



**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) Electric Power Development Co., Ltd. (Japan)
Sector in which project activity falls	Sectoral scope 13: Energy industries (renewable - / non-renewable sources)
Is the proposed project activity a small-scale activity?	<u>Yes</u> / <u>No</u> (underline as applicable)

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 No. 2005-0458, rev. 04)) <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"> ○ Interministerial Commission on Global Climate Change of Brazil: Letter of Approval. 24 November 2005. ○ Liaison Committee for the Utilization of the Kyoto Mechanisms of Japan: Letter of Approval. 26 July 2005 <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 No. 2005-0458, rev. 04), including a validation protocol and a list of persons interviewed by DOE validation team during the validation process and including an explanation of how DNV has taken due account of comments on validation requirements received. <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 aim of the “Caieiras landfill gas emission reduction” project is to enhance the already operational passive vent system at the Caieiras landfill in the Caieiras municipality, São Paulo State, Brazil, in order to increase the efficiency in collecting the gas and flare it systematically, continuously monitoring the operation. The project's core idea is to avoid methane emissions from the landfill. This objective will be achieved through installation of an active gas recovery system and by flaring the recovered LFG.

The estimated amount of GHG reduction from the project is 14 647 703 tCO₂e during the projects operational lifetime of 19 years, resulting in estimated average annual emission reductions of 770 932 tCO₂e.

The validation scope is an independent and objective review of the Project Design Document (PDD). The PDD was reviewed against the criteria stated in Article 12 of the Kyoto Protocol criteria for the CDM, the CDM modalities and procedures as agreed in the Marrakech Accords and relevant decision by the CDM Executive Board. The validation team has, based on the recommendation in the IETA/PCF Validation and Verification Manual, and employed a risk-based approach, focusing on the identification of significant risks for the project implementation and the generation of CERs.

The following documents were reviewed:

Essencis: Project Design Document for the “Caieiras landfill gas emission reduction” project. Version 1 (22 November de 2004)

Essencis: Project Design Document for the “Caieiras landfill gas emission reduction” project. Version 2 (23 March 2005)

Essencis: Project Design Document for the “Caieiras landfill gas emission reduction” project. Version 3 (12 September 2005)

Essencis: Caieiras Baseline Workbook for the “Caieiras landfill gas emission reduction” project. Version 1 (November 2004)

Essencis: Environment Quality Management System Manual, documents and records.

Letters for local stakeholders

Interministerial Commission on Global Climate Change of Brazil: Letter of Approval. 24 November 2005.

Liaison Committee for the Utilization of the Kyoto Mechanisms of Japan: Letter of Approval. 26 July 2005

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

Approved Baseline Methodology ACM 0001: Consolidated baseline methodology for landfill gas projects activities. Version 02 of 30 September 2005.

Approved Monitoring Methodology ACM0001: Consolidated monitoring methodology for landfill gas projects activities. Version 02 of 30 September 2005.

CDM EB: Tool for the demonstration and assessment of additionality. Version 02 of 28 November 2005.

The following persons were interviewed:

Florent Mailly (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:

Mr. Luis Filipe Tavares	DNV Rio de Janeiro	Team leader, Waste sector expert
Mrs. Susanne Haefeli	DNV Oslo	CDM auditor
Mrs. Cintia Dias	DNV Rio de Janeiro	CDM auditor
Mr. Michael Lehmann	DNV Oslo	Technical reviewer

For further details, please refer to the “Introduction” Section of DNV’s Validation Report (DNV Report No. 2005-0458, rev. 04).

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 commenced in November 2004 and consisted of the following three phases:

- a desk review of the project design, baseline and monitoring plan
- follow-up interview with Project stakeholders
- the resolution of outstanding issues and the issuance of the validation report and opinion

The original and revised versions of the project design document (PDD) of the project were assessed. Additional background documents related to the project design and the baseline were also consulted.

On 11 February 2005 DNV performed interviews with Essencis during a site visit at the Caieiras landfill to confirm and resolve issues identified during 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 of 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 DNV were resolved through communication 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 No. 2005-0458, rev. 04).

For further details, please refer to the “Methodology” Section of DNV’s Validation Report (DNV Report No. 2005-0458, rev. 04) 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 of November 2004 has been published on DNV's Climate Change website (www.dnv.com/certification/climatechange) and 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 4 December 2004 to 3 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. 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 DNAs of Brazil and Japan have approved their voluntary participation in the project.

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, and the DNA of Brazil confirmed that the project assists in achieving sustainable development.

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 12 September 2005, meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria and correctly applies the baseline and monitoring methodology ACM0001. Hence, DNV requests 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 No. 2005-0458, rev. 04).

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.

Name of authorized officer signing for the DOE Michael Lehmann

Date and signature for the DOE

13 December 2005

Michael Lehmann

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