



**CDM Project Activity Registration
and Validation Report Form**
*(By submitting this form, designated operational entity confirms
that the proposed CDM project activity meets all validation and
registration requirements and thereby requests its registration)*

Section 1: Request for registration

Name of the designated operational entity (DOE) submitting this form	Det Norske Veritas Certification (DNV Certification)
Title of the proposed CDM project activity (Section A.2 of the attached CDM-PDD) submitted for registration	Agua Fresca Multipurpose and environmental services project
Project participants (Name(s))	Aguas de la Cabaña S.A. E.S.P (authorized by Colombia), Kommunalkredit Public Consulting GmbH (authorized by Austria)
Sector in which project activity falls	1-Energy industries (renewable - / non-renewable sources)
Is the proposed project activity a small-scale activity?	Yes

Section 2: Validation report

List of documents to be attached to this validation report (please check mark):	
<ul style="list-style-type: none"> <input checked="" type="checkbox"/> The CDM-PDD and Monitoring Plan of the project activity <input checked="" type="checkbox"/> An explanation by the submitting designated operational entity of how it has taken due account of comments on validation requirements received, in accordance with the CDM modalities and procedures, from Parties, stakeholders and UNFCCC accredited non-governmental organizations (Note: Included in DNV Certification's Validation Report (Report No. 2005-1089, rev. 02)); <input checked="" type="checkbox"/> The written approval of voluntary participation from the designated national authority of each Party involved, including confirmation by the host Party that the project activity assists it in achieving sustainable development: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Letter of Approval from DNA of Colombia <input checked="" type="checkbox"/> Letter of Approval from DNA of Austria <input checked="" type="checkbox"/> Other documents, including any validation protocol used in the validation <ul style="list-style-type: none"> <input checked="" type="checkbox"/> DNV Certification's Validation Report and Protocol (Report No. 2005-1089, rev. 02) <input checked="" type="checkbox"/> Information on when and how the above validation report is made publicly available. <input checked="" type="checkbox"/> Banking information on the payment of the non-reimbursable registration fee <input checked="" type="checkbox"/> A statement signed by all project participants stipulating the modalities of communicating with the Executive Board and the secretariat in particular with regard to instructions regarding allocations of CERs at issuance 	

Executive Summary and Introduction, including

- **Description of the proposed CDM project activity**
- **Scope of validation process (include all documentation that has been reviewed and name persons that have been interviewed as part of the validation, as applicable)**
- **DOE Validation team (list of all persons involved in the validation, describing functions assumed in the validation)**

The project activity consists of the construction of a small run-of-river hydroelectric plant with a capacity of 7.49 MW established to generate electricity utilizing water from the Piedras river. The plant is located in the jurisdiction of Jerico and Fredonia Municipalities. Generated electricity will be sold to the national grid, the Colombian National Interconnected System (SIN).

With an expected average annual generation of 66.3 GWh, the project is estimated to reduce GHG emissions by approximately 27 510 tons CO₂e per year by displacing fossil-fuel based electricity with electricity generated from a renewable source.

The validation scope is defined as an independent and objective review of the project design document (PDD). The PDD is reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords, the simplified modalities and procedures for small-scale CDM project activities and the relevant decisions by the CDM Executive Board.

The following documents were reviewed:

/1/ CDM PDD of “Aqua Fresca Multipurpose and Environmental Services Project”, submitted to DNV in May 2005 and final version in October 2005, including attachments 1 to 11;

- 1) Copy of permits from Corantioquia (Resolution 1226, 130CA_021709, 130CA_2360)
- 2) Copy of Law 297, 2001: Rational use of energy in Colombia
- 3) Copy of Letter of Approval from Colombia
- 4) Copy of Law 629, 2000: Colombia’s Kyoto Protocol Ratification
- 5) Copy of AOM Agreement with EPM
- 6) Copy of Resolution 181401 for calculating OM and BM of Colombian grid
- 7) Detailed description of the Monitoring Plan
- 8) Environmental effects (summary)
- 9) Environmental Management Plan (Agua Fresca project)
- 10) Environmental Investment Plan
- 11) Copy of documentation from local stakeholder process

/2/ Letter of Approval from DNA of Colombia, 26 November 2004

/3/ Letter of Approval from DNA of Austria, 30 August 2005

/4/ Excel calculations of IRR and NPV.xls, submitted to DNV in July 2005

/5/ Excel calculations of OM and BM.xls, submitted to DNV in July 2005

/6/ Certificate of funding from financial institution, submitted to DNV in July 2005

/7/ Colombian DNA approval procedures for CDM projects, submitted to DNV in July 2005

/8/ International Emission Trading Association (IETA) & the World Bank’s Prototype Carbon Fund (PCF): Validation and Verification Manual. <http://www.vvmanual.info>

/9/ Appendix B of the simplified modalities and procedures for small-scale CDM project activities: Indicative simplified baseline and monitoring methodologies for selected small-scale CDM project

activity categories. Version 06: 30 September 2005.

The following persons were interviewed:

- Juan Bernardo Jaramillo, Gabriel Jaime Ortega and Sergio Ortega Restrepo from Aguas de la Cabana S.A. E.S.P & Generadora Union S.A.E.S.P
- Jose Vicente Dulce, Ciro Serrano Camacho and Ismael Concha from La Unidad de Planeación Minero Energética UPME
- Camilo Rojas Garcia from Ministry of the Environment, Housing and Territorial Development /Colombian DNA
- Gloria Patricia Cañola, Luz Omaira Arias and Argiro Cano Valencia from CORANTIOQUIA
- Freddy Oswaldo Cardona from the Municipality of Jerico

The validation team consisted of the following personnel:

Mr Einar Telnes	DNV Certification Oslo	Team Leader/ Energy sector expert
Mr Gustavo Godinez	DNV Certification Mexico City	GHG auditor
Mr Ramesh Ramachandran	DNV New Dehli	GHG auditor
Ms Mari Grooss Viddal	DNV Certification Oslo	Technical reviewer

For further details, please refer to the "Introduction" and "Reference" Section of DNV Certification's Validation Report (Report No. 2005-1089, rev. 02).

Description of methodology for carrying out validation

- **Review of CDM-PDD and additional documentation attached to it**
- **Assessment against CDM requirements (e.g. by use of a validation protocol)**
- **Report of findings by the DOE, e.g. by use of type of findings (e.g. corrective action requests, clarifications or observations). Please explain the way findings are "labelled" during validation.**
- **Include statements or assessments in the section "Conclusions, final comments and validation opinion" below.**

The validation consisted of the following three phases:

- I a desk review of the project design, baseline and monitoring plan (May-October 2005)
- II follow-up interviews with project stakeholders (12-13 July 2005)
- III the resolution of outstanding issues and the issuance of the final validation report and opinion (August-October 2005)

In order to ensure transparency, a validation protocol has been customised for the project, according to the IETA/PCF Validation and Verification Manual. The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from validating the identified criteria.

Findings established during the validation can either be seen as a non-fulfilment of validation criteria or where a risk to the fulfilment of project objectives is identified. Such findings are termed Corrective Action Requests (CAR). The term Clarification may be used where additional information is needed to fully clarify an issue.

The initial validation identified six requests for Clarification. These requests were presented to the project participants in DNV's draft validation report of 13 September 2005 (rev. 0). The project participants responded to DNV's requests for Clarification to DNV's satisfaction. To guarantee the transparency of the validation process, the concerns raised and responses given are documented in the validation protocol in Appendix A to DNV Certification's Validation Report (Report No. 2005-1089, rev. 02).

For further details, please refer to the "Methodology" Section of DNV Certification's Validation Report (Report No. 2005-1089, rev. 02) and the IETA/PCF Validation and Verification Manual (www.vvmanual.info).

Explanation by the submitting designated operational entity of how it has taken due account of comments on validation requirements received, in accordance with the CDM modalities and procedures, from Parties, stakeholders and UNFCCC accredited non-governmental organizations;

- Description of how and when the PDD was made publicly available
- Description of how comments were received and made publicly available
- Explanation of how due account has been taken of comments received
- Compilation of all comments received (Identify the submitter)

The PDD has been published on <http://www.dnv.com/certification/ClimateChange> on 6 June 2005. Parties, stakeholders and NGOs were through the UNFCCC CDM website invited to provide comments on the validation requirement during a period of 30 days from 6 June to 5 July 2005. No comments were received.

For further details, please refer to the "Comments by Parties, stakeholders and NGOs" Section of DNV Certification's Validation Report (Report No. 2005-1089, rev. 02).

Conclusions, final comments and validation opinion

- Provide conclusions on each requirement under paragraph 37 of the CDM modalities and procedures, describing how these requirements have been met. This shall include assessments and findings (e.g. corrective action requests, clarifications or observations) in relation to each requirement, including a confirmation that all issues raised have been addressed to the satisfaction of the DOE.
- Final comments and validation opinion

Det Norske Veritas Certification Ltd. (DNV) has performed a validation of the "Aqua Fresca Multipurpose and Environmental Services Project" in Colombia on the basis of UNFCCC criteria for small-scale CDM project

activities, and relevant Colombian criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to the Kyoto Protocol criteria for the CDM, the CDM rules and modalities as agreed in the Marrakech Accords, the simplified modalities and procedures for small-scale CDM project activities and relevant decisions by the CDM Executive Board.

The project participants are Aguas de la Cabaña S.A. E.S.P., Colombia, and Kommunalkredit Public Consulting GmbH, Austria. The host-Party Colombia and the participating Annex I Party Austria meet the requirements to participate in the CDM. The DNA of Colombia and DNA of Austria have provided approval of voluntary participation in the project.

The project is not expected to have considerable environmental impacts. By promoting renewable energy, the project is in line with the current sustainable development priorities of Colombia. The DNA of Colombia has confirmed the project's contribution to the sustainable development of Colombia.

The proposed project will have an installed capacity of 7.49 MW electricity generation and the power will be supplied to the Colombian grid. Being a renewable energy project activity with an output capacity of less than 15 MW, the project is a "Renewable electricity generation for a grid project activity" (Type I.D) as defined in the simplified modalities and procedures for small-scale CDM project activities. The project applies a grid emission coefficient of 0.4345 tCO₂/MWh, calculated as the average of the approximate operating margin and the build margin in accordance with the simplified baseline and monitoring methodologies for type I.D small-scale CDM project activities (AMS-I.D). The baseline methodology has been applied correctly and the assumptions made for the selected baseline scenario are sound.

The project faces investment barrier such as perceived risks for investor and lack of funding for the project. The existence of these barriers has been demonstrated in the PDD by presenting the general Colombian investment climate and the project specific challenges of acquiring funding. The existence of such investment barriers have been confirmed during interviews with Aguas de la Cabana S.A. E.S.P, UPME and the Colombian DNA.

By displacing fossil fuel-based electricity, the project results in reductions of CO₂ emissions that are real, measurable and give long-term benefits to the mitigation of climate change. Given that the project is implemented as designed, the project is likely to achieve the estimated amount of emission reductions.

The monitoring plan sufficiently specifies the monitoring requirements of the main project indicators. Empresas Publicas de Medellin is responsible for commissioning, operation and maintenance of the project. The responsibilities and authorities for operation and maintenance is part of their ISO 9001 certified quality management system.


In summary, it is DNV's opinion that the "Aqua Fresca Multipurpose and Environmental Services Project", as described in the revised project design document of October 2005, meets all relevant UNFCCC requirements for the CDM, is eligible as category I.D small-scale CDM project activity and correctly applies the approved simplified baseline and monitoring methodology AMS-I.D. Hence, DNV Certification recommends the "Aqua Fresca Multipurpose and Environmental Services Project" for registration as a CDM project activity by the CDM Executive Board.

For further details, please refer to the Section "Validation Findings" and Table 1 of Appendix A of DNV Certification's Validation Report (Report No. 2005-1089, rev. 02).

The DOE declares herewith that in undertaking the validation of this proposed CDM project activity it has no financial interest related to the proposed CDM project activity and that undertaking such a validation does not constitute a conflict of interest which is incompatible with the role of a DOE under the CDM.

By submitting this validation report, the DOE confirms that all validation requirements are met.

Mari Grooss Viddal

Name of authorized officer signing for the DOE		
Date and signature for the DOE	24 November 2005, 	
Section below to be filled by UNFCCC secretariat		
Date when the form is received at UNFCCC secretariat		
Date at which the registration fee has been received		
Date at which registration shall be deemed final		
Date of request for review, if applicable		
Date and number of registration	Date	Number