

 Gold Standard for the Global Goals	Validation report form for post-registration changes for GS project activities
BASIC INFORMATION	
Title and UNFCCC / GS reference number of the project activity	Nam Pha Gnai Hydropower Project (UNFCCC ID 10241 / GS ID 3514)
Process track	☒ Prior approval ☐ Issuance ☐ Renewal of crediting period
Version number of the validation report	02.1
Completion date of the validation report	12/10/2021
Type(s) of PRCs	☐ Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents ¹ ☐ Corrections ☒ Changes to the start date of the crediting period ☐ Inclusion of a monitoring plan ☐ Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents ☐ Changes to the project design ☐ Changes specific to afforestation and reforestation project activities
Version number of PDD to which this report applies	2.3
Project participants	Nam Pha Gnai Hydropower Co., Ltd. (Lao PDR, project owner) Swiss Carbon Assets Limited (Switzerland, CERs buyer)
Host Party	Lao PDR
Applied methodologies and standardized baselines	Approved consolidated baseline and monitoring methodology ACM0002 (version 16.0): Consolidated baseline and monitoring methodology for grid-connected electricity generation from renewable sources.
Mandatory sectoral scopes	Sectoral scope 1: Energy Industries
Conditional sectoral scopes, if applicable	N.A.

¹ Other standards, methodologies, methodological tools and guidelines (to be) applied in accordance with the applied(selected) methodologies are collectively referred to as the other (applied) methodological regulatory documents).

Name and UNFCCC reference number of the DOE	Shenzhen CTI International Certification Co., Ltd (CTI) (UNFCCC Registration No.:E-0061)
Name, position and signature of the approver of the validation report	Zhou Lu, General Manager 

SECTION A. Executive summary

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Summary of the project activity

Shenzhen CTI International Certification Co., Ltd (CTI) has performed the validation of the post-registration changes for the CDM project activity "Nam Pha Gnai Hydropower Project" (hereinafter referred to "The project") in Lao PDR (UNFCCC Ref. No. 10241) registered on 31/12/2015. The project is a run-of-the-river hydropower station, at the downstream of the planned Nam Ngum 3 hydropower project (hereinafter referred to as "NN3 project"), which is located in Xaysomboun District, Vientiane Province, Lao PDR. The installed capacity of NN3 project is 440MW. The approximate coordinate of the project site is: 19.009331°N, 102.872314°E. The installed capacity of the project is 19.2MW (7.4MW+7.4MW+4.4MW), the estimated power supplied to the power grid will be 130GWh (before the operation of NN3 project) and 86GWh (after the operation of NN3 project).

The electricity generated by the project activity was supplied to the Lao Power Grid which is connected with Thailand Power Grid, and the project is estimated to deliver 62,184 tCO₂ emission reduction annually.

Scope of the validation

As per para. 290 of "CDM validation and verification standard for project activities" (version 02.0), the DOE shall determine whether the proposed change complies with the relevant requirements in the "CDM project standard for project activities".

As per para. 291 of "CDM validation and verification standard for project activities" (version 02.0), the DOE shall state its opinion on whether the change complies with the relevant requirements related to the changes to the start date of the crediting period in the "CDM project standard for project activities".

As per para. 235 of "CDM project standard for project activities" (version 02.0), If the proposed change to the start date of the crediting period of a registered CDM project activity is between one and two years, or between two and four years for a registered CDM project activity hosted by a least developed country, the project participants shall:

(a) Demonstrate that no changes have occurred to the project activity that would result in a less conservative baseline, or update the baseline using conservative data;

(b) Demonstrate that substantive progress has been made by the project participants to start the project activity.

Based on the above CDM rules and requirements, the validation scope is defined as an independent and objective review of the revised PDD, the project's baseline study, updated baseline information, and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations.

Validation process

The revised PDD and additional background documents related to the changes to the start date of the crediting period and baseline information were submitted to the validation team for review as an initial step of the validation process. The document review in particular includes determination of start date of crediting period and baseline. A teleconference was conducted to confirm the start date of crediting period and baseline. All documentations that were reviewed during the validation can be found in Appendix 3 of this validation report.

Validation conclusion

As per "CDM project cycle procedure for project activities" (version 02.0), the validation team confirms that for the change of the start date of crediting period between two and four years for a registered CDM project activity hosted by a least developed country, a request for approval by the Board of the change could be submitted via prior-approval track. The post-registration changes have been described in the revised PDD completed with the valid version of the PDD.

In the CTI's opinion, the post-registration changes to the start date of the crediting period described in the revised PDD are in compliance with the methodology and UNFCCC requirements and will not lead to any changes to the project activity that would result in a less conservative baseline. The conservative data has been adopted to update the baseline. And the substantive progress (operation has been started) has been made by the project participants to start the project activity. Therefore, CTI recommends the approval of request for the changes as stated in the revised PDD submitted by the project participant.

SECTION B. Validation team, technical reviewer and approver

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B.1. Validation team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interviews	Validation findings
1.	Team Leader	IR	Wang	Guolian	N/A	√	-	√	√

B.2. Technical reviewer and approver of the validation report on PRCs

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer	IR	Lin	Shunrong	N/A
2.	Approver	IR	Zhou	Lu	N/A

SECTION C. Means of validation

C.1. Desk/document review

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To determine whether any changes have occurred to the project activity that would result in a less conservative baseline due to the permanent changes of the start date of the crediting period, to update the baseline using conservative data, and to determine whether substantive progress has been made by the project participants to start the project activity. CTI reviewed:

- The registered PDD for the project activity /1/, the validation report /2/ and the revised PDD (Version 2.2 dated 04/03/2021 and Version 2.3 dated 03/04/2021) /3/;
- Emission reduction calculation spreadsheet /4/;
- Baseline and monitoring methodology ACM0002 (Version 16.0) applied by the project /10/;
- CDM project cycle procedure for project activities (version 02.0) /13/;
- CDM project standard for project activities (version 02.0) /12/;
- CDM validation and verification standard for project activities (version 02.0) /11/;
- Attachment: Instructions for completing Validation report form for post-registration changes for CDM project activities (Version 03.0) /14/; and
- Other information and references relevant to the project activity /15/.

C.2. On-site inspection

Duration of on-site inspection: NA				
No.	Activity performed on-site	Site location	Date	Team member
1.	NA	NA	NA	NA

Due to the COVID-19 pandemic from the beginning of 2020 until now, CTI cannot easily to arrange the on-site inspection especially going abroad as the travel restrictions from both Lao PDR and China. Take the current situation into account, CDM EB agrees to relax mandatory site visits by DOEs for a period of three months (23 March to 23 June 2020) because of COVID-19 in the 106th EB meeting report and further extend the period in which DOEs may apply alternative measures of validation/verification to mandatory on-site inspections until 30 June 2021 at its 108th meeting, CTI adopted an interview in form of teleconference instead of the on-site inspection.

In accordance with the requirement by EB, the reasons that the site visit cannot be postponed are justified as follow:

- As the requested by PP, the site visit cannot be postponed. The project registered as a CDM project activity on 31/12/2015 and put into operation on 01/09/2019. Considering the procedure and time schedule of the requests for PRC and the uncertainty of the COVID-19 pandemic, to avoid the risk on the delay of CERs issuance, PP commissioned CTI to complete the PRC validation before end of April 2021.
- The project is located in Lao PDR, while CTI is the DOE from China. As the result of the COVID-19 pandemic, the authority of Lao PDR has taken preventive measures for foreigners i.e. suspension of visa exemption policy and visa on arrival, a health certificate and insurance requested for visa application, self-isolate regulation and reduction of flights, etc. Thus, CTI cannot ensure site visit to be on scheduled.

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Sayasith	/	Nam Pha Gnai Hydropower Co., Ltd.	25/03/2021	1. Status of the project activity	Guolian Wang
2	Vilasone	/			2. Status of NN3 project	
3	Phonevilai	/			3. Baseline of the project	
4	Sonesavane	/	Long Tieng Village		4. Emission factor of the grid and Emission reductions	
5	Pheangnar	/	Thamkalong Village		5. Status of the project activity	
					6. Status of NN3 project	

C.4. Sampling approach

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NA

C.5. Clarification requests (CLs), corrective action requests (CARs) and forward action requests (FARs) raised

Areas of validation findings	No. of CL	No. of CAR	No. of FAR
Compliance with PDD form	0	0	0
Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents	0	0	0
Corrections	0	0	0
Changes to the start date of the crediting period	0	0	0
Inclusion of a monitoring plan	0	0	0
Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents	0	0	0
Changes to the project design	0	0	0

Changes specific to afforestation and reforestation project activities	0	0	0
Others (please specify)	0	0	0
Total	0	0	0

SECTION D. Validation findings

D.1. Compliance with PDD form

Means of validation	At the time of the PRC validation, the latest available version of CDM-PDD-FORM is Version 11.0. By checking the revised PDD (Version 2.3 dated 03/04/2021, both in tracked-change and clean versions) /3/, CTI confirmed that the latest version has been applied for the revised PDD and the input is according to the instructions therein for filling out the PDD form /14/. The version of PDD form for the revised PDD is later than the one of the registered PDD. By comparing the revised PDD with the registered PDD, CTI confirms that the information transferred to the revised PDD is materially the same as that in the registered PDD. The changes are only related the post-registration changes to the start date of crediting period (as described in the Section D.4 of this report).
Findings	NA
Conclusion	The Verification Team confirms that the revised PDD is compliance with the valid version of the CDM-PDD-FORM and the instructions therein for filling out the CDM-PDD-FORM, and the information transferred to the latest valid version applied for the revised PDD is materially the same as that in the registered PDD.

D.2. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents

Means of validation	NA
Findings	NA
Conclusion	NA

D.3. Corrections

Means of validation	NA
Findings	NA
Conclusion	NA

D.4. Changes to the start date of the crediting period

Means of validation	The project activity is a run-of-the-river hydropower station, at the downstream of the planned Nam Ngum 3 hydropower project (hereinafter referred to as "NN3 project"), which is located in Xaysomboun District, Vientiane Province, Lao PDR. The project activity is registered as CDM project activity on 31/12/2015. As per Statement from Entura Hydro Tasmania Pvt Ltd. (involved as detailed engineering consultants for the project activity) /7/, the project was originally scheduled to put into operation in January 2016. Due to the complicated geological conditions, the construction period was extend. And the project was finally put into commercial operation on 01/09/2019 /9/. Therefore, PP requested to change the start date of crediting period from 01/01/2016 to 01/09/2019 (between two and four years) after registration. As per para. 235 of "CDM project standard for project activities" (version 02.0), If the proposed change to the start date of the crediting period of a registered CDM project activity is between one and two years, or between two and four years for a registered CDM project activity hosted by a least developed country, the project participants shall: (a) Demonstrate that no changes have occurred to the project activity that would result in a less conservative baseline, or update the baseline using conservative data; (b) Demonstrate that substantive progress has been made by the project participants to start the project activity.
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	Based on the above requirements, the validation team assessed current status of the project activity, the changes to the start date of the crediting period, any updates to baseline information, and other relevant information.
Findings	■ Any changes have occurred to the project activity By checking the photos of nameplate of generators /6/, Installation, Operation and Maintenance Manual of generators /5/, Statement from Entura Hydro Tasmania Pvt Ltd. (involved as detailed engineering consultants for the project activity) /7/ and via teleconference with project owner, CTI confirmed that the parameters of generators in the revised PDD (Version 2.3 dated 03/04/2021) remained unchanged compared with that in the registered PDD. By checking the line diagram /8/ and Statement from Entura Hydro Tasmania Pvt Ltd. (involved as detailed engineering consultants for the project activity) /7/, CTI confirmed that the layout of the project activity, equipment installation is in line with FSR, relevant designs and the registered PDD. By checking registered PDD, CTI found that the project activity is located at downstream of the planned NN3 Project. At the registration stage of the project activity, NN3 project was estimated to be in operation four years later than the project activity. The water flow of the project activity will decrease significantly after operation of NN3 project. The emission reductions of the project before and after the operation of NN3 Project has been estimated in the registered PDD. As per Statement from Entura Hydro Tasmania Pvt Ltd. (involved as detailed engineering consultants for the project activity) /7/, NN3 project was originally scheduled to be put into production in 2020. Due to the impact of geological conditions and the Covid-19, it cannot be completed as planned. According to the current construction progress, it is expected that the operation date of the NN3 project is postponed to 2023, which is still about four years later than that of the project activity. As the operation start date of NN3 project is still uncertain, the emission reductions in the revised PDD are kept consistent with that in the registered PDD for simplification, assuming that the NN3 project will be put into operation on 01/09/2023. The validation team checked the sensitivity analysis part in the registered PDD and found that if the electricity generation are increased by 31.18%, the IRR of the project activity will reach the benchmark. Even if NN3 project will not start operation in the 1st crediting period of the project activity, the electricity generation of the project activity will increased 16.97%, much lower than 31.18%. Therefore, the commissioning of NN3 project in any month of 2023 will not affect the additionality of this project and it is reasonable the emission reduction estimated in the revised PDD (Version 2.3 dated 03/04/2021) is kept the same as that in the registered PDD. In conclusion, no changes have occurred to the project activity that would result in a less conservative baseline. ■ Conservative data for updating the baseline Full calculation process of emission factor of regional power grid (including Lao Power Grid and Thailand Power Grid, hereafter refer as "LPG&TPG") available at the time when PRC request was submitted, in line with the "Tool to calculate the emission factor for an electricity system", version 07.0, has been presented in an ER calculation spreadsheet. CTI confirms the EF (available at the time when PRC request) calculation as follows: -Simplified CM is applied since the project activity is located in a LDC country. Under the simplified CM, the operating margin emission factor ($EF_{grid,OM,y}$) must be calculated using the average OM (Option (d) in Step 3 of the tool). -The average OM emission factor is calculated as the average emission rate of all power plants serving the grid, using the methodological guidance as described under Step 4 (section 6.4.1) of the tool for the simple OM, but also including the low-cost/must-run power plants in all equations. -"Ex ante option" is chosen for the project. The emission factor is calculated using a 3-year (2017-2019) generation-weighted average, based on the most

recent data available at the time of submission of the CDM-PDD to the DOE for validation.

-For simple OM method, Option B "based on the total net electricity generation of all power plants serving the system and the fuel types and total fuel consumption of the project electricity system" is selected in the PDD and is justified as data for single power station and power unit are not publicly available in Lao PDR.

-Total net electricity generation of all power plants serving the system: The total electricity delivered to the LPG&TPG including low-cost/must-run power units and including electricity imports to the grid from Year 2017 to 2019 has been used, among of which, electricity delivered to Thailand Power Grid is obtained from the Annual Report 2018 to 2019 /17/ issued by Electricity Generating Authority of Thailand (EGAT), electricity delivered to Lao Power Grid is from Electricity Statistics Yearbook 2019 /18/ prepared by Statistics Planning Office of EDL and electricity imported from connected system is sourced from EDL Electricity Statistics Yearbook 2017 to 2019 /18/ and EGAT Annual Report 2018 to 2019/17/.

-The emissions from total fuel consumption: The emissions from total fuel consumption of the project electricity system LPG&TPG is calculated based on fuel types and the total fuel consumed in LPG and TPG. In Lao PDR, there is only one thermal power generation plant (Hongsa power plant), and the power generated is supplied to EDL (Lao grid) and EGAT (Thai grid) separately. Since the fuel consumption of the power station cannot be obtained, a conservative way (using power generation max efficiency of thermal power) is adopted to calculate the fuel consumption of the power station. The total capacity of Hongsa power plant is 1,878 MW which is a lignite-fired power plant (<http://www.hongsapower.com/index.php>). The load factor during the year of 2017-2019 is obtained from Sustainability Report 2019 /19/ issued by Banpu Power. The max value of plant efficiency for coal-PC sourced from Annex III of IPCC: "Technology-specific Cost and Performance Parameters" /21/ is adopted to calculate the total transformed calorific. For Thailand, the data of fuel consumption is sourced from Energy Balance of Thailand 2019 /20/ issued by Department of Alternative Energy Development and Efficiency of Thailand and the net calorific value of each type of fossil fuel are obtained from the IPCC 2006 default values /22/ for CO₂ emission factor of fossil fuels are deemed reasonable and conservative. Since the unit of fuel consumed has been converted to ktoe in Energy Balance of Thailand 2019, 41.868 GJ/toe is applied as per Unit converter and glossary established by International Energy Agency (<https://www.iea.org/reports/unit-converter-and-glossary>). CTI confirms that the calculation of emissions from total fuel consumption in ER spreadsheet is correct.

-Following the simplified CM approach applied to the proposed project, WBM=0 and $W_{OM}=1$ are correctly applied in the updated PDD. Thus, $EF_{grid,CM,y}=EF_{grid,OM,y}$.

The Validation Team has reviewed the ER spreadsheet and the official supporting documentation, finally confirms that the most recent three historical years of data source available at the time of submission of the updated CDM-PDD to the DOE for validation has been used and the calculation process is correct and conservative, which is in line with the "Tool to calculate the emission factor for an electricity system", version 07.0. The calculated grid emission factor $EF_{grid,OM,y}$ and $EF_{grid,CM,y}$ is 0.5639 tCO₂e/MWh.

However, by checking registered PDD, CTI found that the emission factor of LPG&TPG is 0.5595 tCO₂/MWh at the registration stage, which is more conservative compared with emission factor available at the time when PRC requested (0.5639 tCO₂e/MWh).

Also, by comparing Methodology ACM0002 version 16.0 and version 20.0, it was found that the content in relation with applicability, baseline scenario, additionality, the calculation of emission factor and emission reductions are the same.

Therefore, the project continues to use methodology ACM0002 version 16.0 and emission factor of LPG&TPG in the registered PDD (0.5595 tCO₂/MWh) is still adopted in the revised PDD (Version 2.3 dated 03/04/2021) on a conservative

	basis. ■ Substantive progress has been made to start the project activity By checking Certificate for Commercial Operation Date issued by Electricite Du Laos on 28/08/2019 and through teleconference with project owner, CTI confirmed that the project has started operation on 01/09/2019. Therefore, CTI deemed that a substantive progress has been made by PP to start the project activity.
Conclusion	The post-registration changes to the start date of the crediting period described in the revised PDD are in compliance with the methodology and UNFCCC requirements and will not lead to any changes to the project activity that would result in a less conservative baseline. The conservative data has been adopted to update the baseline. And the substantive progress (operation has been started) has been made by the project participants to start the project activity. ■ Stakeholder Feedback on Design Change By checking meeting minutes /23/, it is confirmed that a stakeholder meeting was held in 21/11/2020 to collect feedback from local stakeholders on changing the crediting period start date of the project activity. The stakeholder meeting was held in the form of online teleconference as per local requirements under COVID 19. 15 villagers from Long Tieng Village and 10 villagers from Thanmkalong Village attended the stakeholder meeting. During the meeting, the project owner introduced the status of the project activity and explained they reasons why the date when the project activity put into operation was delayed as planned. All stakeholder expressed their understanding about postpone of project commissioning date (changing the crediting period start date) and support the operation of the project activity. The same has been confirmed through online remote assessment by CTI.

D.5. Inclusion of a monitoring plan

Means of validation	NA
Findings	NA
Conclusion	NA

D.6. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents

Means of validation	NA
Findings	NA
Conclusion	NA

D.7. Changes to the project design

Means of validation	NA
Findings	NA
Conclusion	NA

D.8. Changes specific to afforestation and reforestation project activities

Means of validation	NA
Findings	NA
Conclusion	NA

SECTION E. Internal quality control

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This final validation report including the initial findings underwent a technical review before being submitted to project participants and requesting the approval for the changes according to CTI internal procedure. The technical reviewers were not part of the validation team, and the technical review was independently of the validation team.

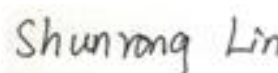
SECTION F. Validation opinion

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CTI has performed the validation of the post-registration changes according to the "CDM validation and verification standard for project activities" (version 02.0), "CDM project standard for project activities" (version 02.0), and "CDM project cycle procedure for project activities" (version 02.0). In the CTI's opinion, the post-registration changes to the start date of the crediting period described in the revised PDD (Version 2.3 dated 03/04/2021) are in compliance with the methodology and UNFCCC requirements and will not lead to any changes to the project activity that would result in a less conservative baseline. The conservative data has been adopted for the baseline. And the substantive progress (operation has been started) has been made by the project participants to start the project activity. Therefore, CTI recommends the approval of request for the changes as stated in the revised PDD submitted by the project participant. In line with "CDM project cycle procedure for project activities" (version 02.0), CTI submitted a request for approval by the Board of the change via prior-approval track.



Ms. Wang Guolian
Team Leader
12/10/2021



Ms. Lin Shunrong
Technical Reviewer
12/10/2021

Appendix 1. Abbreviations

Abbreviations	Full texts
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction(s)
CL	Clarification request
CTI	Shenzhen CTI International Certification Co., Ltd
DOE	Designated Operational Entity
EB	Executive Board
FAR	Forward Action Request
MR	Monitoring Report
PCP	CDM project cycle procedure
PDD	Project Design Document
PPA	Power Purchase Agreement
PS	Project Standard
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Clean Development Mechanism Validation and Verification Standard

Appendix 2. Competence of team members and technical reviewers

Ms. Guolian WANG

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 3: Energy demand	TA 3.1: Energy demand
SS 4: Manufacturing industries	TA 4.1: Cement and lime production
SS 5: Chemical industry	TA 5.1: Chemical industry
	TA 5.2: Caprolactam, nitric and adipic acid
SS 11: Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride	TA 11.1: Emissions of fluorinated gases
	TA 11.2: Refrigerant gas production
SS 12: Solvents use	TA 12.1: Chemical industry

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

Ms. Shunrong LIN

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
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 3. Documents reviewed or referenced

No	Author	Title	References to the document	Provider
1	Beijing Karbon Energy Consulting Co., Ltd.	Registered CDM-PDD of project activity	Version 2.1 dated 03/11/2015	Project participant
2	TÜV Rheinland (China) Ltd.	Validation report of project activity	Version 2.1 dated 25/11/2015	Project participant
3	Beijing Karbon Energy Consulting Co., Ltd.	Revised CDM-PDD of project activity	Version 2.2 dated 04/03/2021 Version 2.3 dated 03/04/2021	Project participant
4	Beijing Karbon Energy Consulting Co., Ltd.	Emission reduction calculation spreadsheet	/	Project participant
5	Voith Hydro Private Limited	Installation, Operation and Maintenance Manual	June 2016	Project participant
6	Nam Pha Gnai Hydropower Co., Ltd.	Nameplate of generators	/	Project participant
7	Entura Hydro Tasmania Pvt Ltd.	Statement for the project activity	08/03/2021	Project participant
8	Nam Pha Gnai Hydropower Co., Ltd.	Line Diagram	/	Project participant
9	Nam Pha Gnai Hydropower Co., Ltd.	Certificate for Commercial Operation Date	28/08/2019	Electricite Du Laos
10	EB	Consolidated baseline methodology for grid-connected electricity generation from renewable sources- ACM0002	Version 16.0	Others
11	EB	CDM validation and verification standard for project activities	Version 02.0	Others
12	EB	CDM project standard for project activities	Version 02.0	Others
13	EB	CDM project cycle procedure for project activities	Version 02.0	Others
14	EB	Attachment: Instructions for completing Validation report form for post-registration changes for CDM project activities	Version 03.0	Others
15	EB	Other relevant project information	/	https://cdm.unfccc.int/Projects/DB/TUEV-RHEIN1451527911.4/view
16	EB	Tool to calculate the emission factor for an electricity system	Version 07.0	Others
17	Electricity Generating Authority of Thailand (EGAT)	Annual Report	2018 - 2019	Others
18	Electricite du Laos (EDL)	Electricity Statistics Yearbook	2017-2019	Others
19	Banpu Power	Sustainability Report 2019	2019	Others
20	Department of	Energy Balance of Thailand 2019	-	Others

	Alternative Energy Development and Efficiency of Thailand			
21	IPCC	Annex III of IPCC: "Technology-specific Cost and Performance Parameters"	-	Others
22	IPCC	IPCC Guidelines for National Greenhouse Gas Inventories, Volume 2 Energy.	2006	Others
23	Nam Pha Gnai Hydropower Co., Ltd.	Stakeholder meeting minutes	21/11/2020	Project participant

Appendix 4. Clarification requests, corrective action requests and forward action requests

Table 1. CLs from this validation

CL ID	NA	Section no.	NA	Date: NA
Description of CL				
NA				
Project participant response				Date: NA
NA				
Documentation provided by project participant				
NA				
DOE assessment				Date: NA
NA				

Table 2. CARs from this validation

CAR ID	NA	Section no.	NA	Date: NA
Description of CAR				
NA				
Project participant response				Date: NA
NA				
Documentation provided by project participant				
NA				
DOE assessment				Date: NA
NA				

Table 3. FARs from this validation

FAR ID	NA	Section no.	NA	Date: NA
Description of FAR				
NA				
Project participant response				Date: NA
NA				
Documentation provided by project participant				
NA				
DOE assessment				Date: NA
NA				

Document information

Version	Date	Description
03.0	31 May 2019	Revision to: - Ensure consistency with version 02.0 of the "CDM validation and verification standard for project activities" (CDM-EB93-A05-STAN); - Make editorial improvements.
02.0	31 October 2017	Revision to align with the requirements in the "CDM validation and verification standard for project activities" (version 01.0).
01.0	23 March 2015	Initial publication.

<i>Version</i>	<i>Date</i>	<i>Description</i>
Decision Class: Regulatory		
Document Type: Form		
Business Function: Registration		
Keywords: post-registration change, project activities, validation report		