



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 Ltd. (DNV)
Title of the proposed CDM project activity (Section A.2 of the attached CDM-PDD) submitted for registration	Caieiras landfill gas emission reduction
Project participants (Name(s))	Essencis Soluções Ambientais SA (Brazil) and Electric Power Development Co., Ltd. (Japan)
Sector in which project activity falls	Waste handling and disposal
Is the proposed project activity a small-scale activity?	No

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 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's Validation Report (DNV report 2005-0458, rev 02)); <input 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 assist it in achieving sustainable development: <ul style="list-style-type: none"> ○ (Attach a list of all Parties involved and attach the approval(in alphabetic order)) <input checked="" type="checkbox"/> Other documents, including any validation protocol used in the validation. <ul style="list-style-type: none"> ○ DNV's Validation Report (DNV report 2005-0458, rev 02), including a validation protocol and a list of person interviewed by DNV validation team during the validation process. <input type="checkbox"/> Information on when and how the above validation report is made publicly available. <input type="checkbox"/> Banking information on the payment of the non-reimbursable registration fee. <input 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 allocation 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 Caieiras landfill started operation in 2002. The landfill area is 1,880,000 m². At present the landfill gas (LFG) is collected only through a passive system, with no systematic and monitored flaring of methane.

The aim of the “Caieiras Landfill Gas Emission Reduction Project” is to enhance the already operational passive venting system, in order to increase the efficiency in collecting landfill gas (LFG) and flare LFG systematically, continuously monitoring the operation. The project’s core idea is to avoid methane emissions from the landfill managed by Essencis in the Caieiras municipality. This objective will be achieved through the installation of an active gas recovery system and by flaring the recovered LFG.

The estimated amount of GHG reduction from the project is 1 901 386 tCO₂e during the first crediting period (7 years), resulting in estimated average annual emission reductions of 271 626 tCO₂e.

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 and the relevant decisions by the CDM Executive Board. The validation team has, based on the recommendations in the Validation and Verification Manual employed a risk-based approach, focusing on the identification of significant risks for project implementation and the generation of CERs.

The following documents were reviewed:

- Caieiras Landfill Gas Emission Reduction Project PDD Version 1 (22 November 2004);
- Caieiras Landfill Gas Emission Reduction Project PDD Version 2 (23 March 2005);
- Caieiras Landfill Gas Emission Reduction Project Baseline Workbook Version 1 (November 2004);
- Essencis: Environment Quality Management System Manual, documents and records;
- Letters for local stakeholders;
- International Emission Trading Association (IETA) & the World Bank’s Prototype Carbon Fund (PCF): Validation and Verification Manual. <http://www.vvmanual.info>;
- Approved Baseline and Monitoring Methodology ACM0001: “Consolidated baseline methodology for landfill gas projects activities”. Version 01 of 03 September 2004;
- Approved Monitoring Methodology ACM0001: “Consolidated monitoring methodology for landfill gas projects activities”. Version 01 of 03 September 2004.
- CDM EB: Tool for the demonstration and assessment of additionality, EB 16 Report, Annex 1.

The following persons were interviewed:

- Florent Maily (Essencis/Suez Ambiental – Manager of Landfill)
- Juliana Scalon (Essencis/Suez Ambiental – Eng Landfill)
- Ana Carolina Genaro (Essencis/Caieiras – Eng Quality and Environment)

The validation team consisted of the following personnel:

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|------------------------------|--------------------|
| Mr Luis Filipe Aboim Tavares | DNV Rio de Janeiro |
| Mrs. Susanne Haefeli | DNV Oslo |
| Mrs Cintia Dias | DNV Rio de Janeiro |
| Mr Michael Lehmann | DNV Oslo |

For further details, please refer to the “Introduction” and “References” Sections of DNV’s Validation

Report (DNV report 2005-0458, 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:

- a desk review of the project design documents;
- follow-up interview with project stakeholders;
- the resolution of outstanding issues and the issuance of a validation report and opinion.

The Project Design Document submitted by Essencis S.A. on 22 November 2004, and the final PDD of March 2005 were reviewed.

On 11 February 2005 DNV performed interviews with staff of Essencis S.A to confirm and to resolve issues identified in the document review.

In order to ensure transparency, a validation protocol has been customized 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 validation 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 Corrective Action Requests and requests for Clarification raised by the validation team were resolved through communications with the project participants. To guarantee the transparency of the validation process, the concerns raised by DNV and the response provided by the project participants are documented in Table 3 of the Validation Protocol in Appendix A of DNV's Validation Report (DNV report 2005-0458, rev 02).

For further details, please refer to the "Methodology" Section of DNV's Validation Report (DNV report 2005-0458, 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)

DNV published the initial PDD of November 2004 on the DNV Climate Change web site (<http://www.dnv.com/certification/ClimateChange>) and stakeholders were through the UNFCCC CDM web site invited to provide comments within a 30 days period from 04 December 2004 to 03 January 2005. 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 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 “Caieiras Landfill Gas Emission Reduction Project” at Caieiras, São Paulo State, Brazil (hereafter called “the project”). The validation was performed on the basis of UNFCCC criteria for CDM project activities and relevant Brazilian criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The project participants are Essencis Soluções Ambientais SA (Brazil) and Electric Power Development Co., Ltd. (Japan). The participating Parties - Brazil as host Party and Japan as Annex I Party - meet all relevant participation requirements.

The project proposes to collect and flare landfill gas (LFG) captured at the Caieiras Landfill. Part of LFG could be sold to a local industry. If so, the amount of LFG sold will be included in the baseline and not claimed as emission reductions. By flaring LFG, the project results in the reduction of CH₄ emissions that is real, measurable and gives long-term benefits. Given that the project is implemented as designed, the project is likely to achieve the estimated amount of emission reductions.

The project is not expected to have considerable environmental impacts. Caieiras’s landfill has an Environmental Licence. The Environmental License for LFG recovery and flaring has not yet been obtained. Given that the flaring of landfill gas has little adverse or no different environmental impacts, it is likely that the licence will be obtained when the project is implemented. The first period verification of the project must confirm that this licence was eventually obtained.

By promoting environment improvement, the project is in line with the current sustainable development priorities of Brazil.

The project applies the approved baseline and monitoring methodology ACM0001, i.e. “Consolidated baseline and monitoring methodology for landfill gas projects activities”. The baseline methodology has been applied correctly and the assumptions made for the selected baseline scenario are sound. It is sufficiently demonstrated that the project is not a likely baseline scenario and that emission reductions attributable to the project are additional to any that would occur in the absence of the project activity.

The monitoring plan sufficiently specifies the monitoring requirements of the main project indicators.

Local stakeholder comments were invited according to the Brazilian DNA Resolution 1 and Parties, stakeholders and NGOs were invited to comment on the validation requirements. Four comments have been received by local stakeholders and Essencis has taken them into account.

In summary, it is DNV’s opinion that the “Caieiras Landfill Gas Emission Reduction Project”, as described in the revised and resubmitted project design document of March 2005, meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria and correctly applies baseline and monitoring methodology ACM0001. Hence, DNV will request the registration of the “Caieiras Landfill Gas Emission Reduction Project” as CDM project activity.

For further details, please refer to the "Validation Findings" Section and Table 1 of the Validation Protocol in Appendix A of DNV’s Validation Report (DNV report 2005-0458, 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.	Prior to the submission of this validation report to the CDM Executive Board, DNV will have to receive the written approval of voluntary participation from the DNA of Brazil and Japan, including confirmation by the DNA of Brazil that the project assists in achieving sustainable development.	
Name of authorized officer signing for the DOE	Michael Lehmann	
Date and signature for the DOE	13 July 2005 <i>Michael Lehmann</i>	
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