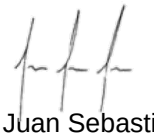
Validation report form for renewal of crediting period for CDM project activities

(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	Agua Fresca Multipurpose and environmental services project 0122
Number and duration of the next crediting period	Third Crediting Period (01/01/2020 – 31/12/2026)
Version number of the validation report	02.0
Completion date of the validation report	31/08/2020
Version number of PDD to which this report applies	6
Project participants	Energía del Río Piedras S.A. E.S.P.
Host Party	Colombia
Applied methodologies and standardized baselines	Approved small scale methodology AMS-I.D: Grid connected renewable electricity generation, version 18.0
Mandatory sectoral scopes	1 : Energy industries (renewable - / non-renewable sources)
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	11,577 tCO_2e
Name and UNFCCC reference number of the DOE	Colombian Institute for Technical Standards and Certification (ICONTEC) E-0024
Name, position and signature of the approver of the validation report	 Juan Sebastián Salazar Technical Director

SECTION A. Executive summary

ICONTEC has performed the assessment for the renewal of crediting period of Agua Fresca Multipurpose and environmental services project - Crediting Period Renewal Request in Colombia on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM modalities and procedures and the subsequent decisions by the CDM Executive Board. This renewal of crediting period report summarizes the findings of this exercise.

The proposed project activity under the renewal process is based on the Approved small scale methodology AMS-I.D: Grid connected renewable electricity generation, version 18.0. The project activity under validation process consists of a small run-of-river hydroelectric plant connected to the Colombian electrical grid with an installed capacity of 7.49 MW which is located in the municipality of Jerico (Department of Antioquia - Colombia).

The renewal of crediting period process consisted of the following three phases: i) a desk review of the revised project design documents, ii) follow up interviews with project stakeholders and iii) the resolution of outstanding issues and the issuance of the final renewal of crediting period report and opinion. (See Appendix 4 on this report)

The total emission reductions from the project are estimated to be on average 11,577 tCO_2e per year for the third crediting period.

In summary, it is ICONTEC's opinion that Agua Fresca Multipurpose and environmental services project, as described in the version 6 of the revised project design document, meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria and correctly applies the baseline and monitoring methodology AMS-I.D, version 18.0. Hence, ICONTEC requests the renewal of crediting period of the project as CDM project activity.

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 in Sectoral Scope 1.2	IR	Ramirez	Francy	Employee	✓		✓	✓
2.	Professional under training	EI	Acevedo	Helmer	Freelance			✓	

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.	Lead technical reviewer	IR	Santos	Diana	Employee
2.	Technical expert reviewer in Sectoral Scope 1.2	EI	Gomez	Fernando	Freelance
3.	Approver	IR	Salazar	Juan Sebastián	Employee

SECTION C. Means of validation

C.1. Desk/document review

The reviewing of the project documentation provided by the project proponent is based upon both quantitative and qualitative information on estimated emission reductions. Quantitative information comprises the reported numbers in the revised PDD submitted. Qualitative information comprises information about description of the project activity and the equipment related, and monitoring procedures.

Main documents reviewed during the desk review stage, provided by the project proponent, are:

- Revised PDD version 5, dated on June 18th/2020/1/
- Spreadsheet used for the calculation of the emission factor for the Colombian Electricity System and for the calculations of estimated ERs for the third crediting period /2/

In addition to the revised PDD documentation provided by the project proponent, ICONTEC utilized:

- Approved small scale methodology AMS-I.D: Grid connected renewable electricity generation, version 18.0/UN1/
- CDM validation and verification standard for project activities, version 02.0/UN2/
- CDM project standard for project activities, version 02.0/UN3/
- CDM project cycle procedure for project activities, version 02.0/UN4/
- Tool to calculate the emission factor for an electricity system, version 07.0.0/UN5/
- Methodological Tool for 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/UN6/
- Project Design Document form, version 11.0/UN7/

A compilation of the documents related to the verification activities have been compiled under Appendix 3.

C.2. On-site inspection

In accordance with the provisions stated in CDM validation an verification standard for project activities/UN2/ paragraphs 402 and 30, the audit team did not consider as mandatory to carry out an on-site inspection to Agua Fresca Multipurpose and environmental services project since:

- Its estimated annual average of greenhouse gas (GHG) emission reductions is less than 100,000 tCO_2 eq; and
- There is no pre-project information that is relevant to the requirements for renewal of crediting period of the project activity that may not be traceable after the renewal.

Nevertheless, the audit team carried out a virtual inspection by means of Google maps and photographs through the equipments described in the revised PDD, interviews with personnel involved in the project activity operation, as well as, it was performed an exhaustive documental review of operational records (e.g. annual maintenance program and event reports) in order to ensure an assessment free of material misstatements.

Duration of on-site inspection: DD/MM/YYYY to DD/MM/YYYY				
No.	**Activity performed on-site**	**Site location**	**Date**	**Team member**
1.				
…				

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Ortega Restrepo	Sergio	Manager and Legal Representative Energía del Río Piedras S.A. E.S.P.	04/08/2020	• Compliance with PDD form • Application and selection of methodologies and standardized baselines • Validity of original baseline or its update • Estimated emission reductions or net anthropogenic removals • Validity of monitoring plan • Crediting period • Project participants • Post-registration changes	Francy Ramírez Helmer Acevedo
2.	Correo Osorio	Juliana	Project Manager MGM Innova			
3.	Gomez	Juan Camilo	Project Analyst MGM Innova			

C.4. Sampling approach

No sampling approach was used during the validation.

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

SECTION D. Validation findings

D.1. Compliance with PDD form

Means of validation	The audit team checked the latest approved PDD form /UN7/ and the contents written by the PP in that form, besides the PDD approved for the current second crediting period, in order to assess if the project participants have updated the

	relevant sections of the PDD in accordance with relevant requirements in the Project standard for the request of the crediting period renewal.
Findings	CL 1 was raised since the PP did not follow the instructions for completing the PDD form in Section A.3 of revised PDD, later on the PP updated the revised PDD and the finding was closed. More details on this finding in Appendix 4
Conclusion	The audit team deems that all information transferred to the latest valid version of the PDD form is materially the same as that in the approved PDD for the second crediting period. Likewise, the audit team confirms that the PDD Version 6 /1/ is in compliance with the relevant valid version of project design document form /UN7/ and instructions therein for filling out PDD.

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

Means of validation

The project activity has been registered with the approved methodology, AMS-I.D, version 06. For the second crediting period the version 17 of the applied methodology was used. Since version 17 of AMS-I.D is no longer valid, the PDD for the renewal crediting period has been revised in line with the approved methodology AMS-I.D version 18 /UN1/, which is the latest version of the applied methodology at the time of submitting the revised PDD and is currently valid.

ICONTEC has performed previously verification assessments and validation assessmets (for renewal of crediting period purpose) for all those assessments, the audit teams carried out on-site visits, which can help to validate the applicability criteria of methodology AMS-I.D version 18.0 /UN1/

The applicability criteria of this methodology, was verified by ICONTEC, as follows:

Applicability Condition	Means of Validation
This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass: (a) Supplying electricity to a national or a regional grid; or (b) Supplying electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling.	Agua Fresca Multipurpose and environmental services project consists of installation of a hydro power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (Greenfield plant). ICONTEC verified this statement by means of: - Previous On site visits - Documental Review of Colombian electrical system in the Website of Colombian administrator of the wholesale electric market[1]
Illustration of respective situations under which each of the methodology (i.e. “AMS-I.D.: Grid connected renewable electricity generation”, “AMS-I.F.: Renewable electricity generation for captive use and mini-grid” and “AMS-I.A.: Electricity generation by the user) applies is included in the appendix.	

[1] http://paratec.xm.com.co/paratec/SitePages/generacion.aspx?q=capacidad

	This methodology is applicable to project activities that: (a) Install a Greenfield plant; (b) Involve a capacity addition in (an) existing plant(s); (c) Involve a retrofit of (an) existing plant(s); (d) Involve a rehabilitation of (an) existing plant(s)/unit(s); or (e) Involve a replacement of (an) existing plant(s).	
	Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology: (a) The project activity is implemented in an existing reservoir with no change in the volume of reservoir; (b) The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the project emissions section, is greater than 4 W/m^2; (c) The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the project emissions section, is greater than 4 W/m^2.	Agua Fresca Multipurpose and environmental services project is a run-of-river hydroelectric power plant (it does not have a reservoir), hence this condition is not applicable to the project activity. ICONTEC verified this statement by means of previous on-site visit, and by means of reviewing of Google maps.
	If the new unit has both renewable and non-renewable components (e.g. a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component. If the new unit co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15 MW. Combined heat and power (co-generation) systems are not eligible under this category.	Agua Fresca Multipurpose and environmental services project is a Geenfield run-of-river hydroelectric power plant (it does not have a reservoir) with an installed capacity of 7.49 MW, hence these conditions are not applicable to the project activity. ICONTEC verified this statement by means of previous on-site visits, and by means of reviewing of Google maps.

	In the case of project activities that involve the capacity addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct from the existing units.
	In the case of retrofit, rehabilitation or replacement, to qualify as a small-scale project, the total output of the retrofitted, rehabilitated or replacement power plant/unit shall not exceed the limit of 15 MW.
	In the case of landfill gas, waste gas, wastewater treatment and agro-industries projects, recovered methane emissions are eligible under a relevant Type III category. If the recovered methane is used for electricity generation for supply to a grid then the baseline for the electricity component shall be in accordance with procedure prescribed under this methodology. If the recovered methane is used for heat generation or cogeneration other applicable Type-I methodologies such as "AMS-I.C.: Thermal energy production with or without electricity" shall be explored.
	In case biomass is sourced from dedicated plantations, the applicability criteria in the tool "Project emissions from cultivation of biomass" shall apply.
	The applicability conditions of this project activity regarding to the tool to calculate the emission factor for an electricity system /UN5/ will be discussed in Sections D.3, D.4 and D.5 of this report. The paragraph 280 of PS /UN3/ states: "The project participants are not required to reassess the additionality of the project activity and update the section relating to additionality", hence this report does not contain an assessment regarding to this issue
Findings	CL 2 was raised since in Section A.5 it was not demonstrated that the project activity complies with the applicability conditions of Tool to calculate the emission factor for an electricity system, version 07.0, later on the PP updated the revised PDD and added those applicability condiction, and the finding was closed . More details on this finding in Appendix 4
Conclusion	The validation team confirms that the Project meets all the applicability conditions and is in line with all the requirements and stipulations mentioned in the applied methodology /UN1/ and the other methodological regulatory documents/UN5/.

D.3. Validity of original baseline or its update

Means of validation	The baseline determination has been developed using methodology AMS-I.D,

Version 18.0 /UN1/ and Tool for the 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/UN6/

According to the tool /UN6/ the PP applied correctly the following steps:

Step 1: Assess the validity of the current baseline for the next crediting period

Step 1.1: Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies

There are no changes in the relevant national and/or sectoral policies since the date of renewal of crediting period (second crediting period), which impacts the baseline scenario. Although the national policies encourage the development of renewable energy /3/, but using renewable energy resources for power generation is not mandatory. Power generation by fossil fuel based plants has a relevant role in Colombian power supply, especially in time when ENSO[2] occurs. Likewise, the audit team review the Colombian regulatory framework[3] with the aim to verify the description provided by the PP in the revised PDD /1/. As conclusion current baseline still complies with all relevant Colombian policies.

Step 1.2: Assess the impact of circumstances

As it was described above, the circumstances at moment of request the renewal of crediting period are the same than validation moment; since the existing scenario is that the Colombian electrical interconnected electrical grid provides the same electricity service as the proposed project /4/, where the power generation by fossil fuels still has a relevant share in the Colombian electrical interconnected grid even with the efforts made by the Colombian Government to encourage the investment in electrical generation by the use of renewable energies/3/. PP assessed the impact of circumstances existing at the time of requesting renewal of the crediting period on the current baseline emissions, in which the baseline emission factor has been updated based on the latest available public data. (See development of Step 2.2 on this report)

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.

In absence of the project activity, equivalent amount of electricity would have been generated by other power plants connected to Colombian electrical grid, therefore the baseline equipments, related with the baseline scenario defined in the applied methodology, would be those equipment related with the 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 into the grid.

Step 1.4: Assessment of the validity of the data and parameters
The data and parameters used for the baseline calculations follow provisions of the Tool to calculate the emission factor for an electricity system /UN5/.

For the operating margin emission factor (EF_{OM}), it was considered that there are new power plants operating in the Colombian electrical grid since the renewal of crediting period with the existing power plants /2/. The baseline emissions of the project activity were updated, considering the Tool to calculate the emission factor for an electricity system /UN5/, data available in the Colombian administrator of the wholesale electric market (XM) and Colombian Unit for mining and energy planning (UPME) for the calculation of grid emission factor (please refer to Step 2.2 below).

[2] The El Niño-Southern Oscillation (ENSO) is a recurring climate pattern involving changes in the temperature of waters in the central and eastern tropical Pacific Ocean
[3] http://www.siel.gov.co/Inicio/Normatividad/tabid/65/Default.aspx

	Step 2: Update the current baseline and the data and parameters **Step 2.1: Update the current baseline** As per the applied methodology, AMS-I.D, version 18.0 /UN1/, the baseline emission is the product of electricity delivered to the Colombian electrical grid by the renewable generating units multiplied by combined margin emission factor of Colombian electrical grid. In accordance with applied methodology /UN1/ and applicable Tool /UN5/ an electricity baseline emission factor has been calculated as a combined margin emission coefficient, consisting of the combination of a simple adjusted operating margin (OM) emission coefficient and a build margin (BM) emission coefficient. **Step 2.2: Update the data and parameters** The simple adjusted OM was chosen by the PP to calculate the operating margin emission factor, using 2019, 2018 and 2017 data vintage for the estimation of emissions reductions, in accordance with the parameters stated in the following equation: $$EF_{grid,OM-adj,y} = (1-\lambda_y) \times \frac{\sum_m EG_{m,y} \times EF_{EL,m,y}}{\sum_m EG_{m,y}} + \lambda_y \times \frac{\sum_k EG_{k,y} \times EF_{EL,k,y}}{\sum_k EG_{k,y}}$$ This emission factor is fixed during the crediting period. It will not require monitoring during the third crediting period. Calculations of OM emission factor were made as illustrated in the spreadsheets used for Colombian electrical grid emission factor calculation /2/, which is according to the tool's specifications/UN5/. The audit team validated the values comparing the ones presented for the PP in the mentioned spreadsheet/2/, against the values downloaded, from the XM website[4] during the interviews. After the comparison, the audit team deemed reliable and appropriate the values used. The OM emission factor calculated was 0.6146 tCO_2e/MWh, hence ICONTEC deemed the obtained value as reliable and credible. For BM emission factor (step 5) option 1 (ex-ante) was chosen for the second crediting period. In accordance with paragraph 72 (a) of the Tool to calculate the emission factor for an electricity system: "*For the third crediting period, the build margin emission factor calculated for the second crediting period should be used*". That is it the build margin emission factor for third crediting period is 0.0390 tCO_2e, and this emission factor does not require monitoring during third crediting period. The grid emission factor for the project activity has been calculated to be 0.1829 tCO_2e/MWh, considering a weighted of W_{OM} = 0.25 and W_{BM} = 0.75, as stipulated for renewable crediting period in the "Tool to calculate the emission factor for an electricity system" /UN5/.
Findings	During the interviews the audit team noted that energy generation for some power plants during 2019 and stated in the spreadsheet used for emissions reduction calculation is not coherent with the energy generation verified in XM, so CAR 1 was raised. The PP updated and corrected the values of energy generation of the power plant related with the find, and the CAR was closed. More details about this issue on Apendix 4.
Conclusion	The audit team confirms the validity of updated baseline in the updated PDD/1/ in accordance with the applicable validation requirements related to the renewal of crediting period/UN6/ in the VVS /UN2/.

D.4. Estimated emission reductions or net anthropogenic removals

Means of validation	According to equation 9 of the methodology AMS-I.D, version 18.0/UN1/, emission reductions shall be calculated as follows:

[4] http://informacioninteligente10.xm.com.co/oferta/Paginas/HistoricoOferta.aspx and http://paratec.xm.com.co/paratec/SitePages/Default.aspx .

	$ER_y = BE_y - PE_y - LE_y$ For this type of project activity, according to Methodology $LE_y = 0$ (AMS-I.D, version 18.0 section 5.7) and $PE_y = 0$ (AMS-I.D, version 18.0 section 5.6), since Agua Fresca Hydroelectric Power Plant results in run-of-river hydroelectric power plant with no change in the volume of any reservoir as it was mentioned before (See section D.2 on this report). Hence, the emission reductions are calculated as: $ER_y = BE_y$ The baseline emissions are the product of electrical energy baseline $EG_{PJ,y}$ expressed in MWh of energy produced by the renewable generating unit multiplied by the grid emission factor. $ER_y = BE_y = EG_{PJ,y} \text{ X } EF_{grid,y}$ For ex-ante estimation of baseline emissions, the electric energy baseline $EG_{PJ,y}$ was established as a total of electrical energy produced by the project activity estimated at registration time (63,300 MWh per year) /5/ and at the renewal of the second crediting period /6/. The audit team deemed the value used for parameter $EG_{PJ,y}$ as credible, reliable and traceable. The Grid emission factor was calculated for estimation of emission reduction as $EF_{grid,y} = 0.1829$ tCO_2/MWh for the third crediting period. So the baseline emissions (and hence the emissions reductions) are: $ER_y = BE_y = 63,300$ MWh X 0.1829 $tCO_2/MWh = 11,577$ tCO_2e/year Therefore, it is estimated that during the third crediting period, Agua Fresca Multipurpose and environmental services project will reduce 81,039 tCO_2e/year
Findings	No finding was raised on this issue.
Conclusion	Based on the information reviewed, the audit team confirmed that in the revised PDD, the sources used were correctly quoted and interpreted, the calculation processes are complete and replicable, and the calculation outcomes are reasonable and accurate. The audit team also confirms that: • All assumptions and data used by the project participants are listed in the revised PDD and its annexes, including their references and sources; • All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the revised PDD and its annexes; • All values used in the revised PDD and its annexes are considered reasonable in the context of the proposed CDM project activity; • The baseline methodology/UN1/ and applicable tools/UN5/ have been correctly applied to calculate baseline emissions, project emissions, leakage and emission reductions; • All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD and its annexes.

D.5. Validity of monitoring plan

Means of validation	Monitoring plan presented on revised PDD complies with requirements of approved methodology AMS-I.D (version 18.0) /UN1/. Monitoring of GHG emission reductions is based on the electricity generation by the project activity, which is transparently presented in section B.7.1 of the revised PDD, version 6 /1/. ICONTEC verified through interviews with relevant personnel that the project is equipped with an extensive monitoring system for electrical energy generation in accordance with the Colombian regulatory framework/7/.

	Audit team checked the parameter ($EG_{facility,y}$) presented in the monitoring plan of the latest version of the revised PDD /1/, against methodology /UN1/ and applied tools /UN5/ requirements. No deviations to the project activity were found.
Findings	No findings were raised on this issue.
Conclusion	With the above information, ICONTEC confirmed that the monitoring plan established by the PP, is feasible and that the PP has the ability and sufficient means of implementation to ensure that the emission reductions expected as a result of the project activity, are reported and verified. It is according with provisions of VVS/UN2/ and PS /UN3/.

D.6. Crediting period

Means of validation	The type of crediting period for this project activity is renewable three times by 7 years.The first crediting period of the project activity was 01/01/2007 – 31/12/2012, and the second crediting period of the project activity was 01/01/2013 – 31/12/2019. In accordance with the provisions stated in paragraph 278 of CDM project cycle procedure for project activities /UN4/, it is expected to submit through the dedicated interface on the UNFCCC CDM website, a request for renewal of crediting period of Agua Fresca Multipurpose and environmental services project together with the new version of the PDD and this validation report before December 31st/2020 (no later than one year after the expiry of the crediting period). Therefore, the third crediting period commences on the day immediately after the expiration of the second crediting period (January 1st 2020).
Findings	No findings were raised on this issue
Conclusion	The validation team confirms that the description of the third crediting period in the revised PDD complies with applicable requirements established by the CDM Executive Board.

D.7. Project participants

Means of validation	Audit team checked whether the names of the project participants included in the revised PDD /1/ were consistent with the names of the project participants in the UNFCCC Website[5] by means of desk review.
Findings	No finding was raised on this issue
Conclusion	The audit team concluded that the names of project participants in the revised PDD /1/ were consistent with the names of the project participants in the UNFCCC Website[5].

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, standardized baselines or other methodological regulatory documents[6]	N		
Corrections	N		
Change to the start date of the crediting period	N		
Inclusion of a monitoring plan	N		
Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents	N		
Changes to the project design	N		
Changes specific to afforestation and reforestation project	N		

[5] https://cdm.unfccc.int/Projects/DB/DNV-CUK1132831273.89/view?cp=1

[6] 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).

activities			

SECTION E. Internal quality control

This report includes the validation findings that underwent a technical review before being submitted to the project participants.

The technical review and the quality control of the process was performed by an internal technical reviewer in accordance with ICONTEC internal procedures for carrying out validation, verification and certification audits of CDM project activities. The technical reviewers are qualified in accordance with the professional qualification scheme for CDM validation and verification activities established by ICONTEC.

SECTION F. Validation opinion

ICONTEC has performed the renewal of crediting period assessment of Agua Fresca Multipurpose and environmental services project, in Colombia. The assessment of renewal of crediting period was performed on the basis of UNFCCC criteria for the Clean Development Mechanism and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The review of the revised Project Design Documentation and the subsequent follow-up interviews has provided ICONTEC with sufficient evidence to determine the fulfilment of the stated criteria.

The project correctly applies the approved small scale methodology AMS-I.D: Grid connected renewable electricity generation, version 18.0.

The project consists of the small run-of-river hydroelectric plant connected to the Colombian electrical grid with an installed capacity of 7.49 MW, which is located in the municipality of Jerico (Department of Antioquia). The estimated electrical energy delivered by this project activity to the Colombian Electrical Interconnected Grid (SIN as per its acronym in Spanish) is 63.3 GWh per year.

The total emission reductions from the project are estimated to be on the average of 11,577 tCO_2e per year over the selected 7 year – third crediting period. The emission reductions' forecast has been checked and it is deemed likely that the stated amount is achieved because the underlying assumptions do not change.

In summary, it is ICONTEC's opinion that The project consists of the small run-of-river hydroelectric plant connected to the Colombian electrical grid with an installed capacity of 7.49 MW, which is located in the municipality of Jerico (Department of Antioquia). The energy produced by this project activity is delivered to the Colombian electrical grid., in Colombia, as described in the revised PDD version 6, meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria and correctly applies the approved small scale methodology AMS-I.D: Grid connected renewable electricity generation, version 18.0. ICONTEC thus, requests the renewal of the crediting period of the project as a CDM project activity.

Appendix 1. Abbreviations

Abbreviations	Full texts
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CERs	Certified emission reductions
CL	Clarification Request
CO_2e	Carbon dioxide equivalent
CREG	Colombian Regulatory Commission for energy and gas (Comision de Regulación de Energia y Gas)
DNA	Designated National Authority
DOE	Designated Operational Entity
ERs	Emission Reductions
GHG	Greenhouse Gases
ICONTEC	Colombian Institute of Technical Standards and Certification (Instituto Colombiano de Normas Técnicas y Certificación)
IPCC	Intergovernmental Panel on Climate Change
MoC	Modalities of Communication
MR	Monitoring Report
PCP	CDM Project Cycle Procedure
PDD	Project Design Document
PP	Project Participant
PRC	Post Registration Change
PS	CDM Project Standard for project activities
UNFCCC	United Nations Framework Convention for Climate Change
VVS	CDM Validation and Verification Standard for project activities
UPME	Colombian Unit for mining and energy planning (Unidad de Planeacion Minero Energetica)
XM	Abbreviation for “Market Experts”. XM is a company of the ISA Group that provides integral services. www.xm.com.co. It is Colombian administrator of the wholesale electric market

Appendix 2. Competence of team members and technical reviewers

Francy Ramírez
Lead auditor and Technical Expert in Sectoral Scope 1.2

Education:

Electrical Engineer. Universidad Los Andes, 2001
Post grade:
Assessment of Social Projects. Universidad Los Andes, 2005
Environmental Management. Universidad Los Andes, 2016

University of Oxford. Course: Applying Knowledge Management, Principle and Practices (December 1st/ 2009).
University of Oxford. Course: Successful Change Management for Engineers, Scientists and Staff in Hi-tech Companies (December 2nd 2009).

University of Oxford. Course: Essentials of Project Management for Engineers, Scientists and Staff in Hi-tech Companies (December 3rd 2009).
University of Oxford. Course: Advanced Project Management for Engineers, Scientists and Staff in Hi-tech Companies (December 4th 2009).
Climate Change, Trade and Standardization - in a development perspective". Stockholm, Sweden(23 and 25 November 2009)
ISO global workshop on Greenhouse Gas Schemes Addressing Climate Change – How ISO Standards Help, Stockholm, Sweden. (20 and 21st November 2009)
Conference on Climate Change – Deforestation and Standardization. Bali, Indonesia (31st May and 1st June 2010)

Professional Background:
ICONTEC (2005 - 2010)
Professional of Standardization
Planning, coordinate, implement and ensure compliance with the program of national standardization in technical committees among which are electrical installations, electrical power quality, electrical transformers, substations and equipment for medium and high voltage, lighting, appliances and electrical accessories, protection against lightning strikes and electrical equipment. Develop technical standards. Develop and manage special projects assigned. Participate in programs of regional and international standardization.

CODENSA (2002 - 2005)
Inspections and electrical works coordinator
Supervise field work and download the results in the central information system, evaluate the inspections performed, reconciled with contractors, addressing the results of inspections to different areas of the company, charging inspections and electrical work to clients of the firm , coordination and support group field sales engineers, technical training for technical staff, administrative support to department business processes and lost control, maintenance of the database for internal management inspections. Project Leader for the Optimization of Technical Processes and Regional Trade in Cundinamarca.

CDM Experience
Lead Auditor

• Validation of Guanaquitas 9.74 MW hydroelectric project, Colombia
• Validation of Fuel Switching through change of furnaces at Imusa S.A., Colombia
• Validation of Installation of a high-pressure/high-efficiency bagasse boiler to cogenerate heat and power, Argentina
• Validation of Cueva Maria Hydroelectric Expansion Project, Guatemala
• Validation of Paysandú Clean Energy, Uruguay
• Validation of La Vegona Hydroelectric project, Honduras
• Validation of Chamelecón 280 Hydroelectric project, Honduras
• Validation of Pardos SHPs and LOGICarbon CDM Project, Brazil
• Validation of Pequi and Sucupira SHPs and LOGICarbon CDM Project, Brazil
• Validation of Cambará and Embaúba SHPs and LOGICarbon CDM Project, Brazil
• Validation of Bonyic hydroelectric project, Panamá
• Validation of METALDOM Fossil fuel switch from reheat furnace, República Dominicana
• Validation of Toachi – Pilaton Hydroelectric Project, Ecuador
• Validation of EMGEA Small Hydropower (SHP) Run-of-the-River CDM Project Bundle, Colombia
• Validation of Energy efficiency at Malvinas Gas Plant, Perú
• Validation of Marañon Hydroelectric Project, Perú
• Validation of Santa Rita Hydroelectric Plant, Guatemala
• Validation of Ventana, Suba and Usaquén Hydroelectric CDM Bundled, Colombia
• Verification of Los Algarrobos hydroelectric project, Panamá
• Verification of Bio energy in General Deheza –Electric power generation from peanut hull and sunflower husk-, Argentina
• Validation of Taurichuco Hydropower Project, Perú

• Validation of Aguafresca Multipurpose and Environmental Service Project, Colombia
• Verification of Agua Fresca Multipurpose and Environmental Service Project, Colombia
• Verification of La Joya Hidroelectric project, Costa Rica
• Verification of Amaime Minor Hydroelectric Power Plant, Colombia

Specialist:

• Validation of Rio Bonito and Baitaca SHPs and LOGICarbon CDM Project, Brazil
• Validation VCS of Pequi and Sucupira SHPs and LOGICarbon CDM Project, Brazil
• Verification of three crediting periods of La Vuelta and la Herradura hydroelectric project, Colombia

CDM Technical Reviewer:

• Validation of improving energy efficiency in a new Gas Plant in Gibraltar - Colombia
• Validation of Tres Valles Cogeneration Project, Honduras
• Validation of Tunjita Diversion Hydroelectric Project, Colombia
• Validation of Ferreira Gomes Hydro Power Plant CDM Project, Brazil
• Verification of two crediting periods of La Venta II, México
• Verification of two crediting periods of La Joya Hidroelectric Project, Costa Rica
• Verification of Bio energy in General Deheza –Electric power generation from peanut hull and sunflower husk-, Argentina
• Verification of Tres Valles Cogeneration Project, Honduras
• Verification of Agua Fresca Multipurpose and Environmental Services, Colombia
• Verification of La Venta II, México
• Verification of two crediting periods of Fertinal Nitrous Oxide Abatement Project, México
• Verification of Co-composting of EFB and POME project, Guatemala
• Verification of Biogas Project, Olmeca III, Tecun Uman, Guatemala
• Verification of Jepirachi Wind Power Project, Colombia
• Verification of Biogas energy plant from palm oil mill effluent, Guatemala
• Verification of Santa Ana Hydroelectric Project, Colombia
• Validation of SHP Morro Azul CDM Project (JUN1164), Colombia
• Verification of Biogas Project, Olmeca III, Tecun Uman, Guatemala

Specialist Technical Reviewer

• Validation of Biogas project, Olmeca I, Santa Rosa, Guatemala
• Validation of CGR Catanduva Landfill Gas Project, Brazil
• Validation of Macaubas Landfill Gas Project, Brazil

Diana Carolina Santos Camargo
Lead technical reviewer

MAIN PROFESSIONAL EDUCATION
Specialization on Climate Change and Kyoto Protocol OEA 2011-ILC, Latin American, 2011.
Post degree on International cooperation for development Pavia University. Italy - San Buenaventura University, Cartagena, Colombia, 2007.
Clean Production specialization, Los Andes University, Bogotá, Colombia, 2003.
Industrial Engineer, Los Andes University, Bogotá, Colombia, 2002.

ADDITIONAL STUDIES
Lead Auditor Carbon Footprint. ICONTEC. Jun 2012.
Lead Auditor Clean Development Mechanisms. UNFCCC- ICONTEC. Jan 2012
Lead auditor Sello Ambiental Colombiano, Sostenibilidad Turística. ICONTEC.Feb 2011
Quality Management Systems Diploma, ISO 9001, and 14001. ICONTEC. Apr 2010.
Sustainable development indicators. World Bank, CEPAL – United Nations, Los Andes University, Bogotá, Colombia. Jun 2007.

Seminary Development Projects for Latin America. Hilfswerk der Evangelischen Kirchen der Schweiz –HEKZ- Basilea, SUIZA. Apr 2005.

PROFESSIONAL EXPERIENCE

- ICONTEC (October 2008 – Actual)

Sustainable Development. Ensure efficiency and quality when providing climate change services by meeting policies, standards and procedures defined by ICONTEC and the accreditation bodies. Ensure the fulfillment of the UNFCCC accreditation and other schemes requirements in relation to the performance of professionals providing services, non-conforming product and training plans design and implementation focused on professionals' skills improvement, technical criteria unification, and added value increase in the audit process. Coordination of projects to design and develop new services; Research and analysis of new business opportunities, and analysis of the market projections through participation in activities that permit knowing and analyzing the market conditions and their characteristics. Direction of Inter-institute Relations and Special Projects, 2008-2009 my initial work was focused on the Centro American Custom Integration project. I supported the research and development of a unified quality system for the region

- ECLAC –Economic Commission for Latin America and the Caribbean– United Nations Organization – UNO (Mar 2007 - July 2007)

Project: Política social y reducción de la pobreza; Optimizando el gasto social. My functions were as practicum collaborating on the formulation and management of the project, participate on the link enforcement with the UNICEF initiative of public investment for children; support on the management of the project Efectos y Costos de la Desnutrición Infantil en Colombia, currently in process, made in association with the Programa Mundial de Alimentos PMA, lead by CEPAL; y also support other projects for sustainable Development and environment.

- Büro Nosotras – Basilea, Suiza (Sep 2005- Aug 2006)

Project development assistant and Administrative assistant. Nosotras is a NGO supported for the Swiss government to promote integration projects of Latin-American immigrant families in the Swiss society, My function in this organization consisted on the formulation, management and implementation of projects that promote the integration, education projects for women as a vulnerable member of the society, I also did some management work for this organization and social work planning, support on the area of language teaching.

- ODES. Organización para el Desempeño Empresarial Sostenible (Jan 2005- Aug 2005)

Professional on the development and implementation of PGIRS with the Tolima government and the Environmental authority. My duties were the coordination of productive and commercialize projects that were integrated as important elements of the productive chain of solid remainders management service, focused on link and benefit of the vulnerable population that work on recycling in 39 places in Tolima, Colombia.

- CIGRAF – Colciencias (Jan 2005- Apr 2005)

Professional on the development, presentation and execution planning of the project "Competencias Laborales de la Industria Gráfica" for the whole nation.

- Artico Software (Aug 2004- Jan 2005)

Commercial Manager, in charge of market lines and customer care; communication between company and customers; work plan projections.

- Corporación Somos Más (Jul 2004- Nov 2004)

Formulation Project Assessor. Specifically for the project www.somosmas.org - This Project shows the civil organization work for more than 1.200 organizations, this Project was made in

association with the Bogota Major office, United Nations Volunteer Program, Los Andes University and important local NGO's.

- Industrial Engineering Department, Los Andes University. (2003)

Research group leader. Responsibilities: Coordination of a research group about the viability of a transportation enterprise as an alternative solution to the problematic of the population working with he animal-driven vehicles and recycling in Bogotá city. Achievement: Exposition of the formulated solution to the Bogotá's Major Antanas Mockus Sivickas.

- Bogotá Council. (2002)

Debate assessor of the councilor David Luna. Responsibilities: Exposition of the social problematic related with the population working with animal-driven vehicles and formulation of solution alternatives.

EXPERIENCE IN CDM ACTIVITIES
Lead Auditor and Specialist:

- Verification of Carbon Footprint –Pacific Rubiales
- Verification of Carbon Footprint –Biorganicos S.A.S.
- Verification of Carbon Footprint –Colcafé S.A.S.
- Verification of Carbon Footprint –Compañía De Galletas Noel S.A.S.
- Verification of Carbon Footprint –Europharma
- Verification of Carbon Footprint – Empresa De Acueducto Y Alcantarillado De Bogotá EAAB
- Verification of Carbon Footprint –Tropical Coffee Company S.A.S.- Colcafé
- Verification of Carbon Footprint –Celsia S.A E.S.P.
- Verification of Carbon Footprint –Supercerdo Paisa S.A.S.
- Verification of Carbon Footprint –Profafor S.A
- Verification of Carbon Footprint –Industrias Japan
- Verification of Carbon Footprint –Coltanques
- Verification of Carbon Footprint – Ladrillera La Clay
- Verification of Carbon Footprint – Red De Salud Ladera
- Verification of Carbon Footprint – Univesidad Autonoma De Cali
- Verification of Carbon Footprint – Reii
- Verification of Carbon Footprint – Eternil
- Verification of Carbon Footprint – Isagen
- Verification of Carbon Footprint – Pacific Rubiales
- Verification of Carbon Footprint –Proalco
- Verification of Carbon Footprint – Corpbanca
- Verification of Carbon Footprint –Industrias Japan
- Verification of Carbon Footprint –Profafor
- Verification of Carbon Footprint – Colombia de Extrusión SAS
- Verification of Carbon Footprint – Freskaleche SAS
- Verification of Carbon Footprint – Instituto del corazón Bucaramanga SA
- Verification of Carbon Footprint – Zona Franca Santander SA.
- Verification of Carbon Footprint – Compañía de Galletas Pozuelo DCR, S.A.
- Verification of Santa Ana Hydroelectric Plant
- Verification of La Venta II
- Verification of Proyecto Forestal Co2cero
- Verification of La Venta II

Technical reviewer

- Verification of Energy Efficiency and Partial Fuel Switch at Ladrillera Alcarraza

- Verification of Co-composting of EFB and POME project
- Verification of A joint venture project of cogeneration of electricity and hot water using natural gas and biogas produced from on-site wastewater biodigesters
- Verification of Reduction of energy consumption during the production of hydraulic lime for the construction industry through the addition of non-calcined mineral components and additives
- Verification of Fertinal Nitrous Oxide Abatement Project
- Verification of GEA Small Hydropower (SHP) Run-of-the-River CDM Project Bundle
- Verification of Agua Fresca Multipurpose and Environmental Services
- Verification of Methane recovery and effective use of power generation project Norte III-B Landfill
- Verification of CELSIA
- Validation of N2O Abatement at Austin Bacis Mexico Nitric Acid Plant
- Validation of Project LRT system in tunis
- Validation of Doña Teresa Small Hydro Power Plant
- Validation of San Nicolas CDM Reforestation Project
- Validation of Providencia I: 1.8MW Small Hydro Power Generation Plant
- Validation of Providencia III: 9.11MW Small Hydro Power Generation Plant
- Validation Gold Standard: Consorcio Eólico Amayo, S.A.
- Validation VCS: Grouped Project for Commercial Forest Plantations initiatives in the department of Vichada.
- Validation CCB: Grouped Project for Commercial Forest Plantations initiatives in the department of Vichada.

Fernando Gómez Gómez
Technical Expert Reviewer in Sectoral Scope 1.2

MAIN PROFESSIONAL EDUCATION

Financial Specialist. EAFIT University. Colombia, 1984.

Master of Power Systems. Instituto Tecnológico de Monterrey. Mexico, 1970.

Electrical Engineer. National University of Colombia Bogotá. 1967.

PROFESSIONAL EXPERIENCE

- ENVISERVICES SAS. (2014)

Technical and Energy Advisory in registering hydro power generation projects into the UPME (Mining and Energy Planning Unit) catalog of projects for long term Colombian national expansion plan.

- PERSONAL CONTRACT for BID (Interamerican Development Bank). (2014)

As an Expert in Energy Economics to review the study “Vulnerabilidad al Cambio Climático de los sistemas de producción hidroeléctrica en Centroamérica y sus opciones de adaptción” (Vulnerability of the Central American hydroelectric systems to the Climate Change and adaptation options), commissioned by OLADE (Latin America Energy Organization) to the Incam Group.

- ICONTEC (from 2006 to present)

Specialist Scope 1. CDM Activities (Attached)

- GESTION Y AUDITORIAS ESPECIALIZADAS - GAE LTDA. Technical and Economic Advisory (November 2004 – May 2005)

Technical and Economic Advisory to Superintendencia de Servicios Públicos Domiciliarios (Superintendent of Public Services) in integral auditing to EPM (Medellín Public Services Utility) management of energy and gas services.

• ECONOMETRÍA S.S. - Technical Advisory (October 2002 - March 2003)

Technical Advisory to Unidad de Planeación Minero Energética to incorporate international electrical interconnections into the Colombian electrical planning carried by UPME, (including use of SUPEROLADE, MPODE, NEPLAN and REAL models).

• ECOENERGIA S.S. ESP - Founding Member and Manager

Management of private projects of generation, distribution and commercialization of power.

• UNIDAD DE PLANEACIÓN MINERO ENERGÉTICA – UPME (October 1996 - October 1997)

Elaboration of Catalog of Generation Projects for National Energy Plan.

• AUDITORES ENERGÉTICOS - AENE LTDA (October 1994 - March 1995)

Advisory to the company in the application of the new regulatory scheme of Colombian electrical sector to private and public entrepreneurial management through the following studies:

- CORELCA: Determination of marginal costs and development of innovative rate structures for power generation companies and big industrial customers, October 1994 - March 1995.

- CORELCA: Development and application of rate models to prepare proposal on power sale in the wholesale market, July 1995 - September 1995.

- Empresa de energía de Cundinamarca - EEC: Advisory in convoking and long-term power contracting, July 1995 - September 1995.
- Instituto Nacional de Ciencias Nucleares y Energías Alternativas - INEA: Development of tutorial model for financial assessment of energy projects in the industry, April 1995 - September 1995.

- Consorcio Nacional de Energía CNE : Consortium Management. Elaboration of studies on power commercialization in Colombia and competitive strategies. Interpretation and application of the Code of Commerce, Code of Networks and other power regulatory standards - commercial activity in Colombia, October 1995 - March 1996.

• EMPRESA DE ENERGIA DE BOGOTÁ – EEB (1978 – 1994)

Positions:
- Chief of the Department of generation planning,interconnection and sub-transmission, 1978 - 1979.
- Chief of Electric Planning Division, 1979 - 1986.
- Assistant for Technical Sub-management, 1986 - 1987
- Chief of Special Projects Division, 1987
- Chief of expansion and Development Division, 1987 - 1994
- Management Advisor, 1994

• INTERCONEXIÓN ELÉCTRICA S.A - ISA (1976 – 1978)

Engineer Specialist in electric planning Research and development of models for planning and operation of electric systems.

National Coordinator of Colombian electric system planning in the project “Study of Electric Power Sector (Estudio del Sector de Energía Eléctrica), ESEE" winner of the National Award of Engineering.

Technical Expert

- Validation of Thuan Nhien PhongWind Farm
- Validation of Phuong Mai 3 Wind Power Project
- Validation of Fossil Fuel replacement by Biomass in the Brick Manufacturing Industry (Group 1)
- Validation of CTR Rosario Landfill Gas Project
- Validation of SHP Itaguacu CDM Project (JUN 1146), Brazil
- Validation of Palmaceite Wastewater Treatment and Biogas Utilization Project
- Validation of Agua Fresca Multipurpose and Environmental Services
- Validation of CTR Feira de Santana Landfill Gas Project
- Validation of SHP Morro Azul CDM Project (JUN1164)
- Validation of Biogas recovery and heat generation from Palm Oil Mill Effluent (POME), Coopeagropal.
- Validation of EPM Grouped Natural Gas Project
- Validation of Caruquia 9.76 MW hydroelectric project
- Validation of Cervecería Hondureña Methane Capture Project
- Validation of El Bote Small Hydroelectric Plant project
- Validation of Guanaquitas 9.74 MW hydroelectric project
- Validation of Rio Amoyá Run-of-River Hydro Project
- Validation of Fuel Switching through change of furnaces at Imusa S.A.
- Validation of Installation of a high-pressure/high-efficiency bagasse boiler to cogenerate heat and power
- Validation of Macano Small Hydro Power Plant
- Validation of Cueva Maria Hydroelectric Expansion Project
- Validation of La Vegona Hydroelectric project
- Validation of Chamelecón 280 Hydroelectric project
- Validation of Pardos Small Hydro Plant and LOGICarbon CDM Project
- Validation of Cambará and Embaúba SHPs and LOGICarbon CDM Project
- Validation of Bonyic hydroelectric project
- Validation of Tunjita Diversion Hydroelectric Project
- Validation of METALDOM Fossil fuel switch from reheat furnace.
- Validation of Providencia Sugar Mill Cogeneration Project
- Validation of Toachi – Pilaton Hydroelectric Project
- Validation of El Toqui wind power project
- Validation of Paramonga Bagasse Boiler Project
- Validation of Ferreira Gomes Hydro Power Plant Cdm Project Activity
- Validation of Providencia I: 1.8MW Small Hydro Power Generation Plant
- Validation of Providencia III: 9.11MW Small Hydro Power Generation Plant
- Validation of Marañon Hydroelectric Project
- Validation of Ventana, Suba and Usaquén Hydroelectric CDM Bundled
- Validation of EMGEA Small Hydropower (SHP) Run-of-the-River CDM Project Bundle
- Validation of Inversiones Hondurenas Cogeneration Project
- Validation of Panuco Bagasse Cogeneration Project
- Validation of Pequi and Sucupira SHPs and LOGICarbon CDM Project
- Validation of Santa Rita Hydroelectric Plant
- Validation of Tres Valles Cogeneration Project
- Validation of La Calera Biodigesters Project

- Verification of Agua Fresca Multipurpose and Environmental Services
- Verification of La Cascada 2.3 MW Hydroelectric Project
- Verification of La Venta II
- Verification of RIMA Fuel Switch in Bocaiúva
- Verification of Agua Fresca Multipurpose and Environmental Services
- Verification of Biogas Project, Olmeca III, Tecun Uman
- Verification of Jepirachi Wind Power Project
- Verification of A joint venture project of cogeneration of electricity and hot water using natural gas and biogas produced from on-site wastewater biodigesters
- Verification of Santa Ana Hydroelectric Plant
- Verification of Los Algarrobos hydroelectric project
- Verification of La Joya Hidroelectric project
- Verification of Bio energy in General Deheza –Electric power generation from peanut hull and sunflower husk-
- Verification of Agua Fresca Multipurpose and Environmental Services
- Verification of La Joya Hidroelectric project
- Verification of Biogas energy plant from palm oil mill effluent
- Verification of Incauca S. A. Fuel Switch from Coal to Green Harvest Residues CDM Project
- Verification of Cervecería Hondureña Methane Capture Project
- Verification of Inversiones Hondurenas Cogeneration Project

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
/1/	Energía del Río Piedras S.A. E.S.P.	Revised Project Design Document (PDD) for Agua Fresca Multipurpose and environmental services project	Version 5 dated on June 18th/2020 Version 6 dated on August 12th/2020	PP
/2/	Energía del Río Piedras S.A. E.S.P.	Spreadsheet used for the calculation of the emission factor for the Colombian Electricity System and for the calculations of estimated ERs for the third crediting period	Files: • EF Agua_Fresca 2017-2019.xlsx • EF Agua_Fresca 2017-2019_v2.xlsx	PP
/3/	Congress of the Republic of Colombia	Law 1715, which promotes the development and use of non-conventional energy sources, mainly those of a renewable nature, in the national energy system.	Dated on May 13th/2014	Other
/4/	XM	2019 annual report This report includes the operation figures of the Colombian Electrical interconnected system during 2019	Available at: http://www.xm.com.co/SiteCollectionDocuments/INFORME%20INTEGRAL%202019.pdf	Other
/5/	DNV Certification Det Norske Veritas AS	Validation report for registration purposes of Agua Fresca Multipurpose and environmental services project	Dated on November 2nd/2005	Other
/6/	ICONTEC	Validation report for renewal of the second crediting period of	Dated on August 23rd/2013	Other

No.	Author	Title	References to the document	Provider
		Agua Fresca Multipurpose and environmental services project		
/7/	CREG	Resolution 038 (Colombian Regulatory Framework)	Dated on March 20th/2014	Other
/UN1/	UNFCCC	Approved small scale methodology AMS-I.D: Grid connected renewable electricity generation, version 18.0		Other
/UN2/	UNFCCC	CDM validation and verification standard for project activities, version 02.0		Other
/UN3/	UNFCCC	CDM project standard for project activities, version 02.0		Other
/UN4/	UNFCCC	CDM project cycle procedure for project activities, version 02.0		Other
/UN5/	UNFCCC	Tool to calculate the emission factor for an electricity system, version 07.0.0		Other
/UN6/	UNFCCC	Methodological Tool for 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		Other
/UN7/	UNFCCC	Project Design Document form, version 11.0		Other

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

Table 1. CL from this validation

CL ID	1	**Section no.**	D.1	**Date:** 04/08/2020
Description of CL				
The PP did not follow the instructions for completing the PDD form in the following sections: • *Section A.3 is missing a description aboutThe monitoring equipment and their location in the systems* *Project design document form, version 11.0, Attachment. Instructions for completing this form* *CDM project standard for project activities, version 02.0, paragraph 279* *CDM validation and verification standard for project activities paragraph 403*				
Project participant response				**Date:** 12/08/2020
Following the instructions for completing the PDD, Section A.3 has been updated adding the description about the monitoring equipment and their location in the systems.				
Documentation provided by project participant				
See Track changes version - Agua Fresca_PDD_v11 12 08 2020_TC.doc *See Clean version - Agua Fresca_PDD_v11 12 08 2020.doc*				
DOE assessment				**Date:** 13/08/2020
In the updated version of revised PDD (version 6), section A.3 it was included information regarding to the monitoring equipment and their location in the systems. Audit team conclusion Closed				

CL ID	2	Section no.	D.2	Date: 04/08/2020
Description of CL				
In section B.2 of the revised PDD version 5, it is missing to demonstrate that the project activity complies with the applicability conditions of Tool to calculate the emission factor for an electricity system, version 07.0 *Tool to calculate the emission factor for an electricity system, version 07.0. Section 2.2* *CDM project standard for project activities, version 02.0, paragraph 279 (a)* *CDM validation and verification standard for project activities paragraph 404 (b)*				
Project participant response				**Date:** 12/08/2020
In section B.2 of the updated PDD version 6, it is demonstrate that the project activity complies with the applicability conditions of Tool to calculate the emission factor for an electricity system, version 07.0				
Documentation provided by project participant				
See Track changes version - Agua Fresca_PDD_v11 12 08 2020_TC.doc *See Clean version - Agua Fresca_PDD_v11 12 08 2020.doc*				
DOE assessment				**Date:** 13/08/2020
In the updated version of revised PDD (version 6), section B.2, it was included how the project activity complies with the applicability conditions of Tool to calculate the emission factor for an electricity system, version 07.0 Audit team conclusion Closed				

Table 2. CAR from this validation

CAR ID	1	Section no.	D.3	Date: 04/08/2020
Description of CAR				
The energy generation for the following power plants during 2019 and stated in the spreadsheet used for emissions reduction calculation (EF Agua_Fresca 2017-2019.xlsx sheet: Gen 2019) is not coherent with the energy generation verified during the interviews: • *AGPE - ECOPETROL LA HORMIGA* • *CURRUCUCUES* • *GECELCA 3* • *INSULA* • *PAPELES NACIONALES* • *PUENTE GUILLERMO* *CDM project standard for project activities, version 02.0, paragraph 286* *CDM validation and verification standard for project activities paragraph 402 and 29(b)(ii)*				
Project participant response				**Date:** 12/08/2020
The energy generation for the following power plants during 2019 and stated in the spreadsheet used for emissions reduction calculation (EF Agua_Fresca 2017-2019.xlsx sheet: Gen 2019) were updated in an actualized spreadsheet version 2 (EF Agua_Fresca 2017-2019_v2.xlsx sheet: Gen 2019) in order to be coherent with the energy generation verified during the interviews: • *AGPE - ECOPETROL LA HORMIGA* • *CURRUCUCUES* • *GECELCA 3* • *INSULA* • *PAPELES NACIONALES* • *PUENTE GUILLERMO*				
Documentation provided by project participant				
EF Agua_Fresca 2017-2019_v2.xlsx sheet: Gen 2019				
DOE assessment				**Date:** 13/08/2020
In the updated spreadsheet used for emissions reduction calculation (EF Agua_Fresca 2017-2019_v2.xlsx sheet: Gen 2019), the energy generation for the power plants mentioned in the finding was corrected with the energy generation verified during the interviews. Audit team conclusion 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*
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) 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