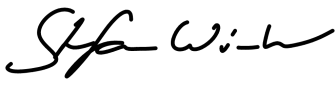




**Validation report form for renewal of crediting period for
CDM project activities
(Version 03.0)**

Complete this form in accordance with the instructions attached at the end of this form.

BASIC INFORMATION

Title and UNFCCC reference number of the project activity	Nam Chien 2 Hydropower Project UNFCCC ID: 3442 TN P-No. : MY-RCP 20/098 – 20/032
Number and duration of the next crediting period	CP-No.: 2 nd 11/10/2017 – 10/10/2024 (incl. both days)
Version number of the validation report	1.0
Completion date of the validation report	26/06/2020
Version number of PDD to which this report applies	4.2
Project participants	1. North-western Power Investment and Development Joint Stock Company 2. Energy and Environment Consultancy Joint Stock Company 3. Swiss Carbon Assets Ltd
Host Party	Viet Nam
Applied methodologies and standardized baselines	ACM0002, version 20.0: "Grid-connected electricity generation from renewable sources" Standardized baseline: Not applicable
Mandatory sectoral scopes	Scope: 1 / Technical Area: 1.2
Conditional sectoral scopes, if applicable	N/A
Estimated amount of annual average GHG emission reductions or GHG removals by sinks in the next crediting period	121,244 tCO ₂ e
Name and UNFCCC reference number of the DOE	TÜV NORD CERT GmbH UNFCCC Ref. No.: E-0022
Name, position and signature of the approver of the validation report	Stefan Winter  Final Approver

SECTION A. Executive summary

Swiss Carbon Assets Ltd has commissioned the TÜV NORD JI/CDM Certification Program to carry out validation of the request for renewal of crediting period (RCP) for the project:

“Nam Chien 2 Hydropower Project”

with regard to the relevant requirements for CDM project activities.

The project was registered on 10/10/2010 under the UNFCCC registration No. 3442. The PPs chose a 7 years crediting period, which is now due for renewal.

The objective of this RCP validation is the review by an independent entity whether the project is still compliant with the applicable sections of:

- the CDM project standard,
- the CDM cycle procedure
- the updated applied UNFCCC Large-scale Consolidated Methodology: ACM0002 ver. 20.0: Grid-connected electricity generation from renewable sources: and
- the methodological tool “Assessment of the validity of the original / current baseline and update of the baseline at the renewal of the crediting period”.

As per the requirements of the CDM Validation and Verification Standard¹ (section 10) the validation is based on

- the registered and/or latest updated version of the PDD (including revisions of the monitoring plan),
- the updated emission reduction calculation spread sheet,
- further supporting documents made available to the validator as well as
- information collected through performing interviews and during the on-site assessment.

Furthermore, publicly available information, such as the host country legislation, was considered as far as available and required.

The project reduces GHG emissions due to using hydropower to generate power for export to the national grid of Vietnam.

Details of the project location are given in table A-1 below:

Table A-1: Project Location

No.	Project Location	
Host Country	Vietnam	
Region:	Son La province	
Project location address:	Chieng Muon and Chieng San communes, Muong La district	
Latitude:	Power House: 21° 28' 42" N	Dam: 21° 30' 00"N
Longitude:	Power House: 104° 04' 51" E	Dam: 104° 05' 26"E

Basic technical details of the project are summarized in table A-2.

Table – A-2: Technical data of the project activity

Parameter	Unit	Value
Turbine		
Manufacturer		Floval Mecamidi Energy Pte. Ltd, India
Number of units	Qty	02
Type		Hydraulic

Parameter	Unit	Value
Turbine Type		Francis with vertical shaft
Capacity	MW	16.49 each
Efficiency	%	91.37%
Generator		
Manufacturer		Sichuan Dongfeng Electric Machinery Co. Ltd., China
Number of units	Qty	02
Type		Synchronous, 3 phases, vertical axis
Generator Type		SF16-16/3260
Rated Voltage	kV	11
Rated Capacity	MW	16 each
Rated power factor		0.8
Transformer		
Manufacturer		Hangzhou Qiantang River Electric Co. Ltd., China
Number of units	Qty	02
Rated Voltage	MVA	20 each
Primary Voltage	kV	11
Secondary Voltage	kV	115

SECTION B. Validation team, technical reviewer and approver

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	Interview(s)	Validation findings
1.	Team Leader / Validator / Technical Expert	EI	Cheong	Chun Yuen (Robert)	TÜV NORD Malaysia	x	x	x	x

B.2. Technical reviewer and approver of the validation report for RCP

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	EI	Lubanga	David	-
2.	Approver	IR	Winter	Stefan	TÜV NORD CERT GmbH

SECTION C. Means of validation

C.1. Desk/document review

During the desk review all documents initially provided by the client and publicly available documents relevant for the validation were reviewed. The main documents are listed below:

- the last revision of the PDD including the monitoring plan^{/PDD1//PDD2/},
- the last revision of the validation report^{/VAL/},
- documentation of previous verifications^{/VER/}

- the emission reduction calculation spreadsheet^{ER/}.

Other supporting documents, such as publicly available information on the UNFCCC website and background information were also reviewed.

C.2. On-site inspection

Duration of remote audit: 13/05/2020 to 14/05/2020				
No.	Activity performed on-site	Site location	Date	Team member
1.	Review of registered / updated PDDs, methodology applicability, previous monitoring reports, ER spreadsheet, Financial Analysis, baseline, emission factor, equipment specification, site photos, GPS coordinates, project location (google map),	Puchong, Malaysia	13/05/2020	Cheong, Chun Yuen (Robert)
2	Interview project owner, project participant / project consultant; Review of PDD, project implementation, equipment specification, project location, GEF, methodology, ERs.	Puchong, Malaysia	14/05/2020	

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Nguyen	Tien Hai	Energy and Environment Consultancy Joint Stock Company, Vietnam / Team Leader /IM01/	14/05/2020	Review of PDD, project implementation, methodology equipment specification, project location, GEF, ER calculations, GPS, project photos	Cheong, Chun Yuen (Robert)
2	Nguyen	Quoc Anh	Energy and Environment Consultancy Joint Stock Company, Vietnam / Project Manager /IM01/			

According to VVS §30, It is mandatory for the DOE to conduct an on-site inspection at validation for the proposed CDM project activity if

- Its estimated annual average of greenhouse gas (GHG) emission reductions or net anthropogenic GHG removals is more than 100,000 t CO_{2eq}; or
- There is pre-project information that is relevant to the requirements for registration of the project activity and may not be traceable after the registration;

VVS §31: For cases that are not referred to in paragraph 30 above, it is optional for the DOE to conduct an on-site inspection at validation. If the DOE does not conduct an on-site inspection as a means of validation, it shall describe the alternative means used and justify that they are sufficient for the purpose of validation

Due to the recent COVID-19 pandemic, Viet Nam as well as Malaysia has imposed travel restrictions. The team leader who is based in Malaysia was not able to participate on-site inspection activity in Viet Nam. According to the Contract with project participant, it was not possible to postpone the site visit in order to meet the renewal process.

On the basis of the information note issued by the CDM EB on 20/03/2020 titled "CDM Executive Board agrees to relax mandatory site visits by DOEs for a period of three months (23 March to 23 June 2020) due to COVID-19 pandemic"^{COVID/}, and on the basis of the following considerations

- no significant changes occurred at the site since validation. There have been 2 issuances of CERs since the project registration.
- other experienced personnel from outside Viet Nam was not available, due to travel restrictions from Malaysia and to Viet Nam

VVS §31: Where no specific means of validation is specified, the DOE shall apply the standard auditing techniques described in paragraph 29 above.

VVS §29: In assessing the information, the DOE shall apply the means of validation specified throughout this standard and, where appropriate, standard auditing techniques, including, but not limited to:

a. Document review, involving:

- (i) A review of data and information;
- (ii) Cross checks between the information provided in the PDD and information from sources other than those used; if available, the DOE's sectoral or local expertise; and, if necessary, independent background investigations

In this aspect, the following alternative approach has been realized:

- The team leader conducted a remote audit via skype interview with project participant, review documents and project photos provided, google search of the project as well review previous monitoring and verification reports.
- Google search on the project locations.

C.4. Sampling approach

Sampling during validation

<input checked="" type="checkbox"/>	No sampling approach has been used by the PP to determine the monitored parameters				
<input type="checkbox"/>	A sampling approach has been taken for the following monitored parameter(s):				
	Parameter	Sampling approach ¹⁾	Sampling Type ²⁾	Population	Sample Size

¹⁾ Sampling Approaches:

SiRS: Simple Random Sampling
 StRS: Stratified Random Sampling
 SS: Systematic Sampling
 CS: Cluster Sampling
 MSS: Multi-stage Sampling

²⁾ Sampling Types:

PS: Parameter Sampling

C.4.2 Sampling approaches during validation

<input checked="" type="checkbox"/>	No sampling approach has been used by the VT to verify the monitored parameters				
<input type="checkbox"/>	A sampling approach has been applied by the VT for the following monitored parameter(s):				
	Parameter	Sampling approach ¹⁾	Sampling Type ²⁾	Population	Sample Size

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1) Sampling Approaches:

SiRS: Simple Random Sampling
 StRS: Stratified Random Sampling
 SS: Systematic Sampling
 CS: Cluster Sampling
 MSS: Multi-stage Sampling

2) Sampling Types:

AS: Acceptance Sampling
 PS: Parameter Sampling
 COM: Full data check at higher data aggregation levels and sampling at original data levels

During the remote validation, no sampling approach has been used by the validation team since there is one site. The monitored parameters as listed in section B.7.1 of the revised PDD are verified against the applied methodology and initial registered PDD for correctness.

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

Area of validation findings	No. of CL	No. of CAR	No. of FAR
Compliance with PDD form (D.1)	0	2	0
Application and selection of methodologies and standardized baselines (D.2)	0	1	0
Validity of original baseline or its update (D.3)	1	3	0
Estimated emission reductions or net anthropogenic removals (D.4)	0	2	0
Validity of monitoring plan (D.5)	4	0	0
Crediting period (D.6)	0	0	0
Project participants (D.7)	0	2	0
Post-registration changes (D.8)	0	0	0
Others (please specify) (D.9)	0	0	0
Total	5	10	0

SECTION D. Validation findings

D.1. Compliance with PDD form

Means of validation	<p>A draft revised PDD was submitted to the validation team by the project participants.</p> <p>By means of the UNFCCC website it has been checked whether the latest applicable PDD template CDM-PDD-FORM has been used.</p> <p>Further, it has been checked whether the latest instructions for filling out the PDD template have been followed. Every section has been checked against the respective guidance.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /PDD1/PDD2/ • /PDDT/ • /unfccc/ 		
Findings	<input checked="" type="checkbox"/>	The latest reporting template CDM-PDD-FORM as listed on the UNFCCC website has been used for the PDD.	
	<input type="checkbox"/>	The latest instructions for filling out the PDD have been followed. No adverse finding has been identified in the course of this validation.	
	<input checked="" type="checkbox"/>	<p>The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:</p> <p>CAR D.1-1 ; CAR D.1-2</p>	

Conclusion	<input type="checkbox"/>	No CARs / CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/>	The raised CARs / CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	<p>In line with the requirements of the project standard only the sections of the registered PDD relating to the applicability of methodology, baseline, estimated GHG emission reductions and the monitoring plan have been updated. All other sections have basically only been migrated to this version.</p> <p>It has further been checked whether the information included in the PDD sections and appendixes that have not been part of the registered PDD are correct and in compliance with the project standard.</p> <p>The project participants used a later version of the PDD form for the updated PDD than the version of the PDD form of the registered PDD. The validation team can confirm after relevant corrections, the information transferred to the later version of the PDD form is materially the same as that in the registered PDD.</p>	

D.2. Application and selection of methodologies and standardized baselines

Means of validation	By means of comparison of the PDD with (i) the applied CDM methodology (ii) all applicable CDM Meth tools and (iii) if applicable, a standardized baseline The validation team has checked whether the updated PDD is in compliance with the requirements of the applied methodology / tools. The following sources of information have been used in this context: <ul style="list-style-type: none"> • /PDD1/PDD2/ • /TL/ • /ACM2/ • /unfccc/ 			
Findings	<input checked="" type="checkbox"/>	The updated PDD is completely in accordance with the approved methodology applicable for the CDM project		
	<input checked="" type="checkbox"/>	The breakdown of PDD accordance of the referenced tools is as follows:		
		1	Title (of the tool)	Tool to calculate the emission factor for an electricity system
			Version	07.0
			MP compliance	<input checked="" type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input type="checkbox"/> N/A (for MP)
		2	Title (of the tool)	Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period
			Version	03.0.1
	MP compliance		<input checked="" type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input type="checkbox"/> N/A	
	<input type="checkbox"/>	The breakdown of PDD accordance of the applicable SB is as follows:		
		1	Title (of the SB)	NA
Version				
MP compliance				
<input checked="" type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised:			

		CAR D.2-1
Conclusion	<input type="checkbox"/>	No CARs / CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/>	The raised CARs / CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
		<p>By means of checking the UNFCCC website it is confirmed that the selection of the applied methodology and methodological tools has been done correctly in line with the applicable requirements for the RCP.</p> <p>All applicability conditions of the updated methodology are still met. Thus, the methodology is deemed fully applicable for the new crediting period and no request for deviation with regards to the applicability of the methodology is required.</p> <p>After corrections of the applied related methodology, it be concluded the compliance are met.</p> <p>No standardised baseline established by the host country.</p>

D.3. Validity of original baseline or its update

Means of validation	<p>In order to check the validity of the original baseline or its updates the validation team has applied the following stepwise approach:</p> <p><i>Step 1:</i> Check of Applicability of a Standardized Baseline</p> <p><i>Step 2:</i> Check of Baseline Scenario</p> <p><i>Step 3:</i> Compliance check of the baseline with relevant policies</p> <p><i>Step 4:</i> Assessment of impact of circumstances</p> <p><i>Step 5:</i> Assessment of likeliness of investments</p> <p><i>Step 6:</i> Validity check of ex-ante determined parameters.</p> <p>All necessary documentation has been either provided by the client or the validation team has acquired appropriate information required for assessment independently. For a detailed list of reviewed documentation please refer to appendix 3.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /PDD1/PDD2/ • /FA/ • /ACM2/ • /EI1 – EI3/ • /ER/ • /TL/ • /GEF/ • /IM01/ • /unfccc/
Findings	<p><u><i>Step 1: Applicability of a Standardized Baseline:</i></u></p> <p>No standardized baseline is applicable to the project activity. This has been checked by an analysis of the current list of valid standardized baselines on the UNFCCC website.</p> <p>The validity of the current baseline is assessed using the following Sub-steps:</p> <p><u><i>Step 1.1: Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies</i></u></p> <p>The baseline scenario has not been changed during the second crediting period and is in compliance with all the relevant mandatory national and / or sectoral policies. The validation team has sought confirmation with Vietnam DNA, Ministry of Natural Resources and Environment, Department of Climate Change for UNFCCC and Kyoto Protocol, as well as all environmental regulation and laws, there are no policy changes for power generation using hydropower. It can be evidenced that the company is still following relevant mandatory national and / or sectoral policies and that they have not</p>

been changed from the time the PA was registered.

Step 1.2: Assess the impact of circumstances

The circumstances existing at the time of requesting renewal of crediting period are the same as existing in the validation of the PA. The estimated baseline emissions using hydropower to supply renewable electricity to the Vietnam national grid that is currently dominated by fossil fuel power plants as per applied methodology ACM0002 Version 20.0 (the registered PA used ACM0002 version 12.0).

According to observations from documents review, the baseline scenario identified at the validation of the PA was the continuation of the current practice without any investment.

It could be observed that the emission factor of the Vietnam national grid applied for the 1st crediting period was 0.5104 tCO₂/MWh and updated to 0.9297 tCO₂/MWh for the renewed crediting period. It can be confirmed that most of the electricity is still generated by fossil fuel power plants during the last years.

At the time of requesting renewal of the crediting period, the conditions used to determine the baseline scenario in the previous crediting period are still valid.

New circumstances have not been observed which will harm the validity of the baseline scenario.

Step 1.3: Assess whether the continuation of use of current baseline equipment(s) or an investment is the most likely scenario for the crediting period for which renewal is requested

The most likely scenario is the continuation of current baseline equipment. According to the registered PDD, the expected operational lifetime of the project is 40 years. The PA has performed regular maintenance thus lifetime of equipment is still valid. No major investment will be necessary during the 2nd crediting period. The PA was in commercial operation as from 17/10/2009 and the complete equipment is still within their lifetime.

Step 1.4: Assessment of the validity of the data and parameters

The grid emission factor determined at the beginning of the previous crediting period is no longer applicable. With the renewing of the crediting period, the grid emission factor has to be updated by applying the most recent data released by Vietnam DNA, Ministry of Natural Resources and Environment, Department of Climate Change for UNFCCC and Kyoto Protocol. The emission factor calculated was based on values from the most recent 3 years of 2016 to 2018. The version of the "Tool to calculate the emission factor for an electricity system" applied by was version 07.0 which is deemed appropriate. The calculated combine margin emission factor is 0.9297 tCO₂e/MWh applicable for all other projects (excluding solar and wind power generation project). The assessment team has reviewed the document and could to confirm the emission factor is valid. Therefore, it can be concluded that the emission factor applied is correct.

In accordance to paragraph 86 (b) of "Tool to calculate the emission factor for an electricity system", for the second and third crediting period, all other projects (excluding solar and wind power generation project) should use the default values of $w_{OM} = 0.25$ and $w_{BM} = 0.75$. Therefore, it can be concluded that the emission factor applied is 0.9297 tCO₂e/MWh for the 2nd crediting period.

Step 2: Baseline Scenario:

The baseline scenario of the project as per the registered project can be described as follows:

Step 2.1: Update the current baseline

The original baseline was determined according to the UNFCCC approved methodology ACM0002 version 12.0

The project activity involves the installation of a new hydropower plant that connects to and delivers electricity to the Vietnam national electricity grid.

The applied methodology was reviewed by the validation team. The baseline scenario was identified correctly and in line with the methodology. The baseline scenario remains the same as the first crediting period.

Step 2.2: Update the data and parameters

Default parameters in the new version of the applied methodologies were updated

accordingly. Furthermore, all formulae used to calculate the Baseline Emissions, Project Emissions, Leakage and Emission Reductions was updated according to the latest version of the methodology.

The project using hydropower to supply renewable electricity to the Vietnam national grid and reduce the usage of fossil fuel to generate electricity in the grid.

As per the project standard this scenario is not subject to re-assessment and is thus deemed to be applicable for the next crediting period.

However, the baseline itself i.e. the calculation of baseline emissions has been checked regarding the continued validity of underlying assumptions and parameter values. The assessment steps are described in the following subsections.

Step 3: Compliance of the baseline with relevant policies:

The baseline of the registered PDD has been assessed to be compliant with the national legislation and policies applicable for the project activity at the time of validation. During the first crediting period the PP has frequently reviewed the legal requirements and policies relevant for the baseline of the project. On the basis of this the PP has arrived at the conclusion that the baseline is still in line with all applicable legislations and policies.

On the basis of this analysis the validation team confirms that the baseline is still in compliance with the currently applicable national legislation and other national and/or sectoral policies. Therefore, the baseline did not need to be adjusted due to changes in this respect.

Step 4: Impact of circumstances:

As the baseline scenario might be affected by changed circumstances, e.g. market conditions, market prices etc. the PP has checked the baseline against such changes that have occurred since validation. This is of special importance if the baseline scenario is the continuation of the pre-project scenario.

In the current case no such changes have been identified by the project participants as thus changed market conditions are not likely to impact the PA.

The validation team has independently checked whether there are changes in circumstances which have an impact on the baseline. No such changes have been identified and thus it is deemed appropriate not to revise the baseline due to changes in circumstances.

Thus, the baseline has not changed as from the time the project is registered.

Step 5: Likelihood of investments

If the baseline scenario has been identified as the continuation of the pre-project scenario it is necessary to assess whether an investment and/or exchange of the baseline equipment (e.g. due to expiry of the equipment's lifetime) during the upcoming crediting period is to be deemed the most likely scenario. If so, the baseline needs to be updated.

There is no baseline equipment, which is to be exchanged. Furthermore, no other reasons for a possible investment – other than possible legal requirements – have been identified.

Thus the validation team confirms the conclusion that no changes to the baseline are required due to the likelihood of investments in equipment which impacts the baseline have not changed since implementation. The capacity of the generation system remains the same and could be confirmed by means of documents review and interview of project manager.

Step 6: Validity of ex-ante determined parameters:

The parameters which have been determined ex-ante in the registered PDD are no longer valid. The following were according to the revised methodology ACM0002 version 20.0.

Parameter	Description	Applied value	Means of validation
Cap _{BL}	Installed capacity of hydropower plant before the implementation of the project activity.	0 MW	According to the registered PDD version 2.2
A _{BL}	Area of the single or	0 m ²	According to the

		multiple reservoirs measured in the surface of the water, before the implementation of the project activity, when the reservoir is full. For new reservoirs, this value is zero		registered PDD version 2.2
	EF _{grid,OM,y}	Operating margin CO ₂ emission factor for grid connected power generation in year y calculated using the "Tool to calculate the emission factor for an electricity system, version 07.0"	0.8795 tCO ₂ /MWh	The value is calculated in accordance to the tool to calculate the emission factor for an electricity system version 07.0 by Vietnam DNA. The combined grid emission factor is calculated using OM and BM EF data obtained Vietnam DNA.
	EF _{grid,BM,y}	Building margin CO ₂ emission factor for grid connected power generation in year y calculated using the latest version "Tool to calculate the emission factor for an electricity system, version 07.0"	0.9465 tCO ₂ /MWh	
	EF _{grid,CM,y}	Combined margin Emission Factor of Vietnamese national electricity grid	0.9297 tCO ₂ /MWh	
Conclusion	<input checked="" type="checkbox"/>	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context: CL D.3-1 ; CAR D.3-2 ; CAR D.3-3 ; CAR D.3-4		
	<input type="checkbox"/>	No CARs / CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.		
	<input checked="" type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.		
The correction and changes made are appropriate in the updated PDD				

D.4. Estimated emission reductions or net anthropogenic removals

Means of validation	<p>For validation of the estimated GHG emission reductions the client has provided the validation team with the following documentation:</p> <ul style="list-style-type: none"> - Updated PDD - ER spreadsheet <p>Further, the validation team has downloaded from the UNFCCC website the applicable version of the CDM methodology and all referenced methodological tools</p> <p>The ER calculation has been duly checked. Further, it has been checked whether the results have been correctly transferred to the updated PDD for determination of ex-ante ER. The validation team has further checked the updated PDD against the latest version of the applicable methodology incl. the referenced methodological tools for consistency. Special focus was laid on the changes against the previous crediting period.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /PDD1/PDD2/ • /ER/ • /ACM2/ • /GEF/
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	<ul style="list-style-type: none"> • /VER/ • /unfccc/
Findings	<input type="checkbox"/> The calculation of ERs is done as per the applied methodology (ACM0002 ver.20.0: "Grid-connected electricity generation from renewable sources". The calculation in the Excel spreadsheet and the corresponding calculation tables in the PDD have been checked and no mistakes have been identified. The estimation of emission reductions for the 2 nd crediting period is deemed plausible and conservative.
	<input checked="" type="checkbox"/> The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context: CAR D.4-1 ; CAR D.4-2 ;
Conclusion	<input type="checkbox"/> No CARs / CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/> The raised CARs / CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	The calculation in the ER spreadsheet and the corresponding calculation tables in the updated PDD have been checked. After appropriate corrections, the estimation of emission reductions for the 2 nd crediting period is deemed plausible and conservative.

D.5. Validity of monitoring plan

Means of validation	<p>The validation team has checked the monitoring plan of the updated PDD against the required changes due to the update of the baseline and other methodological changes. Further, changes due to editorial updates of the applicable templates have been checked.</p> <p>In detail all parameters, ex-ante values and applicable formulae have been checked to determine the required changes for the next crediting period.</p> <p>Besides, based on documents review and interviews with related personnel the validation team has assessed the feasibility of the required changes.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none">• /PDD1/PDD2/• /LP5/• /EI1/• /ACM2/• /IM01/IM02/• /VER/• /unfccc/												
Findings	<div><div><input checked="" type="checkbox"/></div><div><p>The monitoring plan in the PDD has been updated to comply with the latest applicable version of the monitoring methodology (ACM0002 ver.20.0). The basic changes from the current crediting period can be summarized as follows:</p><p>The data / parameter representation remains unchanged to be in accordance with ACM0002 version 20.0;</p><p>The value listed in the parameter remains the same as the registered PDD is derived from the FSR.</p><table><tr><th>Parameter</th><th>Description</th><th>Applied value</th><th>Means of validation</th></tr><tr><td>EG_{y,export}</td><td>Electricity supplied by the proposed hydropower plant to the national grid</td><td>130,413 MWh</td><td>The amount of electricity generated derived from the registered PDD and FSR.</td></tr><tr><td>EG_{y, import, 110kV}</td><td>Electricity supplied by the 110kV grid to the</td><td>0 MWh</td><td>The amount of electricity derived</td></tr></table></div></div>	Parameter	Description	Applied value	Means of validation	EG _{y,export}	Electricity supplied by the proposed hydropower plant to the national grid	130,413 MWh	The amount of electricity generated derived from the registered PDD and FSR.	EG _{y, import, 110kV}	Electricity supplied by the 110kV grid to the	0 MWh	The amount of electricity derived
Parameter	Description	Applied value	Means of validation										
EG _{y,export}	Electricity supplied by the proposed hydropower plant to the national grid	130,413 MWh	The amount of electricity generated derived from the registered PDD and FSR.										
EG _{y, import, 110kV}	Electricity supplied by the 110kV grid to the	0 MWh	The amount of electricity derived										

			proposed hydropower plant		from the registered PDD
		EG _{y, import, 35kV}	Electricity supplied by the 35kV grid to the proposed hydropower plant	0 MWh	The amount of electricity derived from the registered PDD
		EG _{facility,y}	Net electricity supplied by the proposed hydropower plant to the national grid	130,413 MWh	The amount of electricity generated derived from the registered PDD.
		A _{PJ}	Area of the single or multiple reservoirs measured in the surface of the water, after the implementation of the project activity, when the reservoir is full	267,000 m ²	The data derived from the registered PDD and FSR
		Cap _{PJ}	Installed capacity of the hydro power plant after the implementation of the project activity.	32,000,000 W	The data derived from the registered PDD and manufacturer specification
		<p>The validation team has duly assessed all the required changes due to the upgraded methodological requirements and the re-assessment of the baseline. The validation team has concluded that</p> <ul style="list-style-type: none"> - all necessary changes have been appropriately reflected in the updated PDD, - the monitoring plan in the updated PDD is in compliance with the applied monitoring methodology, - the monitoring arrangements described in the updated PDD can be implemented and are feasible within the project design. 			
	<input checked="" type="checkbox"/>	<p>The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:</p> <p>CL D.5-1; CL D.5-2; CL D.5-3; CL D.5-4</p>			
Conclusion	<input type="checkbox"/>	<p>No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.</p>			
	<input checked="" type="checkbox"/>	<p>The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.</p>			
		<p>The procedure for calibration, accuracy and maintenance of monitoring equipment and the responsibilities are clearly mentioned in section B.7.1 of the revised PDD.</p> <p>The PP had a team to maintain and operate the project activity and monitor the parameters required by the methodology. A brief description of responsibilities of the members of the team is included in the updated PDD.</p> <p>The meters will be installed in accordance with the national standard and the calibration of the meters will be conducted by qualified organization in compliance with the national standard.</p> <p>Data monitored for CDM purposes will be aggregated, summarized, calculated and recorded until two years after the end of the crediting period. Therefore, the monitoring plan can be implemented and all monitoring arrangements are feasible within the project design.</p> <p>After appropriate corrections, the monitoring of the parameters data, measurement, QA/QC procedures are considered appropriate and in compliance to the applied methodology.</p> <p>Based on TÜV NORD's local and sectoral knowledge, the measurement methods, recording procedures, meter maintenance and trouble-shooting procedures described in the monitoring plan can fully meet the requirements of the CDM</p>			

methodology;

D.6. Crediting period

Means of validation	<p>The validation team has checked the revised PDD against VVS version 2.0 Section 10, sub-section 10.1, § 400, 403, 404, 406, 407 and 410 for compliance.</p> <p>The PA was registered on 11/10/2010 and the related previous first crediting period is from 11/10/2010 to 10/10/2017, both dates inclusive.</p> <p>The 2nd crediting period starts on 11/10/2017 until 10/10/2024 both dates inclusive.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /PDD2/ • /MR/ • /VVS/ • /unfccc/ 	
Findings	<input checked="" type="checkbox"/>	<p>As the respective requirements are met, the project's 2nd crediting period may start immediately after the expiration of the 1st one, given that all other applicable criteria are met.</p> <p>It is further confirmed that the start date 05/09/2016 and the length of the crediting period (7 years) are in compliance with the project standard.</p>
	<input type="checkbox"/>	<p>The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:</p>
Conclusion	<input checked="" type="checkbox"/>	No CARs / CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input type="checkbox"/>	<p>The raised CARs / CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.</p> <p>It could be concluded, the UNFCCC has confirmed the receipt, the formal notification requirements for a directly adjacent 2nd crediting period are considered to be met for this project activity</p>

D.7. Project participants

Means of validation	<p>The validation team has checked the revised PDD and UNFCCC website esp. the latest version of the Modalities of Communication and host country approval to check whether the listed project participants have duly been authorized and if communication requirements are met.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /PDD1/PDD2/ • /MoC/ • /O8/ • /unfccc/ 	
Findings	<input type="checkbox"/>	The names of the project participants as listed in the revised PDD (sections A.4. and appendix 1) are consistent with those listed on the dedicated UNFCCC project website as well as in the last version of the modalities of communication.
	<input checked="" type="checkbox"/>	<p>The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:</p> <p>CAR D.7-1; CAR D.7-2</p>
Conclusion	<input type="checkbox"/>	No CARs / CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.

	<input checked="" type="checkbox"/>	The raised CARs / CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
		It could be concluded after correction, the names of the participants are consistent with the names stated at the project page in UNFCCC, MoC annex 2, Host Country Approvals.

D.8. Post-registration changes

Type of post-registration changes (PRCs)	Confirmation (Y/N)	Validation report for PRCs	
		Version	Completion date
Temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline	N/A	-	-
Corrections	N/A	-	-
Inclusion of a monitoring plan to a registered project activity	N/A	-	-
Permanent changes from registered monitoring plan, monitoring methodology or standardized baseline	N/A	-	-
Changes to the project design of a registered project activity	N/A	-	-
Types of changes specific to afforestation and reforestation project activities	N/A	-	-

SECTION E. Internal quality control

Before the submission of the final VAL RCP report a technical review of the whole validation procedure was carried out. The technical reviewers are competent GHG auditors being appointed for the scope this project falls under. The technical reviewers are not considered to be part of the validation team and thus not involved in the decision-making process up to the technical review.

As a result of the technical review process the validation opinion and the topic specific assessments as prepared by the validation team leader may have been confirmed or revised. Furthermore, reporting improvements might have been achieved.

After the successful technical review an overall (esp. procedural) assessment of the complete validation has been carried out by a senior assessor located in the accredited premises of TÜV NORD.

After this step the submission for requesting the renewal of crediting period is conducted.

SECTION F. Validation opinion

Swiss Carbon Assets Ltd has commissioned the TÜV NORD JI/CDM Certification Program to re-validate the project **“Nam Chien 2 Hydropower Project”** for the purpose of renewal of the crediting period. The validation is based on the relevant UNFCCC requirements.

The review of the updated project design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews have provided TÜV NORD JI/CDM Certification Program with sufficient evidence to validate the fulfilment of the stated criteria applicable for RCP.

In detail the conclusions can be summarized as follows:

The current baseline of the project is in line with the national and/or sectoral policies and circumstances at the time of requesting renewal of crediting period.

The monitoring plan is transparent and adequate and in line with the applicable monitoring methodology (ACM0002 ver. 20.0).

The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated annual emission reductions of **121,244 tCO₂e** are most likely to be achieved within the second renewable crediting period of 7 years.

The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the renewal of the crediting period.

Puchong, 26/06/2020




Cheong, Chun Yuen (Robert)
TÜV NORD JI/CDM Certification Program
Validation Team Leader

Appendix 1. Abbreviations

Abbreviations	Full texts
BAU	Business as usual
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification Request
CO₂	Carbon dioxide
CO₂e	Carbon dioxide equivalent
CP	Certification Program // Crediting Period
DNA	Designated National Authority
DONRE	Department of Natural Resources and Environment
DPI	Department of Planning and Investment
EB	CDM Executive Board
ER	Emission Reductions
ETS	Emission Trading Scheme
FAR	Forward Action Request
GHG	Greenhouse gas(es)
IPCC	Intergovernmental Panel on Climate Change
LOA	Letter of Approval
MONRE	Ministry of Natural Resources and Environment
MOC	Modalities of Communication
MOIT	Ministry of Industry and Trade
PCP	CDM Project Cycle Procedure
PDD	Project Design Document
PP	Project Participant
PS	CDM Project Standard
QC/QA	Quality control/Quality assurance
RCP	Renewal of Crediting Period
UNFCCC	United Nations Framework Convention on Climate Change
VVS	CDM Validation and Verification Standard

Appendix 2. Competence of team members and technical reviewers



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

Mr. Robert Cheong


SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification)	2021-04-01
VCS	Senior Assessor	2021-04-01

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
3.1	Energy demand
13.1	Solid waste and wastewater
13.2	Manure

128 - Rev. 9, Date: 2015-03-19

128_001-VANDQ-F20_2015-03-19_04.doc



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

Mr. Stefan Winter


SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification)	2020-07-27
VCS	Senior Assessor (Validation, Verification)	2020-07-27

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.1	Thermal energy generation
1.2	Renewables
2.1	Energy distribution
3.1	Energy demand
4.1	Current and line production
4.2	Paper
6.2	Caprolactam, nitric and adipic acid
9.1	Aluminium and magnesium production
9.2	Iron, steel and Ferro-alloy production
13.1	Solid waste and wastewater
13.2	Manure

163 - Rev. 5, Date: 2017-07-20

163_001-VANDQ-F20_2017-07-20.doc



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

Mr. David Lubanga

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2021-10-20
VCS / ISO 14064-2	Senior Assessor Technical Reviewer	2021-10-20

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
3.1	Energy demand
13.2	Manure

251 - Rev. 7, Date: 2018-10-19

251_001-VANDQ-F20_2018-10-19_rev7.doc

001-VANDQ-F20 rev3 / 2012-10-25

Appendix 3. Documents reviewed or referenced

No	Author	Reference	Title	References to the document	Provider
1	UNFCCC	/ACM2/	ACM0002 – Grid-connected electricity generation from renewable sources – Version 20.0	http://cdm.unfccc.int/methodologies/DB/5725LCHYPY/M4I1V8OD9SFYVAMFFW/NP	Other
2	UNFCCC	/GT/	Glossary “CDM terms” (version 10.0)	https://cdm.unfccc.int/filestore/e/x/t/extfile-20150226124447549-glos_CDM.pdf/glos_CDM.pdf?t=UmZ8bnFjODI3fDCW9A3vJwR03kQQh4sbLiYu	Other
3	UNFCCC	/KPI/	Kyoto Protocol (1997)	http://unfccc.int/kyoto_protocol/items/2830.php	
4	UNFCCC	/MA/	Decision 3/CMP. 1 (Marrakesh – Accords)	http://cdm.unfccc.int/Reference/COPMOP/index.html	
5	UNFCCC	/PDDT/	Project Design Document Form (CDM-PDD-FORM) - Version 11 including Attachment: Instructions for filling out the project design document form for CDM project activities	http://cdm.unfccc.int/Reference/PDDs_Forms/index.html#reg	Other
6	UNFCCC	/PCP/	CDM project cycle procedure, version 02.0	http://cdm.unfccc.int/Reference/Standards/index.html	Other
7	UNFCCC	/PS/	CDM project standard, version 02.0	http://cdm.unfccc.int/Reference/Standards/index.html	Other
8	UNFCCC	/TL/	Tool to calculate the emission factor for an electricity system version 07.0 Methodological Tool: “Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period” version 03.0.1	http://cdm.unfccc.int/DNA/Reference/tools/index.html	Other
9	UNFCCC	/VVS/	CDM Validation and Verification Standard, Version 02.0	http://cdm.unfccc.int/Reference/Standards/index.html	Other
10	UNFCCC	/PDD1/	Registered Project Design Document for CDM project: “Nam Chien 2 Hydropower Project” version 2.2, dated 25/01/2010	https://cdm.unfccc.int/Projects/DB/RWTUV1267024124.41/view	Other
11	UNFCCC	/VAL/	Validation Report for CDM project “Nam Chien 2 Hydropower Project” version 0.1 dated 01/04/2010	https://cdm.unfccc.int/Projects/DB/RWTUV1267024124.41/view	Other
12	UNFCCC	/VER/	Monitoring Report and Verification report for MP1	https://cdm.unfccc.int/Projects/DB/RWTUV1267024124.41/view	Other
13	IPCC	/IPCC/	<ul style="list-style-type: none"> IPCC Good Practice Guidance & Uncertainty Management in National 	www.ipcc-nggip.iges.or.jp	Other

No	Author	Reference	Title	References to the document	Provider
			Greenhouse Gas Inventories, 2000 • Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual		
14	DOE	/CPM/	TÜV NORD JI / CDM Certification Program Manual (incl. procedures and forms)		Other
15	PP	/PDD2/	Revised Project Design Document for CDM project: "Nam Chien 2 Hydropower Project" version 4 dated 20/04/2020 Revised Project Design Document for CDM project: "Nam Chien 2 Hydropower Project" version 4.1 dated 16/06/2020 Revised Project Design Document for CDM project Nam Chien 2 Hydropower Project version 4.2 dated 24/06/2020		PP
16	PP	/ER/	Emission reduction calculation spreadsheet version 2.0 dated 20/04/2020 Emission reduction calculation spreadsheet version 2.1 dated 16/06/2020		PP
17	UNFCCC	/FA/	Approved Financial Analysis	https://cdm.unfccc.int/Projects/DB/RWTUV1267024124.41/view	Other
18	UNFCCC	/MoC/	Modalities of Communication Annex 2 dated 16/06/2014	https://cdm.unfccc.int/Projects/DB/RWTUV1267024124.41/view	Other
License & Permits					
19	Son La	/LP1/	Business Registration Certificate issued by Son La Department of Planning and Investment 1 st issue dated 16/06/2006		Other
20	MOIT	/LP2/	Generation Permit issued by Ministry of Industry and Trade, Electricity Regulatory Authority of Vietnam dated 09/12/2009		Other
21	PP / EVN	/LP3/	Power Purchase Agreement with EVN dated 28/10/2009		Other
22	MONRE	/LP4/	Surface Water Usage License issued by Ministry of Natural Resources and Environment dated 26/09/2017		Other
23	Song Da	/LP5/	Feasibility Study Report by Song Da Construction		Other

No	Author	Reference	Title	References to the document	Provider
			Consulting Co. Ltd dated 10/2006 Approval of Feasibility Study Report issued by Department of Planning and Investment of People's Committee of Son La Province dated 15/12/2006		
24	Song Da / Son La PPC	/LP6/	Environment Impact Assessment Report by Song Da Construction Consulting Co. Ltd dated 08/2006 Environmental Protection Permit issued by Son La Provincial People's Committee dated 16/10/2006		Other
25	EVN	/LP7/	Commercial operation permit of Nam Chien 2 hydropower plant dated 02/12/2009 issued by Electricity of Vietnam		Other
Equipment					
26	Floval & Sichuan Dongfeng	/EI1/	Turbines Specification & Nameplate Generators Specification & Nameplate		Other
27	Hangzhou Qiantang	/EI2/	Transformer Specification / Nameplate		Other
28	PP	/EI3/	Metering Diagram		PP
29	MONRE	/GEF/	Vietnam Grid Emission Factor 2018 issued by Ministry of Natural Resources and Environment, Department of Climate Change dated 12/03/2020		Other
Others					
30	PP	/O1/	Photo of power plant and generators		PP
31	PP	/O2/	Photo of dam & reservoir upstream and downstream		PP
32	PP	/O3/	GPS coordinates of dam and power plant		PP
33	PP	/O4/	Dam Design Drawing		PP
34	PP	/O5/	Project Layout Drawing		PP
35	DOE	/O6/	Project location map from google		Other
36	PP	/O7/	Electricity Meters		PP
37	DNAHC	/O8/	Letter of Approval from DNA of Vietnam dated 27/05/2014		Other
38	UNFCCC	/COVID/	Covid-19 pandemic decision	https://cdm.unfccc.int/newsroom/latestnews/releases/2020/01041_index.html	Other
39		/dnaHC/	DNA of Viet Nam	http://www.noccop.org.vn/	
40		/unfccc/	UNFCCC	http://cdm.unfccc.int	
41		/ipcc/	IPCC publications	www.ipcc-nggip.iges.or.jp	

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

Table 3. CL from this validation

CL ID	D.3-1	Section no.	B.6.1	Date	14/05/2020
Description of CL					
PDD version 04, Section B.6.1, Calculation of the emission factor (EF) of the national electricity grid: Clarification request on the year the EF is calculated.					
Project participant response (1st round)				Date	16/06/2020
The EF is calculated for Viet Nam national grid in 2018. The information has been added in Section B.6.1 of the revised PDD					
Documentation provided by project participant (1st round)					
<input checked="" type="checkbox"/>	Changes in the PDD	Section(s): B.6.1		New version No.: 4.1	
<input type="checkbox"/>	Changes in MR	Section(s):		New version No.:	
<input type="checkbox"/>	Changes in XLS	Worksheet(s):		New version No.:	
<input type="checkbox"/>	Other:				
DOE assessment (1st round)				Date	16/06/2020
PDD version 4.1, Section B.6.1: The year for the calculation of the EF is added and consistent with the grid emission factor report.					
Conclusion <i>Tick the appropriate checkbox</i>		<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed			

CL ID	D.5-1	Section no.	B.7.1	Date	14/05/2020
Description of CL					
PDD version 04, Section B.7.1, Parameter $EG_{y,export}$, Source of Data: Clarification on the sentence "so it is excluded the electricity used for internal consumption and losses".					
Project participant response (1st round)				Date	16/06/2020
The information has been corrected in the revised PDD					
Documentation provided by project participant (1st round)					
<input checked="" type="checkbox"/>	Changes in the PDD	Section(s): B.7.1		New version No.: 4.1	
<input type="checkbox"/>	Changes in MR	Section(s):		New version No.:	
<input type="checkbox"/>	Changes in XLS	Worksheet(s):		New version No.:	
<input type="checkbox"/>	Other:				
DOE assessment (1st round)				Date	16/06/2020
PDD version 4.1, Section B.6.2, Parameter $EG_{y,export}$, Source of Data: The sentence is deleted since not applicable and avoid confusion. Therefore, is appropriate.					
Conclusion <i>Tick the appropriate checkbox</i>		<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed			

CL ID	D.5-2	Section no.	B.7.1	Date	14/05/2020
Description of CL					
PDD version 04, Section B.7.1, Parameter $EG_{facility,y}$: The measurement method and procedures as described calculating by subtracting $EG_{y,import,35kV}$ and $EG_{y,import,110kV}$ from $EG_{y,export}$. Data will be archived within the crediting period and 2 years after the end of the crediting period					
PP is requested to clarify the sentence "The measurement/ monitoring equipment should be complied with national standard and technology. These equipment and systems should be calibrated and checked in accordance with laws of the host country"					
Project participant response (1st round)				Date	16/06/2020

In the registered PDD, the calibration frequency of meters is every two years, which is based on Vietnam Standard DLVN 39:2012 - "Power meters - Verification and calibration procedures". From 01/01/2020, the calibration frequency for meters is every three years according to Updated Vietnam Standard DLVN 39:2019 - "Power meters - Verification and calibration procedures", the sentence has been revised in to follow local requirements. Please find further information in the Appendix 5.

Documentation provided by project participant (1st round)

<input checked="" type="checkbox"/> Changes in the PDD	Section(s): B.7.1	New version No.: 4.1
<input type="checkbox"/> Changes in MR	Section(s):	New version No.:
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<input type="checkbox"/> Other:		

DOE assessment (1st round)**Date** 16/06/2020

PDD version 4.1, Section B.7.1, Parameter EG_{facility,y}: PP has clarified with the revision of Icao requirements for calibration of power meters, therefore, the power meters will be calibrated according to the revised standard DLVN 39:2019 and appropriately.

Appendix 5 is updated accordingly.

Conclusion

Tick the appropriate checkbox

- ☐ Additional action should be taken (finding remains open)
☒ The finding is closed

CL ID	D.5-3	Section no.	B.7.1	Date	14/05/2020
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Description of CL

PDD version 04, Section B.7.1, Parameter TEG_y: The project activity calculated power density of 119.85 W/m² is above 10W/m².

1. According the applied methodology version in the parameter table, any comment described Applicable to hydro power project activities with a power density greater than 4 W/m² and less than or equal to 10 W/m².
2. PP is requested to clarify whether this parameter is required to monitor.

Project participant response (1st round)**Date** 16/06/2020

Parameter TEG_y is applicable to hydro power project activities with a power density greater than 4 W/m² and less than or equal to 10 W/m². However power density of Nam Chien 2 project is 119.85 W/m². The power density of Nam Chien 2 is more than 10 W/m², therefore TEG_y is not necessary to monitor and deleted.

Documentation provided by project participant (1st round)

<input checked="" type="checkbox"/> Changes in the PDD	Section(s): B.7.1	New version No.: 4.1
<input type="checkbox"/> Changes in MR	Section(s):	New version No.:
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<input type="checkbox"/> Other:		

DOE assessment (1st round)**Date** 16/06/2020

PDD version 4.1, Section B.7.1, Parameter TEG_y: The power density of the PA is 119.85 W/m² that is above 10W/m². The PP decided not to monitor and delete the parameter that is appropriate.

Conclusion

Tick the appropriate checkbox

- ☐ Additional action should be taken (finding remains open)
☒ The finding is closed

CL ID	D.5-4	Section no.	B.7.1	Date	14/05/2020
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Description of CL

PDD version 04, Section B.7.1, Parameter Cap_{PJ}: PP is requested to clarify QA/QC procedures for the sentence "The capacity of this project will not be changed"

Project participant response (1st round)**Date** 16/06/2020

The sentence "The capacity of this project will not be changed" has been removed in the revised PDD

Documentation provided by project participant (1st round)

<input checked="" type="checkbox"/> Changes in the PDD	Section(s): B.7.1	New version No.: 4.1
<input type="checkbox"/> Changes in MR	Section(s):	New version No.:
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<input type="checkbox"/> Other:		

DOE assessment (1st round)**Date** 16/06/2020

PDD version 4.1, Section B.7.1, Parameter Cap_{PJ}, QA/QC procedures: The sentence is removed to avoid confusion since is not applicable.

Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed
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Table 4. CAR from this validation

CAR ID	D.1-1	Section no.	A.2	Date	14/05/2020
Description of CAR					
PDD version 04, Section A.2:					
1. The project activity consists of a power plant and reservoir as per project layout drawing. The geo coordinates for both power plant and reservoir shall be stated. 2. The actual location of the project is not stated.					
Project participant response (1st round)				Date	16/06/2020
1. The actual geo coordinates of the powerhouse and the dam have been added in the revised PDD 2. The actual location of the project has been added in the revised PDD					
Documentation provided by project participant (1st round)					
<input checked="" type="checkbox"/>	Changes in the PDD	Section(s): A.2	New version No.: 4.1		
<input type="checkbox"/>	Changes in MR	Section(s):	New version No.:		
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:		
<input type="checkbox"/>	Other:				
DOE assessment (1st round)				Date	16/06/2020
PDD version 4.1, Section A.2:					
1. The geo coordinates for both power plant and reservoir updated and according to the GPS coordinates provided by project owner. 2. The actual location of the project is updated accordingly.					
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed				

CAR ID	D.1-2	Section no.	A.3	Date	14/05/2020
Description of CAR					
PDD version 04, Section A.3, Table 1: The technical information for the turbines, generators and transformer to be update to reflect the specification from manufacturers.					
Project participant response (1st round)				Date	16/06/2020
The technical information for the turbines, generators and transformer has been updated as request					
Documentation provided by project participant (1st round)					
<input checked="" type="checkbox"/>	Changes in the PDD	Section(s): A.3	New version No.: 4.1		
<input type="checkbox"/>	Changes in MR	Section(s):	New version No.:		
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:		
<input type="checkbox"/>	Other:				
DOE assessment (1st round)				Date	16/06/2020
PDD version 4.1, Section A.3, table 1: The technical information for the turbines, generators and transformer are update to include the manufacturers.					
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed				

CAR ID	D.2-1	Section no.	B.4	Date	14/05/2020
Description of CAR					

PDD version 04, Section B.4: The project activity is a registered CDM project with UNFCCC. According to CDM project standard for project activities, version 02.0, para 282 Renewal of crediting period, paragraph 282, the project participants shall demonstrate the validity of the original baseline or update it in accordance with paragraphs 283-286.

1. Paragraph 285 is not address whether is applicable or not.
2. The sentence "Therefore, the reassessment of the baseline scenario is not required" is incorrect.

Project participant response (1st round)	Date	16/06/2020
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1. Paragraph 285 has been added to Section B.4
2. The sentence "Therefore, the reassessment of the baseline scenario is not required" has been removed

Documentation provided by project participant (1st round)

<input checked="" type="checkbox"/> Changes in the PDD	Section(s): B.4	New version No.: 4.1
<input type="checkbox"/> Changes in MR	Section(s):	New version No.:
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<input type="checkbox"/> Other:		

DOE assessment (1st round)	Date	16/06/2020
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PDD version 4.1, Section B.4: The section is revised with assessment in accordance with §282 of the CDM project standard for project activities, version 02.0.

There is no change to the baseline with the grid emission factor updated for the 2nd CP that is appropriate.

Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed
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CAR ID	D.3-2	Section no.	B.6.1	Date	14/05/2020
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Description of CAR

PDD version 04, Section B.6.1, Leakage: The representation and description shall be in accordance to applied methodology version.

Project participant response (1st round)	Date	16/06/2020
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The representation and description of Leakage has been revised following the applied methodology version.

Documentation provided by project participant (1st round)

<input checked="" type="checkbox"/> Changes in the PDD	Section(s): B.6.1	New version No.: 4.1
<input type="checkbox"/> Changes in MR	Section(s):	New version No.:
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<input type="checkbox"/> Other:		

DOE assessment (1st round)	Date	16/06/2020
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PDD version 4.1, Section B.6.1, Leakage: The representation and description is now updated in accordance to the applied methodology version.

Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed
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CAR ID	D.3-3	Section no.	B.6.2	Date	14/05/2020
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Description of CAR

PDD version 04, Section B.6.2, Parameter ABL: The description for source of data inconsistent with the applied methodology.

Project participant response (1st round)	Date	16/06/2020
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The description for source of data has been revised

Documentation provided by project participant (1st round)

<input checked="" type="checkbox"/> Changes in the PDD	Section(s): B.6.2	New version No.: 4.1
<input type="checkbox"/> Changes in MR	Section(s):	New version No.:
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<input type="checkbox"/> Other:		

DOE assessment (1st round)	Date	16/06/2020
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PDD version 4.1, Section B.6.2, Parameter A_{BL} : The description for source of data corrected and consistent with the applied methodology.

Conclusion

Tick the appropriate checkbox

- ☐ Additional action should be taken (finding remains open)
☒ The finding is closed

CAR ID	D.3-4	Section no.	B.6.2	Date	14/05/2020
Description of CAR					
PDD version 3.0, Section B.6.2, Parameter $EF_{grid,CM,y}$: The value applied shall be rounded down to the integral.					
Project participant response (1st round)					Date
					16/06/2020
The value applied has been rounded down to the integral of 0.9297					
Documentation provided by project participant (1st round)					
<input checked="" type="checkbox"/>	Changes in the PDD	Section(s): B.6.2	New version No.: 4.1		
<input type="checkbox"/>	Changes in MR	Section(s):	New version No.:		
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:		
<input type="checkbox"/>	Other:				
DOE assessment (1st round)					Date
					16/06/2020
PDD version 4.1, Section B.6.2, Parameter $EF_{grid,CM,y}$: The value applied is rounded down to the integral of 0.9297.					
Conclusion					
<i>Tick the appropriate checkbox</i>		<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed			

CAR ID	D.4-2	Section no.	B.6.3	Date	14/05/2020
Description of CAR					
PDD version 3.0, Section B.6.3, Baseline Emissions: The $EF_{grid,CM,y}$ applied shall be rounded down to the integral.					
Project participant response (1st round)					Date
					16/06/2020
The $EF_{grid,CM,y}$ applied has been rounded down to the integral of 0.9297.					
All of the value which relevant to $EF_{grid,CM,y}$ has been revised and updated					
Documentation provided by project participant (1st round)					
<input checked="" type="checkbox"/>	Changes in the PDD	Section(s): B.6.3; B.6.4	New version No.: 4.1		
<input type="checkbox"/>	Changes in MR	Section(s):	New version No.:		
<input checked="" type="checkbox"/>	Changes in XLS	Worksheet(s): Emission Reduction	New version No.: 2.1		
<input type="checkbox"/>	Other:				
DOE assessment (1st round)					Date
PDD version 4.1, Section B.6.3, Baseline Emissions: The $EF_{grid,CM,y}$ applied is rounded down to the integral of 0.9297.					
Conclusion					
<i>Tick the appropriate checkbox</i>		<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed			

CAR ID	D.4-3	Section no.	B.6.3	Date	14/05/2020
Description of CAR					
PDD version 04, Section B.6.3:					
1. Project emissions: The project activity has one reservoir based on review of project layout drawing and photos submitted by project owner. Therefore, the sentence "As power density of two reservoirs is greater than 10 W/m ² " is incorrect. 2. Leakage: The description is inconsistent with the applied methodology version. 3. Reduction Emissions: The heading inconsistent with applied methodology version.					
Project participant response (1st round)					Date
					16/06/2020

1. The sentence has been corrected as "As power density of reservoir is greater than 10 W/m ² "		
2. The description has been updated with the applied methodology version		
3. The heading has been updated with the applied methodology version		
Documentation provided by project participant (1st round)		
<input checked="" type="checkbox"/> Changes in the PDD	Section(s): B.6.3	New version No.: 4.1
<input type="checkbox"/> Changes in MR	Section(s):	New version No.:
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<input type="checkbox"/> Other:		
DOE assessment (1st round)		Date 16/06/2020
PDD version 4.1, Section B.6.3:		
1. Project emissions: The sentence corrected to read "As power density of reservoir is greater than 10 W/m ² ".		
2. Leakage: The description corrected and consistent with the applied methodology version.		
3. Reduction Emissions: The heading corrected and consistent with applied methodology version.		
Conclusion Tick the appropriate checkbox	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed	

CAR ID	D..7-1	Section no.	Cover page, A.4 & Appendix 1	Date	14/05/2020
Description of CAR					
PDD version 04, Cover page, Section A.4 and Appendix 1: The project participants listed shall be corrected accordingly.					
Project participant response (1st round)					Date 16/06/2020
The project participants listed has been corrected accordingly					
Documentation provided by project participant (1st round)					
<input checked="" type="checkbox"/> Changes in the PDD	Section(s): Cover page		New version No.: 4.1		
<input type="checkbox"/> Changes in MR	Section(s):		New version No.:		
<input type="checkbox"/> Changes in XLS	Worksheet(s):		New version No.:		
<input type="checkbox"/> Other:					
DOE assessment (1st round)					Date
PDD version 4.1, Cover page, Section A.4 and Appendix 1: The project participants corrected accordingly and consistent with MoC Annex 2					
Conclusion Tick the appropriate checkbox	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed				

CAR ID	D.7-2	Section no.	F	Date	14/05/2020
Description of CAR					
PDD version 04, Section F: The project participant from Annex 1 country has withdrawn since 16/04/2013. Therefore, the approval and authorization is not applicable.					
Project participant response (1st round)					Date 16/06/2020
Annex 1 PP is withdrawn and Annex I LoA is not longer valid following the information of the project on UNFCCC website: https://cdm.unfccc.int/Projects/DB/RWTUV1267024124.41					
The information of Section F has been updated in revised PDD					
Documentation provided by project participant (1st round)					
<input checked="" type="checkbox"/> Changes in the PDD	Section(s): F		New version No.: 4.1		
<input type="checkbox"/> Changes in MR	Section(s):		New version No.:		
<input type="checkbox"/> Changes in XLS	Worksheet(s):		New version No.:		
<input type="checkbox"/> Other:					
DOE assessment (1st round)					Date 16/06/2020
PDD version 4.1, Section F: With the Annex I project participant has withdrawn since 16/04/2013. The PDD is updated appropriately.					
Conclusion Tick the appropriate checkbox	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed				

Table 5. FAR from this validation

FAR ID	xx	Section no.		Date: DD/MM/YYYY
Description of FAR				
Project participant response				Date: DD/MM/YYYY
Documentation provided by project participant				
DOE assessment				Date: DD/MM/YYYY

Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
03.0	31 May 2019	Revision to: <ul style="list-style-type: none"> • Ensure consistency with version 02.0 of the “CDM validation and verification standard for project activities” (CDM-EB93-A05-STAN) and version 02.0 of the “CDM project cycle procedure for project activities” (CDM-EB93-A06-PROC); • Make editorial improvements.
02.0	31 October 2017	Revision to align with the requirements of the “CDM validation and verification standard for project activities” (version 01.0).
01.0	23 March 2015	Initial publication.
Decision Class: Regulatory Document Type: Form Business Function: Renewal of crediting period Keywords: crediting period, project activities, validation report		