



**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**

<b>Name of the designated operational entity (DOE) submitting this form</b>	Det Norske Veritas Certification Ltd. (DNV Certification)
<b>Title of the proposed CDM project activity (Section A.2 of the attached CDM-PDD) submitted for registration</b>	Salvador da Bahia Landfill Gas Management Project
<b>Project participants (Name(s))</b>	<ul style="list-style-type: none"> <li>- BATTRE Bahia Transferencia e Tratamento de Residuos S.A. (Brazil)</li> <li>- Showa Shell Sekiyu K.K. (Japan)</li> <li>- Shell Trading International Limited (United Kingdom)</li> </ul>
<b>Sector in which project activity falls</b>	Waste handling and disposal
<b>Is the proposed project activity a small-scale activity?</b>	No

**Section 2: Validation report**

<b>List of documents to be attached to this validation report (please check mark):</b>	
<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> The CDM-PDD</li> <li><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. 2003-1598, rev. 04));</li> <li><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"> <li><input checked="" type="checkbox"/> Brazil (Letter of Approval of 2 June 2004)</li> <li><input checked="" type="checkbox"/> Japan (Letter of Approval of 12 January 2005)</li> <li><input checked="" type="checkbox"/> United Kingdom (Letter of Approval of 20 April 2005)</li> </ul> </li> <li><input checked="" type="checkbox"/> Other documents, including any validation protocol used in the validation <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> DNV Certification's Validation Report and Protocol (Report No. 2003-1598, rev. 04)</li> </ul> </li> <li><input checked="" type="checkbox"/> Information on when and how the above validation report is made publicly available (Note: Included in DNV Certification's Validation Report (Report No. 2003-1598, rev. 04)).</li> <li><input checked="" type="checkbox"/> Banking information on the payment of the non-reimbursable registration fee</li> <li><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</li> </ul>	

**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 Salvador da Bahia Landfill Gas Management Project will expand the coverage of the LFG capture system at the Salvador de Bahia Landfill by installing additional equipment for LFG collection and flaring with a capacity of 6,250 m<sup>3</sup>/h in 2000 and expanding to 46,250 m<sup>3</sup>/h in 2020). The project will herewith improve the original project collection efficiency of 19-24% to 80% and is, as a consequence, expected to reduce methane emissions.

The projected emission reductions are 13 958 155 tCO<sub>2</sub>e over the projects operational lifetime of 16 years (average of 664 674 tCO<sub>2</sub>e per year) and 4 911 649 tCO<sub>2</sub>e during the first 7 years crediting period (average of 701 664 tCO<sub>2</sub>e per year).

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:

- ICF Consulting: Clean Development Mechanism Project Design Document: Salvador da Bahia Landfill Gas Management Project. Version 4 of October 2003 and Version 5 of March 2005.
- ICF Consulting: Salvador da Bahia Landfill Gas Project: Monitoring and Verification Plan. Version 3 of October 2003.
- ICF Consulting: Salvador da Bahia Landfill Gas Project Baseline Workbook. Version 3 of October 2003.
- ICF Consulting: Salvador da Bahia Landfill Gas Project Monitoring and Verification Workbook. Version 3 of October 2003.
- ICF Consulting: Salvador da Bahia Landfill Gas Project: Baseline Study (BSL). Version 2 of February 2002.
- Comissão Interministerial de Mudança Global do Clima, Brazil: Letter of Approval. 2 June 2004.
- The Liaison Committee for the Utilization of the Kyoto Mechanisms, Japan: Letter of Approval. 12 January 2005.
- Department for Environment, Food and Rural Affairs, United Kingdom: Letter of Approval. 20 April 2005.
- Approved baseline and monitoring methodology AM0002: Greenhouse Gas Emission Reductions through Landfill Gas Capture and Flaring where the Baseline is established by a Public Concession Contract. Version 01 of 26 September 2003.
- IPCC: Third Assessment Report. <http://www.unfccc.int/ipcc>
- IPCC: Good Practise Guidance and Uncertainty Management in National Greenhouse Gas Inventories. <http://www.unfccc.int/ipcc>
- Energy Information Administration: Country Analysis Brief - An overview of the energy situation in this country, An Energy Overview of Brazil, and Brazil: Environmental Issues. <http://www.eia.doe.gov/>. August 12, 2002.

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

The following persons were interviewed:

- Florent Mailly - BATTRE - Technical Manager, CDM Project Coordinator
- Artur Tanuri - BATTRE - General Manager Landfill.
- Ana Menezes - BATTRE - Human Resources
- Tadayuki Yoshimura - BATTRE - Technical Director

The validation team consisted of the following personnel:

- |                                |            |                                |
|--------------------------------|------------|--------------------------------|
| - Mr Luis Filipe Aboim Tavares | DNV Brazil | Team leader, CDM auditor       |
| - Ms Mari Grooss Viddal        | DNV Oslo   | CDM auditor                    |
| - Dr. Tsuyoshi Nakao           | DNV Japan  | Waste management sector expert |
| - Mr Michael Lehmann           | DNV Oslo   | CDM auditor                    |
| - Mr Einar Telnes              | DNV Oslo   | Internal verifier              |

For further details, please refer to the "Introduction" and "Reference" Section of DNV Certification's Validation Report (Report No. 2003-1598, 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 of the project was started in November 2002 and was concluded in April 2005. The validation consisted of the following three phases:

- a desk review of the project design documents (November 2002 to April 2005)
- follow-up interviews with project stakeholders (December 2002)
- the resolution of outstanding issues and the issuance of the final validation report and opinion (January 2003 to April 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 two Corrective Action Requests and two requests for Clarification. These requests were presented to the project participants and resolved through communications between the project participants and DNV and through subsequent revisions of the PDD. 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 to DNV Certification's Validation Report (Report No. 2003-1598, rev. 04).

For further details, please refer to the "Methodology" Section of DNV Certification's Validation Report (Report No. 2003-1598, rev. 04) and the IETA/PCF Validation and Verification Manual ([www.vvmanual.info](http://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 has published the draft project design documents of October 2002 on the DNV Climate Change web site ([www.dnv.com/certification/ClimateChange](http://www.dnv.com/certification/ClimateChange)) and stakeholders were through the Climate-L Info Mailing List invited to provide comments during a 30 days period from 29 November to 30 December 2002. One comment was received in this period. The comment (in unedited form) and an explanation on how DNV has taken due account of the comment received is given in Appendix B to DNV Certification's Validation Report (Report No. 2003-1598, rev. 04).

After approval of the baseline and monitoring methodology of the project, the project documents of October 2003 were once more published on the DNV Climate Change web site and Parties, stakeholders and UNFCCC accredited NGOs were through the UNFCCC CDM web site invited to provide comments during a 30 days period from 12 December 2003 to 11 January 2004. No comments were received in this period.

For further details, please refer to the "Comments by Parties, stakeholders and NGOs" Section of DNV Certification's Validation Report (Report No. 2003-1598, rev. 04).

#### **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

The project participants are BATTRE Bahia Transferencia e Tratamento de Residuos S.A. of Brazil, Showa Shell Sekiyu K.K. of Japan and Shell Trading International Limited of the United Kingdom. The participating Parties Brazil, Japan and the United Kingdom meet all relevant participation requirements and the DNAs of Brazil, Japan and the United Kingdom approved the project and confirmed the Parties' voluntary participation in the project.

The project is likely to mitigate GHG emissions by expanding and improving the landfill gas capture system at the Salvador de Bahia Landfill, hereby improving the collection efficiency from 19-24% to 80%. The project results in the reduction of CH<sub>4</sub> emission that are real, measurable and give long-term benefits.

The project is likely to improve environmental and social conditions through job creation, improved air quality, improved safety and support of the Environmental Protection Area surrounding the landfill. The DNA of Brazil has confirmed that the project will contribute to sustainable development in Brazil.

The validation did not reveal any information that sustains that the project can be seen as a substitution of ODA funding towards Brazil.

The project correctly applies the approved baseline and monitoring methodology AM0002. The determination of the baseline, i.e. the amount of LFG captured and flared specified in the concession contract between VEGA and the Municipality of Salvador, is well elaborated, transparent and sufficiently supported with facts. It is reasonable to assume that VEGA would not improve the LFG collection efficiency in the absence of the proposed CDM project activity. Emission reductions attributable to the project are thus additional to what would have occurred in the absence of the project.

The provisions in the monitoring plan are consistent with the monitoring methodology AM0002. The choice of monitoring indicators is reasonable and the monitoring plan will, when correctly applied, provide for conservative calculations of emission reductions.

The GHG emission calculations are documented in a complete and transparent manner. If implemented as planned, the project is likely to achieve the emission reductions stated in the PDD.

In summary, it is DNV's opinion that the Salvador da Bahia Landfill Gas Management Project, as described in the revised and resubmitted project design documentation of March 2005, meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria and correctly applies the approved baseline and monitoring methodology AM0002. Hence, DNV requests the registration of the Salvador da Bahia Landfill Gas Management Project as CDM project activity.

For further details, please refer to the Section "Validation Findings" and Table 1 of Appendix A of DNV Certification's Validation Report (Report No. 2003-1598, 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

20 April 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