

VALIDATION REPORT TITLE FOR GANSU GANZHOU DISTRICT NANTAN PHASE I 50MWp SOLAR PHOTOVOLTAIC POWER PROJECT



Document Prepared By TÜV NORD CERT GmbH

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Summary:

The Gansu Heihe Hydropower New Energy Development Co., Ltd. has commissioned the TÜV NORD JI/CDM Certification Program to carry out the VCS validation of the project, Gansu Ganzhou District Nantan Phase I 50MWp Solar Photovoltaic Power Project (PL1453, UNFCCC Ref. No: 9667) with regard to the relevant requirements of VCS standard version 3.5.

The proposed VCS project activity consist of a newly built grid-connected photovoltaic power plant with installed capacity of 50MWp which is located in southern area of Ganzhou District, Zhangye city, Gansu Province of P. R. China. The approved CDM methodology ACM0002 is applied to quantify the GHG removals achieved by this project. The calculation of the project emission removals is carried out in a transparent and conservative manner, so that the calculated emission removals of 472,174 tCO₂e are most likely to be achieved within the first 7-year crediting period (from 2012-12-20 to 2019-12-19).

The validation objective is an independent assessment by a Third Party of a proposed project activity against all defined criteria set for the registration under the VCS. Validation is part of the VCS project cycle and will finally result in a conclusion by the executing VVB whether a project activity is valid to be submitted for registration to VCS registry. The ultimate decision on the registration of a proposed project activity rests with the VCSA.

In the course of the validation 2 Corrective Action Requests (CARs), 2 Clarification Requests (CLs) were raised and successfully closed.

The review of the project description and additional documents related to baseline and monitoring methodology and subsequent background investigation have provided the TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.

The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable of VCS standard version 3.5.

ABBREVIATIONS

BAU	Business as usual
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CO₂	Carbon dioxide
CO_{2e}	Carbon dioxide equivalent
CP	Certification Program
CL	Clarification Request
DNA	Designated National Authority
EB	CDM Executive Board
EIA	Environmental Impact Assessment
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
MP	Monitoring Plan
MR	Monitoring Report
NWCPG	Northwest China Power Grid
QC/QA	Quality control/Quality assurance
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Verified Carbon Standard
VCS - PD	VCS - Project Description
VCU	Verified Carbon Unit
VT	Validation team

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1 INTRODUCTION

The Gansu Heihe Hydropower New Energy Development Co., Ltd. has commissioned the TÜV NORD JI/CDM Certification Program to carry out the validation of the project:

Gansu Ganzhou District Nantan Phase I 50MWp Solar Photovoltaic Power Project

with regard to the relevant requirements of the VCS Standard version 3.5^{VCS/}. The validators have reviewed the VCS-PD and relevant evidences.

The project has been registered as CDM project with UNFCCC ref. No. of 9667.

The applied methodology is ACM0002 “Consolidated baseline methodology for grid-connected electricity generation from” (version 13.0.0).

1.1 Objective

The purpose of a validation is to have an independent third party assess the project design. In particular the project's baseline, the monitoring plan (MP), and the project's compliance with

- the requirements of the VCS Version 3.5;
- the requirements of the approved methodology;
- relevant rules, including the host country legislation

are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders on the quality of the project and its intended generation of Verified Carbon Units (VCUs) / Emission reductions.

1.2 Scope and Criteria

The validation scope is given as a thorough independent and objective assessment of the project design including especially: the correct application of the methodology, the project's baseline study, additionality justification, stakeholder involvement, environmental impacts and monitoring plan, which are included in the VCS PD / other relevant supporting documents, to ensure that the proposed VCS project activity meets all relevant and applicable criteria as follow,

- VCS Program Guide, v3.5
- VCS Standard, v3.5;
- Program Definitions, v3.5

The following documents are also taken into account in the VCS validation, as a CDM methodology was used:

- the Kyoto Protocol, in particular § 12 and modalities and procedures for the CDM;
- further COP/MOP decisions with reference to the CDM (e.g. decisions 4-8/CMP.1);
- decisions and specific guidance by the EB published under <http://cdm.unfccc.int>;
- approved baseline and monitoring methodologies (including GHG inventories).

Further criteria and scope for the VCS validation also include:

- Standard auditing methods for management systems;
- Good practice in the respective technology and sectoral scope, including environmental and social impacts.

The information included in the PD / GHG Report and the supporting documents were reviewed and assessed against the requirements as set out by the VCS Version 3.5.

The validation is based on the information made available to TÜV NORD JI/CDM CP and on the contract conditions. TÜV NORD JI/CDM CP cannot be held liable by any entities for making its validation opinion based on any false or misleading information supplied to it during the course of validation.

The validation is not meant to provide any consulting to the project participants. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

1.3 Level of Assurance

The validation has been planned and organized to achieve a

- ☒ Reasonable level of assurance
- ☐ Limited level of assurance

1.4 Summary description of the project

The “Gansu Ganzhou District Nantan Phase I 50MWp Solar Photovoltaic Power Project” comprises the construction and operation of a new solar power grid-connected electricity generation plant in southern area of Ganzhou District, Zhangye city, Gansu Province of P.R. China, with a total capacity of 50MWp. The project owner is Gansu Heihe Hydropower New Energy Development Co., Ltd.. The geographical coordinate range of the Project are 100°11'42.58"~100°13'48.48" east longitude and 38°50'11"~38°51'00" north latitude.

The project generates electricity by utilizing renewable solar energy, so no GHG emission will be involved in the project activity. The project consists of polycrystalline silicon solar cell

modules, header box, dc-to-ac inverter and 35kV box transformer. The solar cell module is the key component of the project, which converts the solar optical energy into direct current electricity via the photovoltaic effect taking place at the interface of the specific semiconductor material.

The total installed capacity of the grid connected photovoltaic power station is 50MW. The key components of the proposed project consist of polycrystalline silicon modules (70,000 sets with each rated power of 290W and 105,000 sets with each rated power of 285W), DC/AC (Direct Current/Alternating Current) inverters (each with rated power of 500kW) and box-type transformers (with transmission voltage of 35kV). The DC electricity is transformed to AC power by inverters and then boosted up to 35kV by box-type transformers, merged and transformed to 110kV by the onsite main transformer and then delivered to the Heihe 110kV substation and finally to NWCPG. Annual operation hours 1,422 (equivalent to 16.23% plant load factor), the annual output that will be delivered to the grid is estimated to be 71,125MWh. The electricity to be generated will be sold to Northwest China Power Grid (NWCPG). The project will help reduce GHG emissions generated from the high-growth, coal-dominated power generation. The calculated emission removals of 472,174 tCO₂e are most likely to be achieved within the first 7-year crediting period (from 2012-12-20 to 2019-12-19). The project started construction on 2012-05-08 and was put into commercial operation on 2012-12-20 (i.e. the project start date).

A clear and sufficient description of the project activity is provided in PD and registered CDM PDD, covering all relevant aspects. Precise nature of the project activity and the technical aspects of its implementation are presented in an understandable manner.

2 VALIDATION PROCESS, FINDINGS AND CONCLUSION

2.1 Validation Process

Method and criteria:

The project was registered as a CDM project on 2013-06-27 with UNFCCC ref. No. of 9667. According to section 3.11.10 of VCS Standard Version 3.5, a further validation shall be completed of the cover page and section 1.2, 1.3, 1.5, 1.6, 1.7, 1.9, 1.10, 1.12.1, 1.12.2, 1.12.3, 1.12.4 and 1.13 of the VCS Project Description Template. Relevant information is discussed in Section 2.2.1 of this report.

Appointment of team members and technical reviewer

On the basis of a competence analysis and individual availabilities a validation team was appointed. Furthermore also the personnel for the technical review and the final approval were determined.

The list of involved personnel, the tasks assigned and the qualification status are summarized in the table 2-1 below.

Table 2-1: Involved Personnel

	Name	Company	Function ¹⁾	Qualification Status ²⁾	Scheme competence ³⁾	Technical competence ⁴⁾	Verification competence ⁵⁾	Host country Competence
☐ Mr. ☒ Ms.	Zhao Xuejiao	-	TL	LA	☒	1.2	☒	☒
☒ Mr. ☐ Ms.	Li Yongjun	-	TR ^{B)}	SA	☒	1.2	☒	☒
☒ Mr. ☐ Ms.	Stefan Winter	TN CERT Germany	FA	SA	☒	1.2	☒	☐

¹⁾ TL: Team Leader; TM: Team Member, TR: Technical review; OT: Observer-Team, OR: Observer-TR; FA: Final approval

²⁾ GHG Auditor Status: A: Assessor; LA: Lead Assessor; SA: Senior Assessor; T: Trainee; TE: Technical Expert

³⁾ GHG auditor status (at least Assessor)

⁴⁾ As per S01-MU03 or S01-VA070-A2 (such as 1.1, 1.2, ...)

⁵⁾ In case of verification projects

^{A)} Team Member: GHG auditor (at least Assessor status), Technical Expert (incl. Host Country Expert or Verification Expert), not ETE

^{B)} No team member

Document Review:

The validated CDM PDD^{/PDD/}, VCS PD^{/PD/} submitted by the client and additional background documents related to the project design and operation were reviewed. A complete list of all documents reviewed is included in Appendix 1 of this report.

Interviews:

The validator of TÜV NORD performed phone-call interviews with the VCS project developer to confirm the information in the cover page and sections 1.2, 1.3, 1.5, 1.6, 1.7, 1.9, 1.10, 1.12.1, 1.12.2, 1.12.3, 1.12.4 and 1.13 of the VCS Project Description Template^{/PDT/} and to resolve issues identified in the document review.

The project proponent and the consultant, were phone-call interviewed to confirm selected information and to resolve issues identified in the documents review. The main topics of the interviews are summarized in Table 2-1-1.

Table 2.1-1: Interviewed persons and interview topics

Interviewed Persons / Entities	Interview topics
1. Project Owner & Operations Personnel^{/IM01/} 2. Consultant^{/IM02/}	• General aspects of the project • Technical equipment and operation • Changes since implementation • Monitoring and measurement equipment • Calibration procedures • Quality management system • Involved personnel and responsibilities • Training and practice of the operational personnel • Implementation of the monitoring plan • Monitoring data management • Data uncertainty and residual risks • Maintenance • Environmental aspects

Resolution of any material discrepancy

Material discrepancies identified in the course of the validation are addressed either as CARs, CLs or FARs.

A Corrective Action Request (CAR) is established where:

- mistakes have been made in assumptions, application of the methodology or the project documentation which will have a direct influence the project results,
- the requirements deemed relevant for validation of the project with certain characteristics have not been met or
- there is a risk that the project would not be registered or that emission reductions would not be able to be verified and certified.

A Clarification Request (CL) will be issued where information is insufficient, unclear or not transparent enough to establish whether a requirement is met.

A Forward Action Request (FAR) will be issued when certain issues related to project implementation should be reviewed during the first verification.

A detailed list of the CARs, CLs and FAR raised and discussed in the course of this validation is included in the next section of this report.

2.2 Validation Findings

2.2.1 Gap Validation

The project was registered as a CDM project on 2013-06-27 (UNFCCC Ref. No: 9667)^{/unfccc/}. According to Section 3.11.10 of VCS Standard Version 3.5^{/VCS/}, a further validation shall be completed of the cover page and sections 1.2, 1.3, 1.5, 1.6, 1.7, 1.9, 1.10, 1.12.1, 1.12.2, 1.12.3, 1.12.4 and 1.13 of the VCS Project Description Template^{/PDT/}.

The cover page and sections 1.2, 1.3, 1.5, 1.6, 1.7, 1.9, 1.10, 1.12.1, 1.12.2, 1.12.3, 1.12.4 and 1.13 of the VCS Project Description Template were discussed in the VCS PD^{/VCS-PD/}.

Validation of the cover page and sections 1.2, 1.3, 1.5, 1.6, 1.7, 1.9, 1.10, 1.12.1, 1.12.2, 1.12.3, 1.12.4 and 1.13 of the VCS Project Description Template are pursuant to Section 3.11.10 of VCS Standard Version 3.5 and Section 4.1.5 of Registration and Issuance Process VCS Standard version 3.5. Requirement set out in Section 3.11.10 of VCS Standard Version 3.5 and Section 4.1.5 of Registration and Issuance Process VCS Standard version 3.5^{/RIP/} is fulfilled.

The cover page:

The project title “*Gansu Ganzhou District Nantan Phase I 50MWp Solar Photovoltaic Power Project*” has been validated to be the same as the registered CDM project and the project name indicated in the Letter of Approval from China^{/LoA/}. The version, date of issue, the entity preparing the relevant section of the PD, and the corresponding contact information has been validated to be correct.

Section 1.2 Sectoral Scope and Project Type:

Through the interviewing with the project owner and reviewing the project design, it was confirmed that the project was implemented to generate electricity using renewable solar resources and replace the electricity which would otherwise be generated by grid connected

power plants. Therefore, it was confirmed that the sectoral scope is scope 1 Energy Industries (renewable-/non-renewable sources). It was confirmed that the project is not a grouped project.

Section 1.3 Project Proponent:

The project proponent (Gansu Heihe Hydropower New Energy Development Co., Ltd.) and the contact information reported in section 1.3 of the VCS PD have been confirmed to be correct through checking the LOA^{/LOA/} and registered CDM PDD^{/PDD/} and phone-call interview with the project proponent^{/IMO1/}.

Section 1.5 Project Start Date:

The project start date is demonstrated as 2012-12-20, which is confirmed as the date when the project began generating GHG emission reductions via checking the registered PDD, log^{/LOG/} and the Power Purchase Agreement^{/PPA/} of the project.

According to the information published on the UNFCCC website, the CDM registration date of the project is 2013-06-27 (UNFCCC Ref. No.:9667) with the 1st CDM crediting period from 2013-07-01 to 2020-06-30^{/unfccc/}. The project start date of 2012-12-20 is the day when the project began generating GHG emission reductions. The validation report was issued on 2013-06-17 for CDM registration^{/VAL/}. The gap between the start date of the project (2012-12-20) and the validation completion is less than two years and thus in compliance with the requirement that non-AFOLU projects shall complete validation within two years of the project start date as per section 3.7.2 of VCS Standard Version 3.5.

Section 1.6 Project Crediting Period:

As per information available on the UNFCCC website <https://cdm.unfccc.int/Projects/DB/China%20Quality1372055565.71/view>, the project was registered as a CDM project on 2013-06-27 (UNFCCC Ref. No.:9667). The start date of the project crediting period of VCS is 2012-12-20, which is confirmed as the date when the project began generating GHG emission reductions.

Section 1.7 Project Scale and Estimated GHG Emission Reductions or Removals:

The ERs of each vintage indicated below are based on the annual ERs in the CDM registered PDD and days included in each vintage. The average annual ERs reported is not the same as the annual ERs in the CDM registered PDD which covers a full year period. See the below finding.

The average annual ERs of the project are 67,453 tCO₂e, which is below the threshold of large-projects (300,000 tCO₂e per year). Therefore the project falls in the category of “Projects” as per definition. And the Estimated GHG Emission Reductions or Removals during the VCS 1st crediting period (2012-12-20 to 2019-12-19) is 472,174 tCO₂e.

Related findings

☐ No CARs, CLs or FARs have been identified in this context

☒ The following finding(s) have been addressed:

Finding:	CL 1		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	It is observed that the value of total estimated ERs of first 7 crediting period in the PD is not in line with the registered PDD.		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The estimated ERs in the VCS PD were calculated from the estimated annual electricity delivered to the grid in the first 7 years crediting period, ranging from 78,678MWh to 74,901MWh. The difference between the CDM PDD and the VCS PD was due to the different start date of the crediting period in the two documents, based on which the estimated ERs in the first and last calendar year of the first crediting period are calculated. The CDM crediting period starts from 01/07/2013 while the VCS crediting period starts from 20/12/2012.		
DOE Assessment #1 <i>The assessment shall encompass all open issues. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Via checking the registered CDM PDD, it is confirmed that the CDM crediting period starts from 01/07/2013, while the VCS crediting period starts from 20/12/2012. This is the main reason of difference. Furthermore, through checking the FSR and registered CDM PDD, it is confirmed that the estimated annual electricity delivered to the grid in the first 7 years crediting period will be ranged from 78,678MWh to 74,901MWh. Hence, the estimated GHG emission reductions or removals in the PD is calculated based on the estimated annual electricity delivered to the grid value from 78,678MWh to 74,901MWh in the first 7 years crediting period. Hence it is confirmed that the value of total estimated ERs of first 7 crediting period in the PD is correct and reasonable. CL1 is closed out.		
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the first periodic verification ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The project complies with the requirements		

Final Assessment

☒ The project technology and the description of the same are in line with the applicable VCS criteria.

Section 1.9 Project Location:

The project site is located in southern area of Ganzhou District Zhangye city, Gansu province, and P.R.China. The geographical coordinate range of the Project are 100°11'42.58" - 100°13'48.48" east longitude and 38°50'11" - 38°51'00" north latitude. The location of the project site is verified as consistent with the indication in the registered CDM PDD via on-site investigation^{/VAL/}.

Section 1.10 Conditions Prior to Project Initiation:

There is no power plant existing prior to the project at the project site, the project is the installation of new grid-connected solar power plant. The conditions prior to project initiation has been validated in the CDM PDD to be the same as the baseline scenario identified in the CDM registered PDD, i.e., supply of equivalent annual power output by the Northwest China Power Grid to which the project is connected. Therefore, the project is confirmed not to be implemented to generate GHG emissions for the purpose of their subsequent reduction, removal or destruction.

Related findings

☐ No CARs, CLs or FARs have been identified in this context

☒ The following finding(s) have been addressed:

Finding:	CAR 2		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	It is observed that the name of the grid which project connected to is not in line with the registered CDM PDD.		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The name of the connected grid NWCPG of the project has been revised to be consistent with the CDM PDD in the VCS PD v02.		
DOE Assessment #1 <i>The assessment shall encompass all open issues. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The revised PD has been checked, it is confirmed that the name of the connected grid is revised to NWCPG which is in accordance with the registered CDM PDD. Hence, CAR 2 is closed out.		
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the first periodic verification ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The project complies with the requirements		

Final Assessment

☒ The project technology and the description of the same are in line with the applicable VCS criteria.

Section 1.12.1 Right of Use:

Business License of Gansu Heihe Hydropower New Energy Development Co., Ltd.^{/BL/}, approval of the Feasibility Study Report (FSR) of the project^{/AFSR/}, the Letter of Approval issued by China DNA^{/LOA/}, and the Power Purchase Agreement (PPA)^{/PPA/} signed with the grid company were checked for the ownership of the project confirmation. It is clearly demonstrated in the LOA that the project owner is authorized as Chinese participant to voluntarily participate in and carry out the project activity. The Chinese DNA had examined the ownership of the project before is issued the LOA to the project proponent. Business License, approval of the FSR and the PPA all indicated that Gansu Heihe Hydropower New Energy Development Co., Ltd. is the owner of this project and responsible for the operation and maintenance of this project. Thus, it is confirmed that the project owner has the ownership of the project.

Section 1.12.2 Emissions Trading Programmes and Other Binding Limits:

Via interview with the project owner^{/IM01/}, it is confirmed that the project does not take part in emission trading programmes other than the CDM under which it is registered as a CDM project (UNFCCC Ref. No.:9667).

The project was registered project as CDM project with the first 7 years renewal crediting period started from 01/07/2013. No emission reductions (CERs) have been claimed by the PP for the project yet.

Via checking the Statement of Abandon CDM Emission Reduction of Gansu Ganzhou District Nantan Phase I 50MWp Solar Photovoltaic Power Project^{/SAC/}, it is confirmed that the project proponent will not claim any emission reductions for the project under CDM program. And all the credits will be claimed under VCS program as VCUs for the project since the start date of commercial operation to avoid double counting.

Related findings

☐ No CARs, CLs or FARs have been identified in this context

☒ The following finding(s) have been addressed:

Finding:	CAR 3		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	It is observed that the evidence of project proponent will not claim any emission reductions for the project under CDM program is not provided.		

Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The statement from the project owner has been provided to DOE for validation. In the statement, PO committed that NO emission reductions will be claimed under the CDM program for the project throughout the whole 21 years crediting period.
DOE Assessment #1 <i>The assessment shall encompass all open issues. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The Statement of Abandon CDM Emission Reduction of Gansu Ganzhou District Nantan Phase I 50MWp Solar Photovoltaic Power Project issued by Gansu Heihe Hydropower New Energy Development Co., Ltd. has been checked by validation team, it is confirmed that the PO gives up the CDM Emission Reduction claim under the CDM program for the project throughout the whole 21 years crediting period. Hence, it is confirmed that all the credits will be claimed under VCS program as VCUs for the project since the start date of commercial operation to avoid double counting. CAR3 is closed out.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the first periodic verification ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The project complies with the requirements

Final Assessment

- ☒ The project technology and the description of the same are in line with the applicable VCS criteria.

Section 1.12.3 Other Forms of Environmental Credit:

The project was registered as a CDM project (UNFCCC Ref. No.:9667) with the registration date of 2013-06-27 and the start date of the first CDM crediting period is 2013-07-01. The project does not take part in emission trading programmes beside their status under CDM. No emission reductions (CERs) have been claimed by the PP for the project yet.

It is confirmed that the project proponent will not claim any emission reductions for the project under CDM program. And all the credits will be claimed under VCS program as VCUs for the project since the start date of commercial operation to avoid double counting.

Via interview with the project owner^{/IM01/}, it is confirmed that the project has not created any other form of environmental credit.

Section 1.12.4 Participation under Other GHG Programmes:

The project has been registered on 2013-06-27 as CDM project with UNFCCC ref. No. of 9667.

Besides, the project is not participating in any other GHG program as verified through interviews with project proponents^{/IM01/} and internet research GS^{/gs/} and other GHG program databases^{/unfccc/}.

Related findings

- ☐ No CARs, CLs or FARs have been identified in this context
- ☒ The following finding(s) have been addressed:

Finding:	CL 4		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	It is observed that the demonstration of the project is not participated in other GHG Programs is missing.		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	In the revised VCS PD v02, the following description has been added: Except for CDM, the project has not been registered under any other GHG program.		
DOE Assessment #1 <i>The assessment shall encompass all open issues. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Via checking the UNFCCC website, it is confirmed that the project has been registered on 2013-06-27 as CDM project with UNFCCC ref. No. of 9667. Besides, the project is not participating in any other GHG program as verified through interviews with project proponents ^{/IM01/} and internet research of GS ^{/gs/} and other GHG program databases ^{/unfccc/} . CL 4 is closed out.		
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the first periodic verification ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The project complies with the requirements		

Final Assessment

- ☒ The project technology and the description of the same are in line with the applicable VCS criteria.

Section 1.13 Additional Information Relevant to the Project

Eligibility Criteria:

N/A

Leakage Management:

According to the applied consolidated methodology ACM0002 (Version 13.0.0)^{/ACM0002/}, the leakage of the project is not considered.

Commercially Sensitive Information:

It is confirmed that no commercially sensitive information relevant to the project description has been excluded from the public version of the project description.

Further information: Include any additional relevant legislative, technical, economic, sectoral, social, environmental, geographic, site-specific and/or temporal information that may have a bearing on the eligibility of the project, the net GHG emission reductions or removals, or the quantification of the project's net GHG emission reductions or removals.

It is confirmed that there is no further information that may have a bearing on the eligibility of the project, the net GHG emission reductions or removals, or the quantification of the project's net emission reductions or removals.

2.3 Validation Conclusion

According to the validation report of the project for CDM registration and the above further validation of the cover page and sections 1.2, 1.3, 1.5, 1.6, 1.7, 1.9, 1.10, 1.12.1, 1.12.2, 1.12.3, 1.12.4 and 1.13 of the VCS Project Description Template, it is validated that Gansu Ganzhou District Nantan Phase I 50MWp Solar Photovoltaic Power Project is in compliance with the VCS Programmes requirements as set out in the VCS Rules.

3 VALIDATION CONCLUSION

Gansu Heihe Hydropower New Energy Development Co., Ltd. has commissioned the TÜV NORD JI / CDM Certification Program to carry out the VCS validation of the Gansu Ganzhou District Nantan Phase I 50MWp Solar Photovoltaic Power Project (PL1453, UNFCCC Ref. No: 9667) in southern area of Ganzhou District Zhangye city, Gansu province, P. R. China with regard to the requirements of VCS standard version 3.5.

The proposed VCS project activity consistent of a newly built grid-connected photovoltaic power plant with installed capacity of 50MWp. Annual operation hours 1,422 (equivalent to 16.23% plant load factor), the annual output that will be delivered to the grid is estimated to be 71,125MWh. The electricity to be generated will be sold to Northwest China Power Grid (NWCPG). The project will help reduce GHG emissions generated from the high-growth, coal-dominated power generation. The calculated emission removals of 472,174 tCO₂e are most likely to be achieved within the first 7-year crediting period (from 2012-12-20 to 2019-12-19).

In the course of the validation 2 Corrective Action Requests (CARs), 2 Clarification Requests (CLs) were raised and successfully closed.

The review of the project description and additional documents related to baseline and monitoring methodology and subsequent background investigation have provided the TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.

The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable of VCS standard version 3.5.

Beijing, 2015-06-02



Zhao Xuejiao
TÜV NORD JI/CDM Certification Program
Verification Team Leader

Essen, 2015-06-02



Stefan Winter
TÜV NORD JI/CDM Certification Program
Final Approval

APPENDIX 1: REFERENCES

Table Annex 1.1: Documents provided by the project participant

Reference	Document
/AEIA/	Approval Letter of EIA by Environment Protection Bureau of Gansu on 06/06/2012
/AFSR/	Approval Letter of FSR by Gansu Development and Reform Commission on 22/08/2012.
/BL/	Business License of Gansu Heihe Hydropower New Energy Development Co., Ltd.
/EIA/	Environmental Impact Assessment (EIA) of the project was completed in 05/2012
/FSR/	Feasibility Study Report (FSR) of “Gansu Ganzhou District Nantan Phase I 50MWp Solar Photovoltaic Power Project” completed in 03/2012.
/LOG/	Operation log of the project plant from the project started operation on 2012-12-20
/PD/	Draft Project Description named “Gansu Ganzhou District Nantan Phase I 50MWp Solar Photovoltaic Power Project ” dated 2015-05-21 Final Project Description named “Gansu Ganzhou District Nantan Phase I 50MWp Solar Photovoltaic Power Project ” dated 2015-06-02
/PPA/	Power Purchase Agreement signed by PP and Gansu Province Power Grid company for year 2012 to 2015.
/SAC/	Statement of Abandon CDM Emission Reduction of Gansu Ganzhou District Nantan Phase I 50MWp Solar Photovoltaic Power Project issued by Gansu Heihe Hydropower New Energy Development Co., Ltd.
/TPI/	Technical Particulars of PV Module, Inverter and 35kV box transformer – the annex of equipment purchase contract
/XLS/	Emission Reduction Calculation sheets provided by the project participant (related to PD) dated 2015-05-21, version 01

Table Annex 1.2: Background investigation and assessment documents

Reference	Document
/ACM0002/	Approved CDM Methodology ACM0002 ‘Consolidated baseline methodology for grid-connected electricity generation from renewable sources’ (version 13.0.0)
/CPM/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)

Reference	Document
/IPCC/	1. 1996 IPCC Guidelines for National Greenhouse Gas Inventories: work book 2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories: work book
/KPI/	Kyoto Protocol (1997)
/LOA/	LoA issued by China's DNA in 26/03/2013
/MA/	Decision 3/CMP. 1 (Marrakesh – Accords)
/PDD/	Project Design Document (PDD) for the “Gansu Ganzhou District Nantan Phase I 50MWp Solar Photovoltaic Power Project” Version 02, 21/05/2013.
/PDT/	VCS Project Description Template, version 3.2
/PS/	CDM Project Standard (Version 9.0)
/RIPI/	VCS Registration and Issuance Process, version 3.5
/VAL/	CDM Validation Report for CDM project “Gansu Ganzhou District Nantan Phase I 50MWp Solar Photovoltaic Power Project” version 2.0, dated 2013-06-17
/VCS/	Verified Standard version 3.5
/VSI/	CDM Validation and Verification Standard (Version 09.0)

Table Annex 1.3: Websites used

Reference	Link	Organisation
/dna-HP/	www.cdm.ccchina.gov.cn	DNA of China
/unfccc/	http://cdm.unfccc.int https://cdm.unfccc.int/Projects/DB/China%20Quality1370565837.86/view	UNFCCC
/ipcc/	www.ipcc-nggip.iges.or.jp	IPCC publications

Table Annex 1.4: List of interviewed persons

Reference	Moi ¹		Name	Organisation / Function
/IM01/	T	☒ Mr. ☐ Ms	Liu Mengde	Gansu Heihe Hydropower New Energy Development Co., Ltd. /Director
/IM01/	T	☐ Mr. ☒ Ms	Zhou Xuan	Gansu Heihe Hydropower New Energy Development Co., Ltd. /Staff
/IM02/	T	☒ Mr. ☐ Ms	Lin Keming	Climate Bridge Ltd./Project Manager

¹⁾ Means of Interview: (Telephone, E-Mail, Visit)

APPENDIX 2: STATEMENTS OF COMPETENCE OF INVOLVED PERSONNEL



Statement of Competence
Appointment and authorization according to the procedures of the TUV NORD JRCM Certification Program

Ms. Xue Jiao Fancy Zhao

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor (Validation, Verification)	2015-06-07
VCS / ISO 14064-2	Lead Assessor	2015-06-07

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewable Energies

230 – Rev. 2, Date: 2012-06-08

230_F003_2012-06-08_rev2.doc



Statement of Competence
Appointment and authorization according to the procedures of the TUV NORD JRCM Certification Program

Mr. Yongjun Li

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2016-06-26
VCS / ISO 14064-2	Senior Assessor (Validation, Verification) Technical Reviewer	2016-06-26

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR SUBCATEGORIES
1.2	Renewable Energies	1.2.1 Hydro
		1.2.2 Wind
		1.2.3 Geothermal
		1.2.4 Solar
		1.2.5 Total
13.1	Waste Handling and Disposal	

039 – Rev. 2, Date: 2014-09-22

039_F003_2014-09-22_rev2.doc



Statement of Competence
Appointment and authorization according to the procedures of the TUV NORD JRCM Certification Program

Mr. Stefan Winter

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2017-07-27
VCS	Senior Assessor (Validation, Verification) Technical Reviewer	2017-07-27

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR SUBCATEGORIES
1.1	Thermal energy generation	
1.2	Renewable Energy	1.2.1 Hydro
		1.2.2 Wind
		1.2.3 Geothermal
		1.2.4 Solar
		1.2.5 Tidal
2.2	Heat distribution	
3.1	Energy demand	
13.1	Waste handling and disposal	13.1.1 Waste management 13.1.2 Waste water management
13.2	Animal waste management	
15.2	Animal waste management	

163 – Rev. 3, Date: 2014-07-28

163_F003_2014-07-28_rev3.doc