CDM-PRCV-FORM

Validation report form for post-registration changes 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	Rondinha Small Hydroelectric Power Plant UNFCCC reference number 10080
Process track	☒ Prior approval ☐ Issuance ☐ Renewal of crediting period
Version number of the validation report	1.1Aa
Completion date of the validation report	04/11/2022
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	10
Project participants	Rondinha Energética S.A.
Host Party	Brazil
Applied methodologies and standardized baselines	ACM0002 – Consolidated baseline methodology for grid-connected electricity generation from renewable sources, version 14.0
Mandatory sectoral scopes	Sectoral Scope: 1 - Energy industries (renewable - / non-renewable sources)
Conditional sectoral scopes, if applicable	N/A
Name and UNFCCC reference number of the DOE	RINA Services S.p.A. (RINA), UNFCCC reference number of the DOE E-0037
Name, position and signature of the approver of the validation report	**Giovanni D'Angelo** (Authorized officer signing for the DOE) Sustainability & Food Certification Compliance Unit

[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).

SECTION A. Executive summary

General description and purpose of the project activity

The project activity consists in a Small Hydroelectric Power Plant (SHPP) which is located in the Chapecó River, part of the Uruguai River Basin, at the municipality of Passos Maia, which is part of the Santa Catarina State in Brazil. The project consists in a run-of-river power plant with 9.6 MW (rounded from 4799.7 kW) installed capacity. The power plant consists of two generators with Kaplan horizontal turbines, in where each generator unit has a nominal power of 5.333 kVA.

The electricity generated by the project are delivered to the SIN. Before the implementation of the project activity, no power plant is installed at the project site. Therefore, according to the large-scale consolidated methodology ACM0002, the baseline scenario is that electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the Combined Margin (CM) emission factor calculations described in "TOOL07: Tool to calculate the emission factor for an electricity system".

The project was validated by DET NORSKE VERITAS (validation report N° 2012-0546, Dated 16/12/2014) /8/ and it was registered on 18/12/2014 (Date of registration action 24/03/2015) under the CDM registration reference N° 10080.

Scope of validation

The objective of the Validation is to have an independent evaluation of the update PDD's compliance with relevant UNFCCC requirements and host Party criteria to confirm that the original project baseline is still valid or has been updated taking into account of new data where applicable. In particular, the project's baseline, monitoring plan and the project's compliance with relevant UNFCCC requirements and host Party criteria are validated in order to confirm the correctness of the application of the approved baseline methodologies for the determination of the continued validity of the baseline/or its update, and estimation of the emission reductions for the applicable crediting period. The validation scope is to review the updated PDD against the UNFCCC criteria for CDM refer to Article 12 of the Kyoto Protocol, and the subsequent decisions by the CDM Executive Board.

Validation process

This report summarizes the findings from the validation of the updated PDD of the project, performed on the basis of UNFCCC criteria for CDM, as well as criteria given by the CDM Validation and Verification Standard, CDM Project Cycle Procedure and CDM Project Standard and included an assessment of: (a) The impact of new relevant national and/or sectoral policies and circumstances on the baseline taking into account relevant guidance from the Board with regard to renewal of the crediting period at the time of requesting renewal of crediting period; (b) The correctness of the application of an approved baseline methodology for the determination of the continued validity of the baseline or its update, and the estimation of emission reductions from the applicable crediting period. This validation opinion is also to be seen in conjunction with the validation report at the time of requesting registration for the first crediting period. The Validation Opinion is not meant to provide any consultancy towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the project design.

Conclusion

It is RINA's opinion, the changes, as outlined in the revised PDD version 10 of 03/11/2022, from the project activity as described in the registered PDD ensure that the level of accuracy and completeness in the monitoring and verification process is not reduces as a result of the revision; the revisions are in accordance with the applied monitoring methodology and the changes to the project activity comply with the requirements established in the CDM Project Standard.

Hence RINA requests that the validation opinion on changes from the project activity as described in the revised PDD for the project activity "Rondinha Small Hydroelectric Power Plant " in Brazil may be considered by the Board.

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	Interviews	Validation findings
1.	Team Leader / validator / technical expert	IN	Carvalho	Thaís	RINA Brazil	x	x*	x	x

x* Remote

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	Amalorpavanathan	Cyril Augustus A	RINA India
2.	Approver	IR	D'Angelo	Giovanni	RINA HO

SECTION C. Means of validation

C.1. Desk/document review

The updated PDD version 10 of 03/11/2022 and previous version /02/, in particular the project description, applicability of the methodology, the baseline determination, and supporting documents listed below are used for validation assessment.
The Appendix 3 lists the documents that was reviewed during the validation.

C.2. On-site inspection

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

A complete desk review of the submitted PDD /2/ and supportive evidences have been checked by the Validation Team.

In addition, audit team has conducted a remote site inspection via videoconference (teams) with PP on different topics as mentioned under section C.3 of this report.
Based on the videoconference, PDD review, as the review of UNFCCC procedures and guidelines, RINA Validation team has proceeded to skip the presential site visit, in line with paragraphs 30 of CDM Validation and Verification Standard for project activities version 03.0 /5/). Validation team has used the following alternative means for its assessment and to justify that they are sufficient for the purpose of validation.

By review of PDD;
By taking follow up actions by conducted interview with PP, to gather information about knowledge of project design, current situation via videoconference. Cross-checked evaluation under the scope of all information and references provided in PDD. Details of interviewees, topics covered and additional information presented in the above section "C.3 – Interviews". Validation team has also checked the site visit requirements mentioned in the VVS for Project Activity version 03.0 /5/ and concluded that no site visit is required.

The post registration change was identified during the remote audit for the renewal of the crediting period. Thus, no additional site visit was conducted for the PRC.

The justification for the site visit requirements of VVS PA version 3.0 /5/ have been mentioned below.

VVS PA version 3.0 requirements	Validation team justification
Para 29 (b) (b) Follow-up actions (e.g. on-site inspection and telephone or e-mail interviews), including: (i) Interviews with relevant stakeholders in the host country, such as personnel with knowledge of the project design and implementation; (ii) Cross checks between the information provided by interviewed personnel (i.e. by checking sources or other interviews) to ensure that no relevant information has been omitted;	Validation team has done the follow-up actions by: 1. Video call (WhatsApp and Microsoft Teams) and e-mail conversations of PP. 2. Cross checks between information provided by interviewed personnel (i.e. by checking sources or other interviews) to ensure that no relevant information has been omitted. 25/10/2022: video call at the SHP to confirm -Implementation and operation of the proposed project activity; -Confirm data used in the ex-ante estimative of CERs calculation -Interviewed key personnel of the plant to confirm the operational and data collection procedures; QA QC procedures 25/10/2022 video call at the substation -confirm the energy meters installed for the net energy delivered to the grid and confirmation of meters specifications
Para 30 It is mandatory for the DOE to conduct an on- site inspection at validation for the proposed CDM project activity if: (a) Its estimated annual average of GHG emission reductions or net anthropogenic GHG removals is more than 100,000 t CO_2 eq; or (b) 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.	The validation team has not considered the site visit as mandatory due to the following reasons which are in line with the VVS PA version 3.0 requirements. As there is no pre-project information that is relevant to the requirements for renewal of the CDM project activity and may not be traceable after the post registration changes and renewal crediting period. Hence for the proposed CDM project activity, it is not mandatory to conduct the site visit.

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Nichele	Jéssica	Tradener/Rondinha Energética S.A.	25/10/2022	Energy generation projects analyst- Project description, geographical coordinates, assured energy, environmental licenses	Thaís Carvalho
2.	Neto	Eduardo	Tradener/Rondinha Energética S.A.	25/10/2022	Engineer trainee: project description	Thaís Carvalho
3.	Garcia	Janine	Celesc/Rondinha Energética S.A.	25/10/2022	Engineer- Project description, geographical coordinates, assured energy, environmental licenses	Thaís Carvalho
4.	Minatelli	Bruno	Celesc/Rondinha Energética S.A.	25/10/2022	Economist- project description	Thaís Carvalho
5.	Franco	Wellington	Celesc/Rondinha Energética S.A.	25/10/2022	Administrator- project description	Thaís Carvalho
6.	Santin	Antonio	Cotesa	25/10/2022	Maintenance supervisor: Project implementation Monitoring, site visit (SHPP and Substation)	Thaís Carvalho
7.	Baltar	Eduardo	Ecofinance	25/10/2022	CDM consultant: PDD; CERs estimative, baseline update	Thaís Carvalho

C.4. Sampling approach

Not applicable for this project activity.

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			
Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents			
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	1	1	
Changes specific to afforestation and reforestation project activities			
Others (please specify)			
Total	1	1	

SECTION D. Validation findings

D.1. Compliance with PDD form

Means of validation	PDD applies the applicable CDM- PDD-FORM: Project design document form version 12.0. /07/ RINA verified that for the renewal crediting period, information transferred to the later valid version of the PDD form is materially the same as that in the registered PDD.
Findings	N/A
Conclusion	RINA confirms that the PDD is based on the currently valid CDM-PDD-FORM template version 12.0 and is completed in accordance with the Attachment: Instructions for completing this form /07/. All the information has been correctly transferred from registered PDD /1/ to the current PDD /2/ which is filled in the latest CDM PDD form available in UNFCCC website. RINA confirms that the transfer of information from the old form to the new form is correct and materially the same as the information in the registered PDD in compliance with para 412 (a) (ii) of VVS for PA version 03.0 PDD is in compliance with the instruction provided in the template.

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

Means of validation	N/A
Findings	N/A
Conclusion	N/A

D.3. Corrections

Means of validation	N/A
Findings	N/A
Conclusion	N/A

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

Means of validation	N/A
Findings	N/A
Conclusion	N/A

D.5. Inclusion of a monitoring plan

Means of validation	N/A
Findings	N/A
Conclusion	N/A

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	N/A
Findings	N/A
Conclusion	N/A

D.7. Changes to the project design

Means of validation	The changes in the project activity are related to the following:

	1.The turbines implemented by the project activity have different capacity (5.410 MW) from the predicted in the registered PDD (4.990 MW). This change did not impact the installed capacity of the plant and the electricity supply to the grid estimation, which is defined by generators capacity. RINA has confirmed the tubines' installed capacity of the project activity in the equipment's name plate. In spite of the difference, there are no changes in effective output capacity and, therefore, has an immaterial impact on generation of emission reductions, additionality (no additional investment was made) and applicability of the methodology (no small scale criteria was impacted) 2. Installed capacity: While considering generators tag, the resulted installed capacity is 9.5994 MW: 5.333 kVA x 0.9 = 4,799.7 kW x 2 generating units = 9.5994 MW (PDD presents a rounded value of 9.6 MW). RINA has confirmed the installed capacity of the project activity in the generator's name plate. Installed capacity of the hydropower plant after the implementation of the project activity is also a monitored parameter CapPJ and was updated in the revised PDD. All official documentation of the project refers to the rounded installed capacity, as can be seen in ANEEL Dispatch of operation startup /10/, Operation License /11/, which has been considered in the registered PDD. Although installed capacity presented in the registered PDD is rounded value, the difference cannot be considered relevant as has no impact on generation of emission reductions, additionality (no additional investment was made and the impact in the investment analysis is negligible) and applicability of the methodology (no small scale criteria was impacted). 3. Reservoir area measured in the surface of the water, after the implementation of the project activity, when the reservoir is full reservoir area (APJ) is a parameter to be monitored. The operation license of the plant 3370/2018 /11/ describes that the reservoir area implemented differs from information presented at the PDD registered. APJ of Rondinha SHP is 620,000 m2. This value was also updated in the PDD. Due to the changes in the installed capacity and reservoir area, the power density of the project activity was also updated. The value is still greater than 10 W/m^2 and project emissions are not considered. Cap_{PJ} (W)= 9.5994 *10^6 W(RINA confirmed in the generator' plate, during the remote visit); A_{PJ} (m^2) = 0.62 *10^6 m^2 (The reservoir area is confirmed in the Environmental licenses /15/). PD (W/m^2) = 15.48 The applied consolidated methodology was ACM0002 – Consolidated baseline methodology for grid-connected electricity generation from renewable sources, version 14.0. The changes in the project activity described above have no impact on the applicability and application of applied methodology. The validation team assessed the impacts of the proposed change as per VVS for project activities paragraph 303 and Project Standard for project activities paragraph 242 as follows: a. The applicability and application of the applied methodologies, the applied standardized baselines and the other applied methodological regulatory documents with which the CDM project activity has been registered; The changes in the project activity do not affect the applicability of the applied methodology as the project activity remains as the installation of a greenfield hydro power plant with new reservoir. RINA verified that there was no change in the applied methodology nor in the version of the methodology. ACM0002 – Consolidated baseline methodology for grid-connected electricity generation from renewable sources, version 14.0 is still applied in the revised PDD /2/. b. The project boundary and any implications on the inclusion or exclusion of emissions sources and leakage emissions; No change in the project boundary occurred due to the requested changes. RINA confirmed that the project boundary and emissions sources and leakage emissions remain unaltered and in compliance with the applied methodology /6/.

	c. The compliance of the monitoring plan with the applied methodologies, the applied standardized baselines and the other applied methodological regulatory documents; No change in the monitoring plan occurred due to the requested changes in the project activity. RINA verified that the monitoring plan remains unaltered and in compliance with the applied methodology /6/. d. The level of accuracy and completeness of the monitoring compared with the requirements contained in the registered monitoring plan; RINA confirmed that there is no change in the level of accuracy and completeness of the monitoring of the project activity. e. The additionality of the project activity; The project activity is still additional. The proposed changes in the project did not result in changes in the additionality. f. The scale of the project activity. The change in the installed capacity from does not affect the scale of the project activity. RINA confirmed that the project activity remains large scale.
Findings	**CAR 1**: the power density is not consistent in the sections of the revised PDD **CL 1**: The revised installed capacity of the project activity is not in English format CAR and CL were correctly closed. Please, refer to Appendix 4.
Conclusion	RINA verified that the changes are according to paragraph 241 of the "CDM project standard for project activities", version 03.0 /4/ as follows: (a) Increase in the capacity specified in the registered PDD with the following conditions: (i) If the project activity is large-scale: a. CERs may be claimed up to an amount calculated based on the increased capacity by 20 per cent of the capacity specified in the originally registered PDD; or b. CERs may be claimed for the full amount calculated based on the increased capacity if the project participants can demonstrate that the reason for the increase is not within the control of the project participants; **Not applicable**. (ii) If the project activity is small-scale, CERs may be claimed for the full amount calculated based on the increased capacity, provided that the resulting project activity does not exceed the small-scale threshold for the corresponding small-scale project type (i.e. Type I, II or III); **Not applicable**. Project activity is large scale. (b) Decrease in the capacity specified in the registered PDD; **Not applicable**. RINA verified that the value presented in the revised PDD is not "rounded" (c) Addition of new components or extension/addition of technologies/measures that introduce complimentary technologies/measures involving mass and/or energy transfer to/from the technologies/measures specified in the originally registered PDD; **Not applicable**. (d) Removal of a component or technology/measure specified in the registered PDD; **Not applicable**. (e) Changes to the technologies/measures that result in the same technologies/measures as in the originally registered technologies/measures as per the definition of "the same technologies" in paragraph 44(b) above; **Not applicable**. (f) Removal or addition of one or more site(s) of the project activity registered with multiple sites; **Not applicable**. (g) Removal of a project activity from a bundle of small-scale CDM project activities; **Not applicable**. (h) Actual operational parameters that are within the control of the project participants, differing from the expected parameters; RINA verified the change in the type of turbine installed and the nominal power of each turbine is within the control of the project participants.

	(i) Any consequential changes to the application of methodologies, standardized baselines and/or other methodological regulatory documents resulting from the changes referred to in subparagraphs (a)–(d) above, including change to or addition of other methodologies, other standardized baselines and/or other methodological regulatory documents, or application of a baseline scenario that is more appropriate as a result of the proposed or actual modifications to the project activity; **Not applicable.** (j) Voluntary update of the applied methodologies or the other applied methodological regulatory documents to a later valid version of them, or voluntary change to other methodologies, provided all requirements in the updated/changed methodologies and the other applied methodological regulatory documents are met. **Not applicable**. RINA checked and verified complementary data and related information used to assess and explain the change made in the project activity and the impact of such change in the project's implementation, emission reductions, additionality and applicability and application of baseline methodology. The revised PDD is clear and transparently identify the change from the project activity as described in the registered project design document. The change made in the revised PDD is related to the description of actual installed capacity of the project activity (not rounded value), turbines description and updated reservoir area (and consequently, update in the power density of the project activity). The justification and assumptions made in the PDD considering the actual values are considered reasonable and acceptable. The changes in the project activity do not affect negatively the project activity operation nor affects the amount of emission reductions expected by the project activity. The changes do neither impact adversely the additionality of the project nor the applicability/application of ACM0002 (version 14.0). Hence, it is RINA's opinion that the changes do not raise any concerns with regard to i) additionality, ii) the scale of the CDM project activity and/or iii) the applicability and application of baseline methodology.

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

Means of validation	N/A
Findings	N/A
Conclusion	N/A

SECTION E. Internal quality control

The final validation opinion before being submitted to the client was subjected to an independent internal technical review to confirm that all validation activities had been completed according to the pertinent RINA instructions.
The technical review was performed by a technical reviewer(s) qualified in accordance with RINA's qualification scheme for CDM validation and verification.

SECTION F. Validation opinion

RINA Services Spa (RINA) has performed a validation of post registration changes for the project activity "Rondinha Small Hydroelectric Power Plant " in Brazil, CDM Registration Reference N° 10080. The validation has based on the information made available to us.
RINA has performed this validation on the basis of the following documents:

- CDM project cycle procedure for project activities, version 03.0 of 09/09/2021;
- CDM Executive Board: Clean Development Mechanism Project Standard, version 03.0 of 09/09/2021;
- CDM project standard for project activities, version 03.0 of 09/09/2021;
- Approved baseline and monitoring methodology ACM0002, Consolidated baseline methodology for grid-connected electricity generation from renewable sources version 14.0.

It is RINA's opinion, the post registration changes, as outlined in the revised PDD version 10 of 03/11/2022, from the project activity as described in the registered PDD ensure that the level of accuracy and completeness in the monitoring and verification process is not reduces as a result of the revision; the revisions are in accordance with the applied monitoring methodology and the changes to the project activity comply with the requirements established in the CDM Project Standard.

Hence RINA requests that the post registration changes from the project activity as described in the registered PDD for the project activity “Rondinha Small Hydroelectric Power Plant ” in Brazil may be considered by the Board.

Appendix 1. Abbreviations

Abbreviations	Full texts
ANEEL	Brazilian Electric Energy Agency (from Portuguese “Agência Nacional de Energia Elétrica)
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM M&P	Modalities and Procedures CDM
CER	Certified Emission Reduction
CL	Clarification request
CO_2	Carbon dioxide
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
EF	Emission Factor
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse gas(es)
PDD	Project Design Document
PP	Project Participant
PRC	Post registration change
PS	Project Standard
QA/QC	Quality assurance / quality control
RINA	RINA Services S.p.A.
SHPP	Small Hydro Power Plant
SS(s)	Sectoral Scope (s)
TA(s)	Technical Area(s)
tCO_{2e}	Tonnes of CO_2 equivalents
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation & Verification Standard

Appendix 2. Competence of team members and technical reviewers

CERTIFICATO DI QUALIFICA
QUALIFICATION CERTIFICATE

Si attesta che il sig./sig.ra: *We declare that Mr/Mrs/Ms:*	Thais DE LIMA CARVALHO
è qualificato come[1]: *is qualified as:*	CDM -TEC, -VAL, -VER, -TL ITRP, REG-EXP[2]
per le seguenti aree tecniche: for the following technical areas:	1.1, 1.2, 2.1, 13.1

AREE TECNICHE *TECHNICAL AREAS*	DESCRIZIONE DELL'AREA TECNICA *TECHNICAL AREA DESCRIPTION*	SCOPO SETTORIALE *SECTORAL SCOPE*
1.1	Thermal energy generation	1
1.2	Renewables	1
2.1	Electricity distribution	2
13.1	Solid waste and wastewater	13

in accordo alle istruzioni della Unità Certification Innovation and Sustainability.
in accordance with the instructions of the Certification Innovation and Sustainability Unit

REVISIONE *REVISION*	DATA *DATE*	MOTIVAZIONI PER LA REVISIONE *REASON FOR THE REVISION*
0	19-08-2009	-
13	31-03-2017	Added qualification as ITRP
14	20-07-2018	Added qualification as REG-EXP
15	15/11/2019	Update qualification with "Sampling and surveys for CDM PAs and PoAs"

Il Resp. CEINS
Head of CEINS

[1] Legend:
VAL: Validator
VER: Verifier
TEC: Technical Expert
TL: Team Leader
FIN-EXP: Financial Expert
DET: Determiner

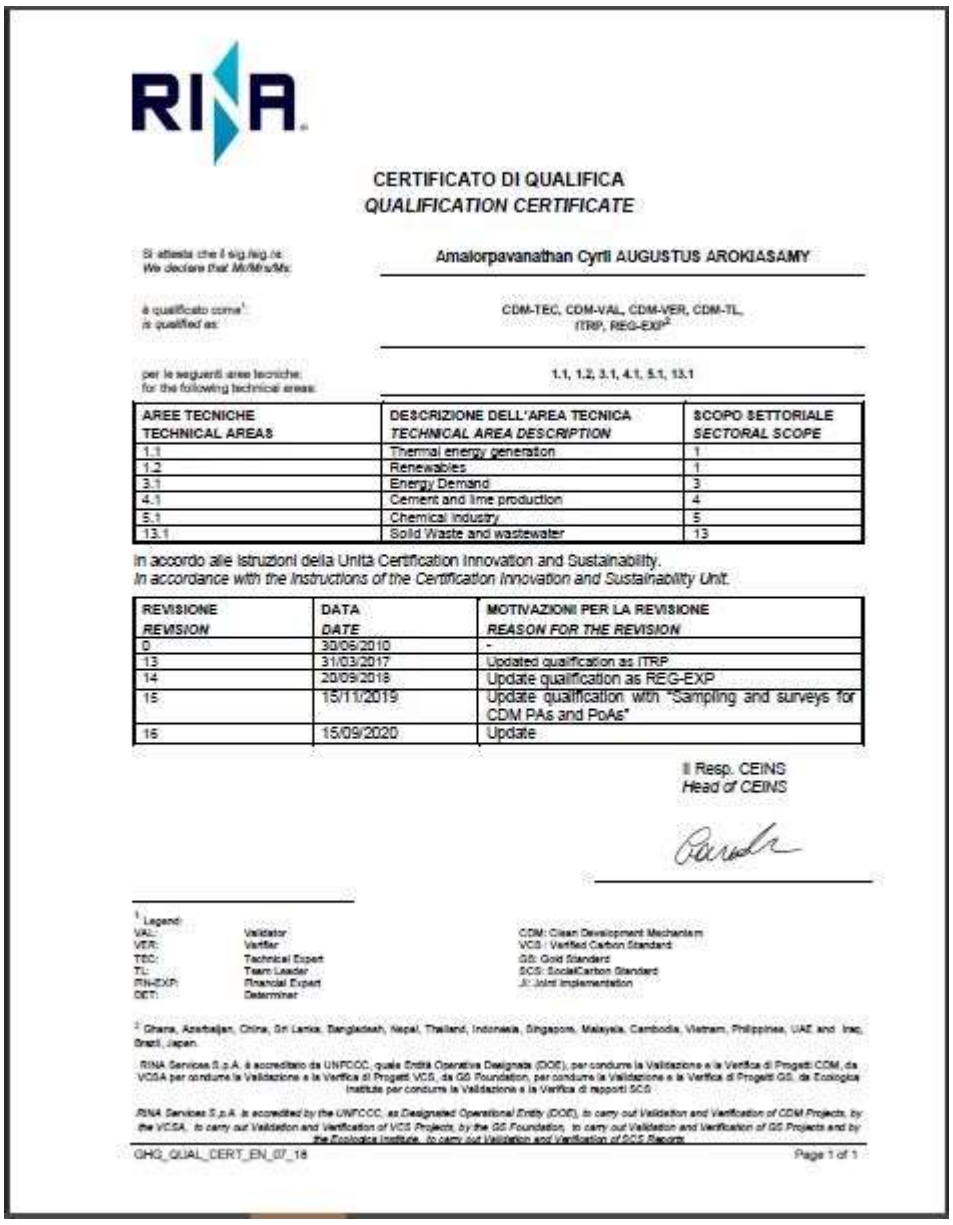
CDM: Clean Development Mechanism
VCS : Verified Carbon Standard;
GS: Gold Standard
SCS: SocialCarbon Standard
JI: Joint Implementation

[2] Argentina, Mexico, Panama, Colombia, Dominican Republic, Honduras, Ecuador, Chile, Cape Verde

RINA Services S.p.A. è accreditato da UNFCCC, quale Entità Operativa Designata (DOE), per condurre la Validazione e la Verifica di Progetti CDM, da VCSA per condurre la Validazione e la Verifica di Progetti VCS, da GS Foundation, per condurre la Validazione e la Verifica di Progetti GS, da Ecologica Institute per condurre la Validazione e la Verifica di rapporti SCS

RINA Services S.p.A. is accredited by the UNFCCC, as Designated Operational Entity (DOE), to carry out Validation and Verification of CDM Projects, by the VCSA, to carry out Validation and Verification of VCS Projects, by the GS Foundation, to carry out Validation and Verification of GS Projects and by the Ecologica Institute, to carry out Validation and Verification of SCS Reports

GHG_QUAL_CERT_EN_07_18 Page 1 of 1



RINA

CERTIFICATO DI QUALIFICA
QUALIFICATION CERTIFICATE

Si attesta che il sig./sig.ra
We declare that Mr/Mrs/Ms: **Amalorpavanathan Cyril AUGUSTUS AROKIASAMY**

è qualificato come[1]
is qualified as: **CDM-TEC, CDM-VAL, CDM-VER, CDM-TL, ITRP, REG-EXP[2]**

per le seguenti aree tecniche:
for the following technical areas: **1.1, 1.2, 3.1, 4.1, 5.1, 13.1**

AREE TECNICHE *TECHNICAL AREAS*	DESCRIZIONE DELL'AREA TECNICA *TECHNICAL AREA DESCRIPTION*	SCOPO SETTORIALE *SECTORAL SCOPE*
1.1	Thermal energy generation	1
1.2	Renewables	1
3.1	Energy Demand	3
4.1	Cement and lime production	4
5.1	Chemical industry	5
13.1	Solid Waste and wastewater	13

In accordo alle istruzioni della Unità Certification Innovation and Sustainability.
In accordance with the Instructions of the Certification Innovation and Sustainability Unit.

REVISIONE *REVISION*	DATA *DATE*	MOTIVAZIONI PER LA REVISIONE *REASON FOR THE REVISION*
0	30/06/2010	-
13	31/03/2017	Updated qualification as ITRP
14	20/09/2018	Update qualification as REG-EXP
15	15/11/2019	Update qualification with "Sampling and surveys for CDM PAs and PoAs"
16	15/09/2020	Update

Il Resp. CEINS
Head of CEINS

[1] Legend:
VAL: Validator
VER: Verifier
TEC: Technical Expert
TL: Team Leader
FIN-EXP: Financial Expert
DET: Determiner

CDM: Clean Development Mechanism
VCS: Verified Carbon Standard
GS: Gold Standard
SCS: SocialCarbon Standard
JI: Joint Implementation

[2] Ghana, Azerbaijan, China, Sri Lanka, Bangladesh, Nepal, Thailand, Indonesia, Singapore, Malaysia, Cambodia, Vietnam, Philippines, UAE and Iraq, Brazil, Japan.

RINA Services S.p.A. è accreditato da UNFCCC, quale Entità Operativa Designata (DOE), per condurre la Validazione e la Verifica di Progetti CDM, da VCSA per condurre la Validazione e la Verifica di Progetti VCS, da GS Foundation, per condurre la Validazione e la Verifica di Progetti GS, da Ecologica Institute per condurre la Validazione e la Verifica di rapporti SCS

RINA Services S.p.A. is accredited by the UNFCCC, as Designated Operational Entity (DOE), to carry out Validation and Verification of CDM Projects, by the VCSA, to carry out Validation and Verification of VCS Projects, by the GS Foundation, to carry out Validation and Verification of GS Projects and by the Ecologica Institute, to carry out Validation and Verification of SCS Reports

GHG_QUAL_CERT_EN_07_18 Page 1 of 1

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1	Rondinha Energética S.A.	CDM-PDD for project activity "Rondinha Small Hydroelectric Power Plant " in Brazil	Registered version 8 of 22/10/2014	PP
2	Rondinha Energética S.A.	CDM-PDD for the post registration changes "Rondinha Small Hydroelectric Power Plant ".	version 9 of 26/10/2022 version 10 of 03/11/2022	PP
3	CDM Executive Board	CDM project cycle procedure for project activities	version 03.0 of 09/09/2021	Other
4	CDM Executive Board	CDM project standard for project activities	version 03.0 of 09/09/2021	Other
5	CDM Executive Board	CDM validation and verification standard for project activities	version 03.0 of 09/09/2021	Other
6	CDM Executive Board	Baseline and monitoring methodology ACM0002 - Grid-connected electricity generation from renewable sources	version 14.0	Other
7	CDM Executive Board	CDM-PDD-FORM: Project design document form, including its Attachment: Instructions for completing this form	Version 12 of 08/10/2021	Other
8	DET NORSKE VERITAS	Validation report 2012-0546, for the project activity Rondinha Small Hydroelectric Power Plant	Dated 16/12/2014	Other
9	Google Earth	SHPP Rondinha	25/10/2022	Other
10	ANEEL	-Dispatch nº 1709 authorizing SHPP Rondinha (UG1 and UG2) to start commercial operation from 04/06/2014 (6.2 DESPACHO Nº 1.709, DE 03 DE JUNHO DE 2014 - Op. Comercial.pdf)	Dated 03/06/2014	Other
11	Instituto de Meio Ambiente-IMA	operational license nº 3370/2018 for the SHPP Rondinha. RINA verified in the Qrcode available in the license that the renewal protocol 459950 is valid until 25/04/2022 (also describes the reservoir area)	-	Other

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

Table 1. CLs from this validation

CL ID	1	**Section no.**	D.7	**Date:** 02/11/2022
Description of CL				
The revised installed capacity of the project activity is not in English format				
Project participant response				**Date:** 03/11/2022
The installed capacity was revised in all sections of the PDD.				
Documentation provided by project participant				
PDD				
DOE assessment				**Date:** 03/11/2022
RINA verified that the PDD was correctly revised. This CL is closed				

Table 2. CARs from this validation

CAR ID	1	**Section no.**	D.7	**Date:** 02/11/2022
Description of CAR				
The power density is not consistent in the sections of the revised PDD				
Project participant response				**Date:** 03/11/2022
All sections of the PDD were revised. After adjustment, all sections are consistent.				
Documentation provided by project participant				
PDD Version 10.				
DOE assessment				**Date:** 03/11/2022
RINA verified that the PDD was correctly revised. This CAR is closed				

Table 3. FARs 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~~

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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.

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