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 (DVN Certification)
Title of the proposed CDM project activity (Section A.2 of the attached CDM-PDD) submitted for registration	NovaGerar Landfill Gas to Energy Project
Project participants (Name(s))	EcoSecurities (Brazil), SA Paulista (Brazil), EnerG (UK), World Bank Netherlands Clean Development Facility (The Netherlands)
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)*:*	

- ☑ The CDM-PDD of the project activity
- ☑ 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 (**NB: Included in validation report**);
- ❑ 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:
  - (Attach a list of all Parties involved and attach the approval (in alphabetical order))
- ☑ Other documents, including any validation protocol used in the validation
  - Validation Report of 16 February 2004 (DNV Report 2003-0221, version 02), including a validation protocol and a list of persons interviewed by DOE validation team during the validation process
- ❑ Information on when and how the above validation report is made publicly available.
- ❑ Banking information on the payment of the non-reimbursable registration fee
- ❑ 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 objective of the NovaGerar Landfill Gas to Energy Project is to explore the landfill gas (LFG) collection and utilization activities of the landfills managed by S.A. Paulista. This will involve investing in a gas collection system, leachate drainage system and a modular electricity generation plant at each landfill site (with expected final total capacity of 12 MW), as well as a generator compound at each site. The generators will combust LFG to produce electricity for export to the grid. Excess LFG, and all gas collected during periods when electricity is not produced, will be flared.

The validation scope was an independent and objective review of the project design document (PDD). The PDD was reviewed against Kyoto Protocol criteria for the CDM, the CDM rules and modalities as agreed in the Marrakech Accords and relevant decisions by the CDM Executive Board. The validation team has, based on the recommendations in the IETA/PCF 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 validation team consists of the following personnel:

Ms Mari Grooss Viddal	DNV Oslo
Mr Luis Filipe Aboim Tavares	DNV Brazil
Mr Einar Telnes	DNV Oslo
Dr. Tsuyoshi Nakao	DNV Japan
Mr Michael Lehmann	DNV Oslo

For further details, please refer to the "Introduction" Section (pages 1-2) of DNV Certification's Validation Report of 16 February 2004 (version 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 of the project was started in November 2002 and was concluded in February 2004. The validation consisted of the following three phases:

i) a desk review of the project design and the baseline and monitoring methodology (December 2002 to February 2004)

ii) follow-up interviews with project stakeholders (February 2003)

iii) the resolution of outstanding issues and the issuance of the final validation report and opinion (February 2003 to February 2004).

The original and revised versions of the project documents submitted by the World Bank's Carbon Finance Unit, i.e. the Project Design Document (PDD), the Baseline Study, the Monitoring Plan (MP) and the Monitoring Workbook for the NovaGerar Landfill Gas to Energy Project, were reviewed.

Additional background documents related to the project design and the baseline were also consulted.

On 11 February 2003, DNV performed interviews with Brazilian project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of EcoSecurities, Nova Iguaçu Municipality and S.A. Paulista were interviewed.

In order to ensure transparency, a validation protocol has been 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.

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 six Corrective Action Requests and six requests for Clarification raised by the validation team were resolved through communications with the project participants, i.e. the World Bank's Carbon Finance Unit, EcoSecurities and S.A. Paulista. To guarantee the transparency of the validation process, the concerns raised by DNV Certification and the response provided by the project participants are documented in Table 3 of the Validation Protocol in Appendix A of DNV Certification's Validation Report of 16 February 2004 (version 02).

For further details, please refer to the "Methodology" Section (pages 3-5) of DNV Certification's Validation Report of 16 February 2004 (version 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 original project design documents on the DNV Climate Change web site on 21 December 2002 and stakeholders were through the Climate-L Info Mailing List invited to provide comments within 20 January 2003. One comment was received in this period. The comment (in unedited form) and DNV Certification's response is given in Appendix B of DNV Certification's Validation Report of 16 February 2004 (version 02).

After the approval of the baseline and monitoring methodology applied by the project and DNV Certification's accreditation for sectoral scope 13 (Waste handling and disposal) by the CDM Executive Board, the final project design documents will be again published on 5 April 2004 and comments by Parties, stakeholders and NGOs, to be provided within 5 May 2004, will be invited in line with the CDM modalities and procedures and the guidance by the CDM Executive Board.

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**

Det Norske Veritas Certification Ltd. (DNV Certification) has made a validation of the NovaGerar Landfill Gas to Energy Project (hereafter called "the project") located in Nova Iguaçu, State of Rio de Janeiro, Brazil, 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 rules and modalities and the subsequent decisions by the CDM Executive Board.

The validation consisted of the following three phases: i) a desk review of the project design and the baseline and monitoring plan (December 2002 to February 2004), ii) follow-up interviews with project stakeholders (February 2003) and iii) the resolution of outstanding issues and the issuance of the final validation report and opinion (February 2003 to February 2004). The validation of the initial project design documentation raised several concerns and changes to the proposed new baseline and monitoring methodology were requested by the CDM Executive Board. To resolve DNV Certification's concerns and to address the request made by the CDM Executive Board, the project design documentation was revised and resubmitted for validation.

The new baseline and monitoring methodology proposed for the project was approved by the CDM Executive Board.

The determination of the baseline is well elaborated, transparent and sufficiently supported with facts. The selected baseline scenario, i.e. the continued non-utilization of LFG, is reasonable for the first 7 years crediting period of 2004-2010. Moreover, an analysis of the economic attractiveness of the project alternative without the revenue from carbon credits demonstrates that project is not a likely baseline scenario.

The project is likely to mitigate GHG emissions by a) collection and combustion or flaring of landfill gas (LFG) captured at the Marambaia and Adrianópolis landfills and b) generating electricity from LFG partly displacing fossil-fuel based grid electricity. However, potential emission reductions resulting from the supply of electricity to the regional grid will not be claimed by the project. The project results in the reduction of methane emissions that are real, measurable and give long-term benefits and that are additional to what would have occurred in the absence of the project.

The GHG emission calculations are documented in a complete and transparent manner. The algorithm and methodologies for accounting GHG emissions are appropriate and emission factors are generally deemed to be of sufficient accuracy. However, the values used for the gas collection efficiency are not seen as conservative and the project may result in less emission reductions than estimated.

By collecting and combusting LFG, the project will reduce emissions from uncontrolled releases and reduce risks of toxic effects. In addition, some jobs will be created for operation and management. Moreover, ca. 10% of the electricity generated from the landfills will be donated to the municipality. The project is in line with sustainable development policies. However, the Brazilian DNA has not yet confirmed that the project will assist in achieving sustainable development.

In summary, it is the validation team's opinion that the NovaGerar Landfill Gas to Energy Project, as described in the revised and resubmitted project design documentation of February 2004, meets all

relevant UNFCCC requirements for the CDM and all relevant host country criteria. However, the project has not yet obtained written approval of the Brazilian DNA, including a confirmation that the project assists in achieving sustainable development. Following the endorsement of the project by the Brazilian DNA and the necessary second stakeholder consultation process, the NovaGerar Landfill Gas to Energy Project will be recommended by DNV Certification for registration under the CDM.

For further details, please refer to the "Validation Findings" Section (pages 6-10) and Table 1 of the Validation Protocol in Appendix A of DNV Certification's Validation Report of 16 February 2004 (version 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.	NB: The NovaGerar Landfill Gas to Energy Project has not yet obtained written approval of the Brazilian DNA, including a confirmation that the project assists in achieving sustainable development.
Name of authorized officer signing for the DOE	Michael Lehmann
Date and signature for the DOE	29 March 2004 Michael Lehm...

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