



**Validation report form for renewal of crediting period for
CDM project activities
(Version 02.0)**

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	Title: Micro-hydro Promotion UNFCCC reference no: 3653
Number and duration of the next crediting period	2 nd Crediting period Duration: 18/10/2017 to 17/10/2024
Version number of the validation report for RCP	1.0Aa
Completion date of the validation report for RCP	25/01/2019
Version number of PDD to which this report applies	Version 16 of 16/12/2018
Project participants	Nepal: Alternative Energy Promotion Centre (AEPC), Nepal Sweden: Swedish Energy Agency Germany: Statkraft Markets GmbH Italy: Enel Global Trading S.p.A. Belgium: Electrabel S.A.
Host Party	Nepal
Applied methodologies and standardized baselines	AMS-I.A.ver.16
Mandatory sectoral scopes linked to the applied methodologies	01
Conditional sectoral scopes linked to the applied methodologies	NA
Estimated amount of annual average GHG emission reductions or GHG removals by sinks in the next crediting period	34,336 tCO ₂ e
Name and UNFCCC reference number of the DOE	RINA Services S.p.A. (RINA) E-0037
Name, position and signature of the approver of the validation report for RCP	Laura Severino (Authorized officer signing for the DOE) Sustainability & Food Certification Compliance Head 

SECTION A. Executive summary

>> Purpose and general description and location:

The project involves installation of 450 micro-hydro plants (MHPs) of different capacities ranging from 5-500 kW with a cumulative capacity of 14.970 MW. The project is being promoted by the Alternative Energy Promotion Centre (AEPC) under the Ministry of Environment, Science and Technology (MOEST) of Government of Nepal (GoN). The implementation of these micro-hydro plants are being done through two of AEPC's projects namely: Rural Energy Development Program (REDP) and Mini grid Support Program (MGSP) of Energy Sector Assistance Program (ESAP). MHP installations are scattered throughout the country mostly in rural hilly settlements which do not have access to grid electricity or no chance of extension of the national grid in the near future.

Validation scope:

The objective of the Validation is to have an independent evaluation of a project activity by a designated operational entity against the requirements of the CDM as set out in decision 3/CMP.1, its annex and relevant decisions of the COP/MOP, on the basis of the project design document. 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 that the project design, as documented, is sound and reasonable and meets the identified criteria. Validation is a requirement for all CDM projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reductions (CERs).

The validation scope is to review the PDD against the UNFCCC criteria for CDM.

UNFCCC criteria for CDM refer to Article 12 of the Kyoto Protocol, the CDM modalities and procedures, and the subsequent decisions by the CDM Executive Board.

Validation 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.

Validation process:

Validation was conducted using RINA procedures in line with the requirements specified in the CDM M&P, the latest version of the CDM Validation and Verification Standard, and relevant decisions of the COP/MOP and the CDM EB and applying standard auditing techniques.

The validation consisted of the following three phases:

- Document review;
- Follow-up actions;
- The resolution of outstanding issues and the issuance of the final validation report.

Conclusion:

"The World Bank" (one of the PP represented as International Bank for Reconstruction and Development as the Trustee for the Community Development Carbon Fund (CDCF)) has commissioned RINA to carry out the validation of the project activity "Micro-hydro Promotion" in Nepal, with regard to the relevant requirements for CDM activities.

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 for the applicable crediting period.

In conclusion, it is RINA's opinion that the project meets all the relevant requirements for the renewal of the crediting period.

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 and Technical Expert TA 1.2	IR	Menon	Rekha	RINA India	√	√	√	√
2.	Validator	IR	Buragohain	Champak	RINA India	√	√	√	√

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	IR	Liu	Hui Feng	RINA China Office
2.	Approver	IR	Severino	Laura	RINA HQ

SECTION C. Means of validation**C.1. Desk/document review**

>>The PDD, version 15 of 16/09/2018 and version 16 of 16/12/2018 **/01/**, in particular the applicability of the methodology, the baseline determination, the additionality of the project activity, the starting date of the project, the monitoring plan, the emission reduction calculations provided in the form of a spreadsheet (Ex-ante ER Calculation Spreadsheet.xls) submitted on 17/09/2018 **/02/** were assessed as part of the validation. Appendix 3 lists the documentation that was reviewed during the validation.

C.2. On-site inspection

Duration of on-site inspection: 07/12/2018 to 12/12/2018				
No.	Activity performed on-site	Site location	Date	Team member
1.	Project activity, technical specifications, operational status	Palpa, Pokhra, Kathmandu	07/12/2018 to 12/12/2018	Rekha Menon & Champok Buragohain
2.	Baseline scenario			
3.	Project Boundary			
4.	Applicability of methodology			
5.	Monitoring plan, monitoring and measuring systems			
6.	Data management and reporting, QA/QC systems			

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Chauhan	Chhak Lal	President, MHP User Committee, Arun Khola	07/12/2018	Project implementation status, data recording and data archiving. Stakeholder consultation and project benefits to community.	Rekha Menon & Champok Buragohain
4.	Kaphle	Ishwor	Chairman, Naubise Khola MHP	07/12/2018		
5.	Tamang	Bagar Bdr.	User group president, Daringal Khola MHP	08/12/2018		
6.	Tamang	Durga Bdr.	Manager, MHP User group, Daringal Khola MHP	09/12/2018		
7.	Tamang	Chandra Kumar	MHP Operator, Daringal Khola MHP	10/12/2018		
8.	Karki	Lila Bdr.	Executive Director, REDA Palpa	11/12/2018		
9.	Manandhar	Rassu	Programme Officer, AEPC	07/12/2018 to 12/12/2018	Project implementation status, QA/QC procedures, Operating staff competence and the risks for inappropriate operation and data collection procedures of the project (training needs). Metering equipment accuracy / calibration performance-frequency. Monitoring practices (against the requirements of the PDD and the selected methodology) Monitoring report and ER spread sheets	Rekha Menon & Champok Buragohain
10.	Pokhrel	Prem	Sr. Programme Officer, AEPC	07/12/2018 to 12/12/2018		
11.	Bowden	Nick	Carbon Finance Specialist, World Bank	07/12/2018 to 12/12/2018		

C.4. Sampling approach

>>N/A

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	-	1	-
Application and selection of methodologies and standardized baselines	-	-	-
Validity of original baseline or its update	-	2	-
Estimated emission reductions or net anthropogenic removals	-	-	-
Validity of monitoring plan	-	-	-
Crediting period	1	-	-
Project participants	1	-	-
Post-registration changes	-	-	-
Others (please specify)	-	-	-
Total	2	3	0

SECTION D. Validation findings**D.1. Compliance with PDD form**

Means of validation	The updated PDD/1/ has been validated against the valid version of the applicable PDD form version 10.1 /07/ and the instructions therein for filling out the PDD form.
Findings	CAR 01 was raised as project participant information was not consistent in the updated PDD and methodology reference was wrong in some sections. PP has corrected the same in the updated PDD and hence, CAR was closed.
Conclusion	RINA confirms that the updated PDD is in compliance with the latest version of the PDD form (version 10.1) and the instructions therein for filling out the PDD form. RINA also confirms that the project participants have updated the relevant sections of the PDD in accordance with the relevant requirements in the Project Standard. RINA further confirms that the information transferred to the updated version of the PDD is materially the same as that in the registered PDD.

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

Means of validation	The PP has applied the latest version of the methodology AMS-I. A, version 16. The proposed project activity meets the criteria defined in the baseline methodology as described below:	
	Criteria	Means of verification
	<p>This category comprises renewable electricity generation units that supply individual households/users or groups of households/users included in the project boundary. The applicability is limited to individual households and users that do not have a grid connection except when:</p> <p>A group of households or users are supplied electricity through a standalone mini grid powered by renewable energy generation unit(s) where the capacity of the generating units does not exceed 15 MW (i.e. the sum of installed capacities of all renewable energy generators</p>	<p>The project activity involves 450 micro-hydro plants (MHPs) of different capacities ranging from 5-500 kW with an aggregate capacity of 14.970 MW. Each micro hydro plant is connected to individual households and users which are not connected to national grid. Hence, applicability conditions justified.</p>

	connected to the mini-grid is less than 15 MW) e.g. a community based stand-alone off-the-grid renewable electricity systems.	
Findings	N/A	
Conclusion	RINA hereby confirms that the selected baseline and monitoring methodology has been previously approved by the CDM Executive Board, and is applicable to the Project, which complies with all the applicability conditions therein and the selected version is valid at the time of submission of the proposed project activity for renewal of crediting period. It is also confirmed that the methodology is correctly applied by comparing it with the actual text of the applicable version of the methodology and there is no deviation from the selected methodology.	

D.3. Validity of original baseline or its update

Means of validation	<p>The project participant has included the assessment of the validity of the original baseline as per the tool “Assessment of the validity of the original/ current baseline and update of the baseline at the renewal of a crediting period”, Version 3.0.1 /09/, which is concluded to be still valid and applicable for the project</p> <p>The tool consists of two steps. The first step provides an approach to evaluate whether the current baseline is still valid for the next crediting period. The second step provides an approach to update the baseline in case that the current baseline is not valid anymore for the next crediting period.</p> <p>Step 1: Assess the validity of the current baseline for the next crediting period</p> <p>Step 1.1: Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies</p> <p>The project is implemented in line with Renewable Energy Subsidy Policy 2016 of Govt. of Nepal /10/, which promotes to set up micro hydro projects where grid access is not available. Therefore, it is evident that the without the project the only option still remains for the end users to either go for diesel based power generation option. There is no national or sectoral policy in the host country which prohibits the use of diesel for power generation. Hence, baseline for electricity generation component is also still valid as per the original PDD. Thus it can be concluded that original baseline scenario will remain valid for next crediting period.</p> <p>Step 1.2: Assess the impact of circumstances</p> <p>The project activity involves micro hydro power plants for generation of electricity and supply to users who has no access to national grid. In absence of the project activity, the equivalent amount of electricity would have been generated in fossil fuel based generator (preferably diesel based power generation) which is most common approach with no technical barrier to generate and supply electricity. However, this would generate CO₂ emissions into the atmosphere. In the absence of the project the users are still not within the reach of national grid to access electricity. There are no new national/sectoral policies/legislation/circumstance that could affect the baseline scenario during the renewal of the crediting period. There is no change observed in this regard and it can be concluded that the conditions used to determine the baseline emissions in the previous crediting period are still valid.</p> <p>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.</p> <p>The baseline scenario is identified as the most common and viable approach for the project activity. In the absence of the project activity investment would have been needed to set up fossil based power generation systems. However, the project hydro plants still has technical life to continue the second crediting period and therefore investment is not required during the second crediting period.</p> <p>Step 1.4: Assessment of the validity of the data and parameter</p> <p>“Where emission factors, values or emission benchmarks are used and determined only once for the crediting period, they should be updated, except if the emission factors, values or emission benchmarks are based on the historical situation at the site of the project activity prior to the implementation of the project and cannot be</p>
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	<p>updated because the historical situation does not exist anymore as a result of the CDM project activity".</p> <p>Following data parameters are updated from registered PDD:</p> <table><tr><th>Data/Parameter</th><th>Value in registered PD</th><th>Value in updated PD</th><th>Assessment</th></tr><tr><td>Energy consumption by the household connected to the functioning MHP (kWh/month/HH),</td><td>27</td><td>22.53</td><td>As per World Bank assessment, average electricity consumption per month in similar micro-hydro power in rural areas of Nepal is 22.6 kWh /11/. As per AEPC assessment from this registered project monitoring data the average consumption is 22.53 kWh per month per household /12/. Therefore, conservatively 22.53 is taken in the updated PDD for the second crediting period.</td></tr></table> <p>Considering the guidance provided under this step, calculation of emission factor and baseline emissions are updated for the next crediting period as per step 2.</p> <p>Step 2: Update the current baseline and the data and parameters Since, the existing baseline scenario is still valid, this step is not applicable.</p> <p>Finally, it is concluded that the original baseline scenario is valid and assessment is complete as per "Tool for the assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period v3.0.1.</p>	Data/Parameter	Value in registered PD	Value in updated PD	Assessment	Energy consumption by the household connected to the functioning MHP (kWh/month/HH),	27	22.53	As per World Bank assessment, average electricity consumption per month in similar micro-hydro power in rural areas of Nepal is 22.6 kWh /11/. As per AEPC assessment from this registered project monitoring data the average consumption is 22.53 kWh per month per household /12/. Therefore, conservatively 22.53 is taken in the updated PDD for the second crediting period.
Data/Parameter	Value in registered PD	Value in updated PD	Assessment						
Energy consumption by the household connected to the functioning MHP (kWh/month/HH),	27	22.53	As per World Bank assessment, average electricity consumption per month in similar micro-hydro power in rural areas of Nepal is 22.6 kWh /11/. As per AEPC assessment from this registered project monitoring data the average consumption is 22.53 kWh per month per household /12/. Therefore, conservatively 22.53 is taken in the updated PDD for the second crediting period.						
Findings	CAR 02 was raised as PP did not include an assessment of validity of original/current baseline as per the tool 'Assessment of the validity of the original/current baseline and update of the baseline at the renewal of a crediting period", Version 3.0.1 which PP has done in the latest version of the PDD and justified the validity of original/current baseline scenario. Hence, CAR is closed.								
Conclusion	RINA concludes that the original baseline is valid and assessment is done as per methodological tool 'Tool for the assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period v3.0.1'. The assessment meets VVS Standard, version 2.0 paragraph 404.								

D.4. Estimated emission reductions or net anthropogenic removals

Means of validation	<p>Baseline Emissions:</p> <p>Baseline emissions are estimated following equation 2 of AMS-I.A, version 16 as below:</p> $E_{BL,y} = \sum_i EG_{i,y} / (1 - l)$ <p>Where:</p> <p>$E_{BL,y}$ Annual energy baseline; kWh</p> <p>\sum_i The sum over the group of i renewable energy technologies (e.g. renewable energy technologies for solar home systems, solar pumps) implemented as part of the project activity</p> <p>$EG_{i,y}$ Annual output of the renewable energy technologies of the group of i renewable energy technologies installed; kWh</p>
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	<p>/ Average technical distribution losses that would have been observed in diesel powered mini-grids installed by public programmes or distribution companies in isolated areas, expressed as a fraction</p> <p>EG_{i,y} shall be monitored for individual micro hydro plants as per energy meter readings. In consistent with the registered PDD and registered monitoring plan, PP would consider a fall back option (to deal with situations where energy meters are either not installed, lately installed, meters not functioning or if the log books are not maintained properly) by which the energy generation data shall be determined using the following approach, which is in line with the methodology requirements:</p> <p>Energy consumption by the HHs connected to the functioning MHP schemes shall be determined by multiplying the number of users (households) connected to the functioning MHP schemes with a conservative electricity consumption factor of 22.53 kWh/month/HH, applicable to rural households in Nepal as mentioned in the PDD and adjusted for technical distribution losses of 10%.</p> <p>Electricity consumption per household per month (22.53 kWh/month) is estimated considering actual monitored data of the project in last 7 years (2010 to 2016) which is conservative than considered during registration of the project activity (27 kWh/month per household).</p> <p>For ex-ante estimation, considering 450 micro hydro plants and total households connected 144,352 energy baseline considering distribution losses is 43,363 MWh for the project activity.</p> <p>Leakage emissions and project emissions for the project activity is zero as per the applied methodology.</p> <p>Emission reductions are estimated as below:</p> $BE_{CO_2,y} = E_{BL,y} * EF_{CO_2}$ <p>Where:</p> <p>$BE_{CO_2,y}$ Emissions in the baseline in year y; tCO₂</p> <p>$E_{BL,y}$ Annual energy baseline in year y; kWh</p> <p>EF_{CO_2} CO₂ emission factor; tCO₂/kWh</p> <p>CO₂ emission factor is taken 0.8 kg CO₂e/kWh as per the methodology. Therefore, emission reductions estimated for the project activity is</p> <p>= 43,363 MWh * 0.8 tCO₂e/MWh</p> <p>= 34,691 tCO₂e.</p>
Findings	N/A
Conclusion	<p>RINA confirms, the PDD correctly lists assumption and data used by the PP for estimating emission reduction including their references and sources.</p> <p>Source of data and assumptions are correctly quoted and interpreted in the PDD.</p> <p>The baseline methodology and corresponding tools have been correctly applied to calculate project, baseline and leakage emissions, and emission reductions.</p> <p>All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD.</p>

D.5. Validity of monitoring plan

Means of validation	<p>The monitoring plan in the PDD is prepared using latest methodology, AMS-I.A. Version 16 which is consistent with the original monitoring plan. Validation team confirmed from the document review that the list of parameters including the means of monitoring is described in accordance with the applied methodology. Following are the parameters to be monitored:</p>
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	Parameter	Monitoring procedure
	EG _y ; Quantity of energy supplied by the project to users (kWh)	Electricity meters installed in the plants would serve as the main source of data. The data would be recorded either in the Meter reading logbook by the operators or in the Centralized Data Center using Remote Meter Reading Systems wherever installed. As a fall back option (to deal with situations where energy meters are either not installed, lately installed, meters not functioning or if the log books are not maintained properly), the energy generation data shall be determined using the following approach, which is in line with the methodology requirements. Energy consumption by the HHs connected to the functioning MHP schemes shall be determined by multiplying the number of users (households) connected to the functioning MHP schemes with a conservative electricity consumption factor of 22.53 kWh/month/HH, applicable to rural households in Nepal as mentioned in the PDD and adjusted for technical distribution losses of 10%.
	i; Name and Capacity in kW	Annual capacity addition of MHPs (no. of plants and their aggregated capacity) shall be monitored continuously in AEPC database as in when plants are commissioned and commissioning reports are received.
Findings	N/A	
Conclusion	RINA confirms that the monitoring plan included in the updated PDD is valid as per the applied methodology and conforms the registered PDD.	

D.6. Crediting period

Means of validation	<p>RINA reviewed the updated PDD, the registration information in the UNFCCC website (UNFCCC Ref: 3653) and PP's notification to the secretariat of their intention to renew the crediting period by sending the "Intention of renewing crediting period notification form" (CDM-RENN-FORM) and an updated PDD to the secretariat on 13/04/2017 /13/. The intimation is provided within 180 days prior to the date of expiration of current crediting period on 17/10/2018.</p> <p>The project activity comprises of 450 micro hydro plants and first MHP commissioned on 15/05/2007 /04/ and with expected operational lifetime of a micro hydro is 15 years. Therefore, all MHP shall not entitled to claim the entire duration of second crediting period and MHPs which commissioned at a later stage and has life upto the end date of second crediting period i.e. 17/10/2024 shall claim entire duration of second crediting period.</p>
Findings	CL 01 was raised to clarify the requirement of section 263 of CDM Project Cycle Procedure version 01 of EB 93, Annex 6 which PP has submitted the evidence of intention of renewal of crediting period and to clarify the life of MHPs to cover the second crediting period to which PP clarified conservatively and hence CL is closed. However, as per latest PCP version 02 of EB 101, Annex 16 the requirement of sending notification to EB for renewal of crediting period is not required.
Conclusion	RINA confirms that the second period was correctly and clearly defined as from 18/10/2017 to 17/10/2024 as per CDM project cycle procedure.

D.7. Project participants

Means of validation	RINA confirm the list of project participants from the review of project view page at UNFCCC website for the activity (UNFCCC Ref: 3653).
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	RINA also reviewed the letter of approval (Ref. No.1878) dated: 28/03/2007 issued from the DNA of Nepal and the MoC dated 13/07/2012 and 13/12/2018 to confirm the name of the project participants.
Findings	CL 02 was raised to clarify project participants name in the project as many projects participants found withdrawn from the project to which PP has updated the names of project participant which are consistent with UNFCCC view page and
Conclusion	RINA confirms that the project participant of the proposed CDM project activity is listed in the updated PDD and this information is consistent with the information provided in the section that contains the contact information for project participant.

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, applied methodologies or applied standardized baselines	N	NA	NA
Corrections	N	NA	NA
Change to the start date of the crediting period of the project activity	N	NA	NA
Inclusion of a monitoring plan	N	NA	NA
Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other applied standards or tools	N	NA	NA
Changes to the project design	N	NA	NA
Changes specific to afforestation and reforestation project activities	N	NA	NA

SECTION E. Internal quality control

>>The draft final validation report before being submitted to request for registration is 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 has undertaken the validation for renewal of the second crediting period for the registered project activity, "Micro-hydro Promotion" (UNFCCC Ref 3653). The validation was performed on the basis of requirements of CDM as set out in Article 12 of the Kyoto Protocol, the CDM M&P, the present annex, subsequent decisions made by the COP/MOP and CDM-EB, procedures for renewal of the crediting period of a registered CDM project activity and also on the criteria given to provide for consistent project operations, monitoring and reporting.

The project activity involves bundling of 450 micro hydro plants to generate electricity and supply to end users where grid is not available. In the absence of the project activity the equivalent electricity would have been generated and supplied through diesel generator which leads to release of GHGs in atmosphere. Therefore the project leads to reduction in GHG emissions.

To arrive at the final validation conclusions and opinion, RINA carried out review of project documents, assessment of compliance with and application of the approved baseline and monitoring methodology as well as the approved methodological tools, field survey and physical on site assessment of the project site. Validation team confirms that project information remains materially same as in the registered PDD.

The validation team is of the opinion that the project activity correctly applies the small scale methodology AMS-I.A Version 16.0 and conforms to all the relevant UNFCCC requirements for the CDM as well as the host country's national requirements and that the monitoring arrangements described in the monitoring plan are feasible within the project design. The project participants are able to implement the monitoring plan and it is deemed likely that the forecasted emission reductions of be 240,357 tCO₂e over 7 years of the second crediting period, averaging 34,336 tCO₂e annually, will be achieved, given that the underlying assumptions do not change. Therefore, RINA requests the renewal of crediting period of "Micro-hydro Promotion" (UNFCCC Ref: 3653) to the CDM Executive Board.

Appendix 1. Abbreviations

Abbreviations	Full texts
AEPC	Alternate Energy Promotion Center
BE	Baseline Emissions
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM M&P	Modalities and Procedures CDM
CER(s)	Certified Emission Reduction(s)
CH ₄	Methane
CL	Clarification Request
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
CRT	Coordination and Technical Control Staff
DCI	Certification Division of RINA Services Spa
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
EF	Emission Factor
EIA	Environmental Impact Assessment
ER	Emission Reductions
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
kW	Kilo Watt
LoA	Letter of Approval
MoC	Modalities of Communication
MoV	Means of Verification
MR	Monitoring Report
ODA	Official Development Assistance
PDD	Project Design Document
PE	Project Emission
PP(s)	Project Participant(s)
Ref.	Document Reference
RINA	RINA Services Spa
SS(s)	Sectoral Scope(s)
TA(s)	Technical Area(s)
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and 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:

Rekha MENON

è qualificato come¹:
is qualified as:

**CDM-TEC, -VAL, -VER, -TL
ITRP, REG-EXP²**

per le seguenti aree tecniche:
for the following technical areas:

1.2, 2.1, 13.1, 13.2, 14.1

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
1.2	Renewables	1
2.1	Energy Demand	2
13.1	Solid Waste and wastewater	13
13.2	Manure	13
14.1	Afforestation and reforestation	14

in accordo alle istruzioni dell'unità Sostenibilità & Cambiamenti Climatici.
in accordance with the instructions of the Sustainability & Climate Change Unit.

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	06-03-2008	-
11	31-03-2017	Update qualification as ITRP
12	23-07-2018	Update qualification as REG-EXP

Il Resp. CCPLS
Head of CCPLS

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: Social Carbon Standard
JI: Joint Implementation

² India, Indonesia, Malaysia, Myanmar, Vietnam, Cambodia, Laos, Sri Lanka, Nepal, China, Philippines, Thailand, Africa, Latin America and Iran

RINA Services S.p.A. è accreditata 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

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CERTIFICATO DI QUALIFICA
QUALIFICATION CERTIFICATE

Si attesta che il sig./sig.ra:
We declare that Mr/Mrs/Ms:

Champok BURAGOHAIN

è qualificato come¹:
is qualified as:

**CDM -TEC, -VAL, -VER, -TL
ITRP, REG-EXP²**

per le seguenti aree tecniche:
for the following technical areas:

1.2, 2.1, 13.1, 13.2

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
1.2	Renewables	1
2.1	Electricity distribution	2
13.1	Solid waste and wastewater	13
13.2	Manure	13

in accordo alle istruzioni dell'unità Sostenibilità & Cambiamenti Climatici.
in accordance with the instructions of the Sustainability & Climate Change Unit.

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	19-01-2011	-
11	31-03-2017	Update qualification as ITRP
12	20-07-2018	Update qualification as REG-EXP

Il Resp. CCPLS
Head of CCPLS

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: Social Carbon Standard
JI: Joint Implementation

² India, Nepal, Sri Lanka, Thailand, Indonesia, Vietnam.

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

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CERTIFICATO DI QUALIFICA
QUALIFICATION CERTIFICATE

Si attesta che il sig./sig.ra:

Hui Feng LIU

We declare that Mr/Mrs/Ms:

è qualificato come¹:
is qualified as:

CDM -TEC, -VAL, -VER, -TL
ITRP, REG-EXP²

per le seguenti aree tecniche:
for the following technical areas:

1.1, 1.2, 8.1, 9.2, 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
8.1	Mining and mineral processes	8
9.2	Iron, steel and ferro-alloy production	9
13.1	Solid waste and wastewater	13

in accordo alle istruzioni dell'unità Sostenibilità & Cambiamenti Climatici.
in accordance with the instructions of the Sustainability & Climate Change Unit.

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	10/09/2010	-
11	31/03/2017	Updating qualification as ITRP
12	30/07/2018	Updating qualification as REG-EXP

Il Resp. CCPLS
Head of CCPLS

¹ Legend:

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

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SCS: Social Carbon Standard
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² Asia / Central Asia and Pacific region

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Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1	The World Bank	Project design document form for the project activity "Micro-hydro Promotion" in Nepal	Version 15 of 16/09/2018 and version 16 of 16/12/2018	PP
2	The World Bank	Emission reduction worksheet 'Ex-ante ER Calculation Spreadsheet.xls'	Submitted on 17/09/2018	PP
3	UNFCCC	AMS-I.A: Electricity Generation by the User	Version 16	Others
4	SGS United Kingdom Limited	validation report no. CDM.VAL0752,	revision 08 of 12/10/2010	PP
5	UNFCCC	Standard: CDM project standard for project activities	Version 02.0 of 29/11/2018; EB101, Annex 1	Others
6	UNFCCC	Standard: CDM Validation and Verification standard for project activities	Version 02.0 of 29/11/2018; EB101, Annex 2	Others
7	UNFCCC	Project Design Document Form for CDM Project Activities (CDM-PDD-FORM), version 10.1 and Attachment "Instructions for filling out the project design document form for CDM project activities" dated 28/06/2017	version 10.1 of 28/06/2017	Others
8	UNFCCC	CDM project cycle procedure for project activities	Version 02 of 29/11/2018; EB 101, Annex 16	Others
9	UNFCCC	Tool "Assessment of the validity of the original/ current baseline and update of the baseline at the renewal of a crediting period".	Version 3.0.1	Others
10	Govt. of Nepal, Ministry of Population and environment	Renewable Energy Subsidy Policy	May 2016	PP
11	The World Bank	Nepal: Scaling Up Electricity Access through mini and micro hydropower applications	96844 V1	PP
12	AEPC	Energy Consumption Analysis of Nepal Village Micro-hydro Project	AEPC 2018	PP
13	The World Bank	Email communication to UNFCCC	E-mail dated 13/04/2017	PP

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

Table 1. CL from this validation

CL ID	01	Section no.	D.6	Date: 12/12/2018
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Description of CL	
As per section 263 of CDM Project Cycle Procedure version 01 of EB 93, Annex 6, PP is required to notify the secretariat by 180 prior to the date of expiration of the current crediting period. Kindly clarify how the requirement is met and submit evidence for the same.	
The operational lifetime of micro hydro plant is 15 years and first MHP got commissioned on 14/05/2007. PP is requested to clarify in section C.2 of PDD, whether all MHPs are expected to continue operate until end of the second period and measures taken to take care in case any MHP end its life before end of the second crediting period.	
Project participant response	Date: 16/12/2018
PP has communicated the secretariat as per the CDM Project Cycle Procedure before 180 days from the expiration of the 1 st crediting period. Please see the e-mail confirmation from the UNFCCC secretariat.	
The operation lifetime of the micro-hydro plant for this project is taken as 15 years. The first MHP got commissioned in 14/05/2007. All the MHPs are not expected to continue operate until the end of the second monitoring period. The measures to take care of these issues are described now in section C.2 of revised PDD.	
Documentation provided by project participant	
E-mail Communication to secretariat: E-mail Communication to Secretariat regarding RCP.pdf	
Revised PDD: 3653_PDD_MHP_2nd CP_v16_Trackchange.doc 3653_PDD_MHP_2nd CP_v16_Clean.doc	
DOE assessment	Date: 19/12/2018
It is evident from e-mail communications, that PP submitted notification to the secretariat of their intention to renew the crediting period by sending the "Intention of renewing crediting period notification form" (CDM-RENN-FORM) and an updated PDD to the secretariat on 13/04/2017. The intimation is provided within 180 days prior to the date of expiration of current crediting period on 17/10/2018.	
A MHP has a technical lifetime of 15 years. Therefore, all MHP shall not entitled to claim the entire duration of second crediting period and MHPs which commissioned at a later stage and has life upto the end date of second crediting period i.e. 17/10/2024 shall claim entire duration of second crediting period. The justification is accepted by the validation team.	
In summary, CL is closed.	

CL ID	02	Section no.	D.7	Date: 12/12/2018
Description of CL				
PP is requested to clarify if all project participant as can be viewed at UNFCCC project view page is still valid to include as project participant when many project participant has withdrawn as project participant.				
Project participant response				Date: 16/12/2018
Many project participants have withdrawn from 2018. So, the list of PPs is revised accordingly in the PDD.				
Documentation provided by project participant				
Revised PDD: 3653_PDD_MHP_2nd CP_v16_Trackchange.doc 3653_PDD_MHP_2nd CP_v16_Clean.doc				
DOE assessment				Date: 19/12/2018
PP has updated the name of project participants which are active and valid as per UNFCCC project view page and MOC statements. Hence, response and revised PDD is accepted by the validation team and CL is closed.				

Table 2. CAR from this validation

CAR ID	01	Section no.	D.1	Date: 12/12/2018
Description of CAR				
1) Under project participant list, AEPC name is not listed in the first page. Kindly clarify. 2) Under section A.6 of the PDD, relevant statements as per 'Instruction for completing the form' is not provided 3) The methodology in title page and section B.1 of the PDD is not consistent.				
Project participant response				Date: 16/12/2018

1)	AEPC's name is inserted in the first page under the host party. Please see the revised PDD.
2)	The section A.6 of the PDD is revised accordingly. See the section A.6 of revised PDD.
3)	The methodology in title page and section B.1 of PDD is made consistent. Please see the revised PDD.
Documentation provided by project participant	
Revised PDD: 3653_PDD_MHP_2nd CP_v16_Trackchange.doc 3653_PDD_MHP_2nd CP_v16_Clean.doc	
DOE assessment	Date: 19/12/2018
The necessary corrections are done as reviewed in the updated PDD and hence accepted. CAR is closed.	

CAR ID	02	Section no.	D.3	Date: 12/12/2018
Description of CAR				
Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period is not applied in section B.4 of the PDD				
Project participant response				Date: 16/12/2018
The assessment of the validity of the original/current baseline is applied and indicated under section B.4 of the PDD which reveals that the original baseline (Diesel) still continue for this crediting period but the values of the energy consumption is updated as per the current scenario.				
Documentation provided by project participant				
Revised PDD: 3653_PDD_MHP_2nd CP_v16_Trackchange.doc 3653_PDD_MHP_2nd CP_v16_Clean.doc				
DOE assessment				Date: 19/12/2018
PP has referred the latest UNFCCC tool 'Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period' and justified the validity of original baseline. The DOE has accessed the same with applicable local and sectoral policies and confirm the assessment to be correct. Hence, CAR is closed.				

CAR ID	03	Section no.	Others	Date: 12/12/2018
Description of CAR				
As per section 284 of CDM Project standard version 01 of EB 93, Annex 4 the additionality of the project activity is not required to reassess or updated. However it is seem that PP has modified the additionality section. Kindly clarify.				
Project participant response				Date: 16/12/2018
The information on additionality has been kept same in revised PDD. Please see the section B.5 of revised PDD.				
Documentation provided by project participant				
Revised PDD: 3653_PDD_MHP_2nd CP_v16_Trackchange.doc 3653_PDD_MHP_2nd CP_v16_Clean.doc				
DOE assessment				Date: 19/12/2018
In consistent with section 284 of CDM project standard, PP has kept the additionality of the project consistent with registered PDD. The same is reviewed and compared with registered PDD and confirm to be correct. Hence, CAR is closed.				

Table 3. 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

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Document information

Version	Date	Description
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		