Technical Reviewer: Prof. Dr. Guenter Schock	15

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1. Introduction

The Gansu Huike center for Resource and Environmental Technology (GHCRE) has commissioned TÜV Rheinland Japan Ltd to validate and to verify the emission reductions of its voluntary emission reduction (VER) project, 28MW Jinkouba Hydropower Project(hereafter called “the Project”), located on mainstream of Baishuijiang river, Jinkouba village, Hengdan Township, Wen County, Longnan District, Gansu Province, P.R. China for the period from 01/02/2008 to 17/02/2009 prior to its CDM first crediting period.

TÜV Rheinland Japan Ltd as the validation and verification body of the Project has been accredited as a DOE by UNFCCC and also meets the competence requirements as set out in ISO 14065:2007.

1.1 Objective

The purpose of a validation is to have an independent third party to assess the project design. In particular, the project's baseline, monitoring plan, and the project's compliance with relevant UNFCCC, VCS 2007.1 and host Party criteria are validated in order to confirm that the project design, as documented, is sound and reasonable and meets the identified criteria. Validation is a requirement for all CDM projects as well as Voluntary Offset projects under the Voluntary Carbon Standard VCS 2007.1 is seen as necessary to provide assurance to stakeholders of the quality of the Project and its intended generation of Voluntary Carbon Units (VCUs).

1.2 Scope and Criteria

The validation scope is defined as an independent and objective review of the project design document (PDD). The PDD is reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords, the requirements for Voluntary Offset Projects under the Voluntary Carbon Standard VCS 2007 and the relevant decisions by the CDM Executive Board, including the approved baseline and monitoring methodology. The validation team has, based on the recommendations in the Validation and Verification Manual /1/ employed a risk-based approach, focusing on the identification of significant risks for project implementation and the generation of VCUs.

The validation is not meant to provide any consulting towards the client. However,

stated requests for forward actions and/or corrective actions may provide input for improvement of the project monitoring towards reductions in the GHG emissions.

1.3 VCS Project Description

The project proponent, i.e. Jintai Hydropower Co. Ltd of Wen County in Gansu Province, (hereafter refer to as "the PP") is responsible for developing and operating the project. The proposed project is located on the mainstream of Baishuijiang river, Jinkouba village, Hengdan Township, Wen County, Longnan District, Gansu Province. The geographic coordinates of the Project are 104°53'18" east longitude and 32°50'52" north latitude.

The Project is a newly-built run-of-river hydropower project which contains a gravity dam with sand gates and flooding gates, a power house, a transformer station and administrative building. The design water flow is 147m³/s and design water head is 22m. The Project consists of 2 sets of hydro turbines (Model no.: ZZ660-LH-300) and 2 sets of associated generators (Model no.: SF14-28/5100) with unit output of 14MW indicated in PD /8/. The total installation capacity of the hydro turbines is 28MW. All major equipments of the Project were supplied by a domestic manufacturer without foreign technology transfer involved.

According to the PDD, the net annual electricity output from the project activity is 127,900MWh. The electricity generated from the project activity is expected to substitute the power supply from Northwest Region Power Grid (NWPG) which is mainly composed of fossil fuel-fired power plants. The expected GHG emission reductions of the project activity are 108,689 tCO₂e annually during the fixed 10-year crediting period. There is no leakage considered in this project as this is a zero GHG emission project.

Being a renewable hydropower project, the project activity will reduce greenhouse gas (GHG) emissions by avoiding CO₂ emissions from electricity generation by fossil fuel power plants. The project's system boundaries are clearly defined as project site and the northwest region power grid (NWPG).

During on-site visit (OSV), almost all structure construction was completed and under operation except the staff building which has not been constructed yet. Nevertheless, it does not affect the operation of the project. Both two water turbines and associated generators are under operation.

The project activity was registered as a CDM project with the UNFCCC reference number as 1633 under approved CDM methodology ACM0002/ Version 06.

For the detailed information, please refer to the CDM validation report of the Project (Link:<http://cdm.unfccc.int/UserManagement/FileStorage/1FSE0P2T6ZGJUY43XHMN97DBWQ5CVL>).

The actual commissioning date of the project operation

The Project began electricity generation on 1st February 2008 which was verified by the validation team as below,

By reviewing the electricity supply records /19/ provided by the connected power grid, i.e. Gansu Grid Power Trading Center (GGPT), the power generators of the Project started to supply electricity to grid on 1st February 2008 (Generator #2) and on 15th February 2008 (Generator #1) respectively. Thus, the commissioning date of the project operation is confirmed to be 1st February 2008.

1.4 Level of assurance

Since the Project has been validated and successfully registered as the CDM project activity in the UNFCCC, the level of assurance of this validation report is high.

2. Methodology

The validation consists of the following phases:

- I a desk review of the project design documents, i.e. the registered PDD /5/ and VCS PD /8/;
- II on-site visit and follow-up interviews;
- III the resolution of outstanding issues and/or material discrepancy, and the issuance of the validation report.

2.1 Review of Document

The following table outlines the documentation reviewed during the validation.

/1/	UNFCCC, Clean Development Mechanism Validation and Verification Manual (Version 01.1), EB51 Annex 3.
/2/	UNFCCC, ACM0002/Version 06 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", EB24, Annex 7

/3/	UNFCCC, "Tool for the demonstration and assessment of additionality", Version 03, EB29	
/4/	UNFCCC, "Tool to calculate the emission factor for an electricity system", Version 01, EB35	
/5/	CDM Project Design Document (PDD), version 3.3, 23 rd December 2008 (registered version)	
/6/	CDM Validation Report (Report No. :QT-CDM01-06 – 06/57), 2 nd February 2009	
/7/	/7.1/	VER Monitoring Report of the project (MR), Version 1.0, 30 th September 2009
	/7.2/	MR, Version 4, 18 th May 2010
/8/	/8.1/	VCS Project Description (PD), Version 1.0, 8 th October 2009
	/8.2/	PD, Version 4, 18 th May 2010
/9/	Emission reductions calculation process spreadsheet of the project	
/10/	Jintai Hydropower Co. Ltd of Wen County in Gansu Province (GWJH), CDM Monitoring Plan, November 2007	
/11/	Monitoring Diagram for Jinkouba Hydropower plant, 9 th March 2008	
/12/	GWJH, Business License (License no.: 621222200000512(1-1)), 3 rd June 2009 (Remark: Company Establishment: 13 th April 2004)	
/13/	Gansu Bureau of Quality and Technical Supervision , Certificate of Metrological Authorization for Special Item (Cert. No.: [Gan]FaJi [2006]no.62055), 5 th January 2006 (Valid to 4 th January 2011)	
/14/	GWJH, Company Constitutions, 3 rd August 2007	
/15/	GWJH, Staff Training plan, May 2005; Staff Training records, September 2007, September 2008 and August 2009	
/16/	Certificates of Competent Authority for the Power Station Working Staff	
/17/	Gansu Provincial Power Company and GWJH, Grid-connected Regulation Agreement, 1 st April 2009	
/18/	Gansu Provincial Power Company and GWJH, Power Purchase Agreement, 1 st February 2008	
/19/	Gansu Grid Power Trading Center (GGPT), Electricity Purchase records for Jinkouba Hydropower Station from February 2008 to January 2009	
/20/	Gansu Grid Power Trading Center (GGPT), Power Generation Records in 30 th January to 26 th February 2009	
/21/	Longnan Power Supply Company, Records of Power Import to the Project from January 2008 to August 2009	
/22/	GWJH, Irrigation and Drainage Record in January to September 2009	
/23/	GWJH, Power Generation Record, October 2009	
/24/	Nanning General Plant for Power Generation Equipment (NPGE), Product Instruction Manual of Water Turbine, 3 rd September 2005	
/25/	GWJH, Equipment Assessment Advice, 25 th January 2008	

/26/	Shaanxi Hanzhong Transformer (Group) Co., Ltd., Product Certification Report (Ref. No.: SZ9-M-20000/121 6#), May 2007
/27/	Nanning General Plant for Power Generation Equipment, Technical Data of Water Turbine (ZZ660-LH-300), August 2005
/28/	Jintai Hydropower Co. Ltd of Wen County in Gansu Province, Value Added Tax (VAT) Invoice, 23 rd April 2008 to 1 st March 2009
/29/	Jinkouba Hydropower Plant, Daily Operation Log Records, May 2008 and January 2009
/30/	Gansu Provincial Power Company (GPPC), Letter of Acceptance on grid-connection and power generation equipment after the construction, 25 th January 2008
/31/	Gansu Provincial Power Company (GPPC), Notice of the change of the monthly-end on power supply in Gansu Province, 11 th July 2008
/32/	GWJH, Electricity Sales Invoice for Value-Added Tax (VAT) payment, March 2008 to February 2009
/33/	Wen County Power Bureau, Description of no power import to the Project from the local agricultural transmission line, 20 th October 2009
/34/	Gansu Provincial Power Company – Electricity Measurement Center (GPCC – EMC), Calibration records of the main meter and back-up meter; Main meter (M2), serial no.: 36055681, 6 th November 2007 & 22 nd September 2008; Back-up meter (M1), serial no.: 36002888, 16 th September 2007 & 22 nd September 2008
/35/	Jintai Hydropower Co. Ltd of Wen County in Gansu Province (GWJH), Declaration of no participation on other GHG programme, 1 st December 2009
/36/	State Electric Power Supervising Committee, the Permit of Electric Power Generation/ Business (Permit no.: 1031108-00032), 27 th June 2008
/37/	Voluntary Carbon Standard Association (VCSA), VCS Program (http://www.v-c-s.org/policydocs.html#)
/37.1/	VCS 2007.1, 18 th November 2008; Updated on 21 st January 2010
/37.2/	VCS Program Guidelines 2007.1, 18 th November 2008
/37.3/	VCS Project Description (PD) Template, 19 th November 2007
/37.4/	VCS Validation Report (VR) Template, 19 th November 2007
/37.5/	VCS Verification Report (VER) Template, 19 th November 2007
/37.6/	VCS Project Proponent (PP) Registration Representation Template
/37.7/	VCS Project Proponent Issuance Representation Template
/37.8/	VCS Validation Statement
/37.9/	VCS Verification Statement

2.2 Follow-up Interviews

The following table identifies the personnel who have been interviewed and/or provided additional information to the presented documentation:

	Date	Name and Title	Organization	Topic
/i/	2009/10/14 to 2009/10/15	Mr. Zhang Chun-xiong (Ass. Electrical Engineer)	Jintai Hydropower Co. Ltd of Wen County in Gansu Province (i.e. the project proponent)	➤ Project design ➤ Project related legal issues ➤ Technical equipment ➤ Crediting period ➤ Monitoring plan ➤ Training history ➤ Management system ➤ QA & QC ➤ Electricity sales and records ➤ Project Emission ➤ Emission Reductions Calculation ➤ Emergency Preparedness
/ii/		Mr. Wang Ke-liang (Manager)		
/iii/		Mr. Li Xin-bin (Deputy General Manager)		

2.3 Resolution of any material discrepancy

Refer to the VALIDATION PROTOCOL OF CLAUSES 1.10, 1.12, 1.13, 1.14, 8.1 AND 8.2 OF VCS 2007.1 PD at the end of this validation report for details.

2.4 Internal Quality Control

The validation report underwent a technical review before submission for registration in VCS Association. The technical review was performed by a technical reviewer qualified in TÜV Rheinland Japan Ltd in accordance with qualification scheme for CDM validation and verification, Golden Standard and VCS association, etc.

2.5 Validation Team

Role	Full Name	Appointed for Sectoral Scopes	Affiliation
Team Leader	Mr. Wilfred Chan	1, 6, 13	TÜV Rheinland Hong Kong Ltd.
Team Members	Mr. Harold Hai	1, 13	
Technical Reviewer	Prof. Dr. Guenter Schock	1, 3, 4, 5, 8, 9, 10, 11, 12, 13	TÜV Rheinland Immissionsschutz und Energiesysteme GmbH

3. Validation Findings

3.1 Project Design

Refer to the CDM validation report of the Project (link: <http://cdm.unfccc.int/UserManagement/FileStorage/1FSE0P2T6ZGJUY43XHMN97DBWQ5CVL>).

3.2 Baseline

Refer to the CDM validation report of the Project (link: <http://cdm.unfccc.int/UserManagement/FileStorage/1FSE0P2T6ZGJUY43XHMN97DBWQ5CVL>).

3.3 Monitoring plan

Refer to the CDM validation report of the Project (link: <http://cdm.unfccc.int/UserManagement/FileStorage/1FSE0P2T6ZGJUY43XHMN97DBWQ5CVL>).

3.4 Calculation of GHG Emissions

Refer to the CDM validation report of the Project (link: <http://cdm.unfccc.int/UserManagement/FileStorage/1FSE0P2T6ZGJUY43XHMN97DBWQ5CVL>).

3.5 Environmental Impact

Refer to the CDM validation report of the Project (link: <http://cdm.unfccc.int/UserManagement/FileStorage/1FSE0P2T6ZGJUY43XHMN97DBWQ5CVL>).

3.6 Comments by stakeholders

Refer to the CDM validation report of the Project (link: <http://cdm.unfccc.int/UserManagement/FileStorage/1FSE0P2T6ZGJUY43XHMN97DBWQ5CVL>).

4. Validation conclusion

The validation term has validated the project activity “28MW Jinkouba Hydropower Project as per the relevant requirements of VCS 2007.1 under VCS Association and relevant requirements of CDM under UNFCCC. The validation is based on (i) reviewing the registered PDD /5/ and supporting documents (listed in Section 2.1); and (ii) on-site visit and interviews with relevant personnel. The review of the PDD

and additional documents was mainly related to the applied baseline and monitoring methodology, subsequent background investigations have been performed to validate the fulfilment of the stated criteria of the VCS 2007.1. As result of the validation, the validation team confirms the following,

- (1) The project are implemented and installed as planned and described in the registered project design document;
- (2) The determination and calculation of the emission reductions are carried out in a transparent, correct, traceable and conservative manner;
- (3) The monitoring system is in place and functional;
- (4) The monitoring plan is transparent, adequate and compliance with the adopted CDM monitoring methodology ACM0002/ Version06.

Therefore, the validation team confirms that the Project correctly applies the baseline and monitoring methodology ACM0002/ Version 06 and meets the relevant VCS requirements and the relevant host country criteria. No restriction or uncertainty is identified related to the validation.

VALIDATION PROTOCOL OF CLAUSES 1.12, 1.13, 1.14, 8.1 AND 8.2 OF VCS 2007.1 PD

(MoV = Means of Verification, DR = Document Review, I = Interview, OSV = on-site visit, www = internet search)

Clauses of VCS 2007.1 PD	Ref.	MoV	COMMENTS	Conclusion
1. Description of project				
1.1 Project title	CDM-PDD /5/ CDM Validation Report /6/ VCS PD /7/	DR	The validation team checked the Project title, “28MW Jinkouba Hydropower Project”, from two registered documents, i.e. PDD /5/, CDM Validation Report /6/, and found that the Project title is consistent among the registered PDD, the registered CDM Validation Report and VCS PD. The correct project title is confirmed.	OK
1.12 To confirm that the project was not implemented to create GHG emissions primarily for the purpose of its subsequent removal or destruction.	CDM-PDD /5/ CDM Validation report /6/ ACM0002/ Version 06 /2/	DR OSV	The Project a newly built hydropower project, which generates electricity by utilizing clean, renewable hydro resources. Thus, GHG emission reductions can be achieved by avoiding CO2 emissions from electricity generation of fossil fuel fired power in the project boundary, i.e. NWPG. According to the ACM0002/ Version 06, no project emissions or leakage has to consider since the project is a Greenfield project. During OSV, the validation team observed that no diesel generator was installed in the project. All of generated electricity came from the 2 hydropower generators. In addition, no equipment transfer occurred in the project. Thus, no project emission or leakage happened to the project. The project operation did not lead to GHG emissions. The validation team confirms that the Project was not implemented to create GHG emissions primarily for the purpose of its subsequent removal or destruction.	OK
1.13 Demonstration that the	1.VCS PD /8/	DR	By reviewing the Section 1.12 of PD, it states that the Project only	OK

project has not created another form of environmental credit (for example renewable energy certificates).	2.FSR 3.FSR Approval 4. Declaration letter /35/	I www	applies as a CDM project; no other form of environmental credit is applied. As described in the PD/1/, the project is applied for VCU credits that produced before the CDM registration. The crediting period of the two GHG programs has been verified and found not overlapped with each other. The validation team crosschecks with the main design document and its approval (i.e. FSR, approval of FSR), no relevant environmental credit can be seen. During on-site interviews with the project proponent, the validation team cannot view any information about the other form of environmental credits to be generated. In addition, a declaration letter issued by the PP declares no another form of environmental credit to be applied or generated.	
1.14 Project rejected under other GHG programs (if applicable):	UNFCCC website PDD /5/ VR /6/	www	The project activity has only been registered under CDM program without rejection. (Link: http://cdm.unfccc.int/Projects/DB/RWTUV1204123332.57)	OK
8 Ownership: 8.1 Proof of Title:	Power Purchase Agreement /18/	DR	With reference to the Section 8.1 of the revised PD /8/, the PP claimed that the proof of title could be seen through the signed Power Purchase Agreement (PPA) between the PP (i.e. GWJH) and Gansu Provincial Power Company (GPPC). According to the VCS PD template, the proof of title can be evidenced by, “a right of use arising by contractual right in the plant, equipment or process that generates GHG emission reductions and/or removals”. The PPA is the enforceable and irrevocable agreement between the project proponent and power company related to the purchase & sales of the generated electricity of the Project. Therefore, the PPA /18/ is one of suitable evidences to	OK

			the proof of title.	
8.2 Projects that reduce GHG emissions from activities that participate in an emissions trading program (if applicable):	PDD /5/ VR /6/ PD /7/ Declaration letter /35/	DR www	By referring to the Section 8.2 of the revised PD /8/, the GHG emission reduction claimed in this period (1st February 2008 to 17th February 2009) will not participate in an emission trading programme. The verification team confirmed that the emission reduction in the claimed crediting period under VCS program cannot be participated in CDM programme since the starting date of crediting period of the Project under CDM is defined as 18th February 2009. No certified emission reductions (CER) will be granted for the emission reductions before the defined starting date of crediting period. The validation team also checked other GHG programs such as the Gold Standard (https://gs1.apx.com/myModule/rpt/myrpt.asp) and the CCX (http://www.chicagoclimatex.com/), where no information of the project was found. In addition, the project proponent declares /35/ that no other GHG programme is participated.	OK