



**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	TÜV Industrie Service GmbH TÜV SÜD Group
Title of the proposed CDM project activity (Section A.2 of the attached CDM-PDD) submitted for registration	SANTA ANA HYDROELECTRIC PLANT
Project participants (Name(s))	Empresa de Acueducto y Alcantarillo de Bogota (EAAB), Colombia
Sector in which project activity falls	Energy industries (1)
Is the proposed project activity a small-scale activity?	<u>Yes</u> / No (underline as applicable)

Section 2: Validation report

List of documents to be attached to this validation report (please check mark):	
<p>X The CDM-PDD of the project activity</p> <p>X 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. This explanation is included in the Validation Report No. 673631, rev. 01;</p> <p>X 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:</p> <p>X Other documents, including any validation protocol used in the validation</p> <ul style="list-style-type: none"> ○ Validation Report (Validation Report No. 673631, rev. 01) including a validation protocol, information reference list and a list of persons interviewed by DOE validation team during the validation process. <p>X Information on when and how the above validation report is made publicly available.</p> <p><input type="checkbox"/> Banking information on the payment of the non-reimbursable registration fee</p> <p>X 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</p>	

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 Santa Ana Hydroelectric Plant Project is a small run of river type hydroelectric plant, introduced into the municipal potable water supply system of Bogota, Columbia, located at the outskirts of the city.

The validation scope is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. TÜV SÜD has, based on the recommendations in the Validation and Verification Manual employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of CERs.

All documentation that has been reviewed and all persons interviewed have as part of the validation are listed in annex 2 of the validation report (Validation Report No. 673631, rev. 01).

Studying the existing documentation belonging to this project, it was obvious that the competence and capability of the validation team has to cover at least the following aspects:

- Knowledge of Kyoto Protocol and the Marrakech Accords
- Environmental and Social Impact Assessment
- Skills in environmental auditing (ISO 14000, EMAS)
- Quality assurance
- Technical aspects of hydro power installations and grid operation
- Monitoring concepts
- Political, economical and technical frame conditions in host country

According to these requirements TÜV SÜD has composed a project team in accordance with the appointment rules of the TÜV certification body "climate and energy":

Michael Rumberg is head of the division CDM/JI at TÜV Industrie Service GmbH TÜV SÜD Group. In his position he is responsible for the implementation of validation, verification and certifications processes for greenhouse gas mitigation projects in the context of the Kyoto Protocol. Before entering this company he worked as an expert for renewable energy, forestry, environmental issues, climate change and sustainability within the environmental branch of an insurance company. His competences are covering risk assessments, quality and environmental auditing (EMS auditor), baseline setting, monitoring and verification due to the requirements of the Kyoto Protocol.

Javier Castro is an energy expert for CDM and JI projects at TÜV Industrie Service GmbH TÜV SÜD Group. He has an academic background in chemical engineering and energy systems. In his position he participates as an expert in energy related projects during the validation, verification and certifications processes for GHG mitigation projects. He has received extensive training in the CDM and JI validation processes.

Mauro Fadda is heading the department "Environmental Services" of ccaQualitas in Santiago de Chile, a local company being member of the TÜV SÜD Group. He has received extensive training in the CDM validation process, is an appointed auditor for CDM projects and participated already in several CDM project assessments all over Latin America.

The audit team covers the above mentioned requirements as follows:

- Knowledge of Kyoto Protocol and the Marrakech Accords (RUMBERG/FADDA)
- Environmental and Social Impact Assessment (RUMBERG/FADDA)
- Skills in environmental auditing (RUMBERG/FADDA)
- Quality assurance (RUMBERG/FADDA)
- Technical aspects of hydro power installations and grid operation (CASTRO/RUMBERG)
- Monitoring concepts (ALL)
- Political, economical and technical random conditions in host country (FADDA/CASTRO)

In order to have an internal quality control of the project, a team of the following persons has been composed by the certification body "climate and energy":

- Werner Betzenbichler (head of certification body "climate and energy")

For further details please refer to the "Introduction" section of the validation report (Validation Report No. 673631, rev. 01).

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 consists of the following three phases:

- Desk review
- Follow up interviews
- Resolution of clarification and corrective action requests

The audit team has been provided with a draft PDD in May 2005. Based on this documentation a document review and a fact finding mission in form of an on-site audit has taken place. Afterwards the client decided to revise the PDD according to the CARs and CRs indicated in the audit process also taking into account new developments on the regulatory side (as for example the new PDD format). The final PDD version submitted in October 2005 – also made public for comments in the global stakeholder process - serves as the basis for the assessment presented herewith. In February 2006 a revised final PDD has been submitted in which the latest developments regarding the determination of the baseline emissions in the host country have been considered. This change is not considered to be significant with respect to the qualification of the project as a CDM project based on the two main objectives of the CDM to achieve a reduction of anthropogenic GHG emissions by sources and to contribute to sustainable development. Hence no repetition of the public stakeholder process has taken place.

In order to ensure transparency, a validation protocol was customised for the project, according to the Validation and Verification Manual. The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organises, details and clarifies the requirements a CDM project is expected to meet;
- It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation.

The completed validation protocol is enclosed in Annex 1 to the validation report.

Findings established during validation can either be seen as a non fulfillment of validation criteria or where a risk to the fulfilment of the project objectives is identified. Such findings are termed Corrective Action request. The term "Clarification request" is used when the validation team has identified a need for further clarification.

The Corrective Action Requests and Clarification Requests raised by TÜV SÜD were resolved during communication between the client and TÜV SÜD. To guarantee the transparency of the validation process, the concerns raised and responses that have been given are summarised in chapter 3 of the validation report and documented in more detail in the validation protocol in annex 1 to the validation report. The validation of the project resulted in one Corrective Action Request and two Clarification Requests.

For further details please refer to the "Methodology" section of the validation report (Validation No. 673631, rev. 01).

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)

TÜV SÜD published the project documents on its website on October 28, 2005 and invited comments within 30 days, until November 26, 2005 by Parties, stakeholders and non-governmental organisations. No comments were received.

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 meet. 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

TÜV SÜD has performed a validation of the Santa Ana Hydroelectric Plant Project in Colombia. The validation was performed on the basis of UNFCCC criteria and host country criteria, 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 subsequent decisions by the CDM Executive Board.

The review of the project design documentation and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfilment of stated criteria. In our opinion, the project does meet all relevant UNFCCC requirements for the CDM and all relevant host country criteria. The project will hence be recommended by TÜV SÜD for registration with the UNFCCC.

By displacing fossil fuel-based electricity in principal with electricity generated from a renewable source, the project results in reductions of CO₂ emissions that are real, measurable and give long-term benefits to the mitigation of climate change. An analysis of the investment and financial barriers demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions

attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented as designed, the project is likely to achieve the estimated amount of emission reductions.

Additionally the assessment team reviewed the estimation of the projected emission reductions. We can confirm that the indicated amount of emission reductions of 206 424 tonnes CO_{2e} over a crediting period of ten years, resulting in a calculated annual average of 20 642 tonnes CO_{2e}, represent a reasonable estimation using the assumptions given by the project documents.

The validation is based on the information made available to us and the engagement conditions detailed in this report. The validation has been performed using a risk based approach as described above. The only purpose of this report is its use during the registration process in the CDM project cycle. Hence, TÜV SÜD can not be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

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.

Michael Rumberg

Name of authorized officer signing for the DOE

Date and signature for the DOE

April 3, 2006



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