



**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)
<b>Title of the proposed CDM project activity (Section A.2 of the attached CDM-PDD) submitted for registration</b>	Embralixo/Araúna - Bragança Landfill Gas Project (EABLGP)
<b>Project participants (Name(s))</b>	- Araúna Participações e Investimentos Ltda (Brazil) - Embralixo - Empresa Bragantina de Varrição e Coleta de Lixo Ltda. (Brazil)
<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>	
<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 2005-1496, rev 02)); <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 assist it in achieving sustainable development: <ul style="list-style-type: none"> <li>○ (Attach a list of all Parties involved and attach the approval(in alphabetic order))</li> </ul> <input checked="" type="checkbox"/> Other documents, including any validation protocol used in the validation. <ul style="list-style-type: none"> <li>○ DNV's Validation Report (DNV report 2005-1496, rev 02), including a validation protocol and a list of person interviewed by DNV validation team during the validation process.</li> </ul> <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 Border 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 “Embralixo/Araúna - Bragança Landfill Gas Project (EABLGP)” is located in the Bragança Paulista municipality, São Paulo State, Brazil. Municipal solid waste has been disposed at the Bragança Paulista landfill since 1990 and the landfill is expected to be closed in 2015. The daily average of solid waste received in 2005 was 164 tons. Historical average is 144 tons.

Up to the project's start in 2006, landfill gas (LFG) will be collected only through a passive system, and the collected LFG will be vented to the atmosphere (no flaring).

The “Embralixo/Araúna - Bragança Landfill Gas Project (EABLGP)” plans to install a LFG collection and flaring system. By connecting new vertical drains and by flaring the collected landfill gas, the project is expected to increase the LFG collection efficiency to 70% and to flare 98% of the LFG collected. The estimated amount of GHG reduction from the project is 464 791 tonnes of CO<sub>2</sub>e during the first renewable crediting period of 7 years starting on 01 July 2007 (66 399 tonnes of CO<sub>2</sub>e per year on the average).

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:

Araúna Participações e Investimentos Ltda: Project Design Document for the “Embralixo/Araúna - Bragança Landfill Gas Project (EABLGP)”, Version 01 of 31 October 2005.

Araúna Participações e Investimentos Ltda: Project Design Document for the “Embralixo/Araúna - Bragança Landfill Gas Project (EABLGP)”, Version 02 of 13 March 2006.

Araúna Participações e Investimentos Ltda: Project Design Document for the “Embralixo/Araúna - Bragança Landfill Gas Project (EABLGP)”, Version 03 of 18 April 2006.

Araúna Participações e Investimentos Ltda: Project Design Document for the “Embralixo/Araúna - Bragança Landfill Gas Project (EABLGP)”, Version 04 of 26 June 2006.

Araúna Participações e Investimentos Ltda: Spreadsheets for calculating expected LFG generation and associated emission reductions (PlanilhaCO2e-Bragançav02.xls).

Spreadsheets for calculating ONS-Emission factors SSECO 2002-2004-2006.03.09

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

CDM Executive Board: Approved Baseline Methodology ACM0001 - “Consolidated baseline methodology for landfill gas project activities”. Version 03 of 19 May 2006

CDM Executive Board: Approved Monitoring Methodology ACM0001 - “Consolidated monitoring methodology for landfill gas project activities”. Version 03 of 19 May 2006

CDM Executive Board: Approved Baseline Methodology ACM0002 - “Consolidated Methodology for Grid-Connected Power Generation from Renewable Sources”. Version 06 of 19 May 2006.

CDM Executive Board: “Tool for the demonstration and assessment of additionality”. Version 02 of 28 November 2005.

The following persons were interviewed:

Nino Sergio Bottini - Arauna  
André Leonel Leal - Green Domus Consulting

The validation team consisted of the following personnel:

Mrs Cintia Dias	Team leader,
Mr Luis Filipe Aboim Tavares	CDM auditor Waste sector expert
Mr. Vicente San Valero	CDM auditor
Mr Michael Lehmann	Technical reviewer

For further details, please refer to the “Introduction” and “References” Sections of DNV’s Validation Report (DNV report 2005-1496, 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 of the project started in November 2005. The validation consisted of the following three phases:

- i) a desk review of the project design, baseline and monitoring plan;
- ii) follow-up interview with project stakeholders;
- iii) the resolution of outstanding issues and the issuance of a validation report and opinion.

The original and revised versions of the project design document (PDD) for the project submitted by the project participants were reviewed. Additional background documents related to the project design and the baseline were also consulted.

On 23 January 2006 DNV performed interviews with staff of Araúna Participações e Investimentos Ltda and Embralixo 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 2005-1496, rev 02).

For further details, please refer to the “Methodology” Section of DNV’s Validation Report (DNV report 2005-1496, rev 02) 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)**

The PDD of 31 October 2005 was made publicly available on DNV's climate change website ([www.dnv.com/certification/climatechange](http://www.dnv.com/certification/climatechange)) and Parties, stakeholders and NGOs were through the CDM website invited to provide comments during a 30 days period from 03 November 2005 to 02 December 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 "Embralixo/Araúna - Bragança Landfill Gas Project (EABLGP)" at Bragança Paulista municipality, 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 Embralixo - Empresa Bragantina de Varrição e Coleta de Lixo Ltda and Araúna Participações e Investimentos Ltda. The host Party Brazil meets all relevant participation requirements. No participating Annex 1 Party is yet identified.

The project proposes to collect and flare landfill gas (LFG) captured at the Bragança Paulista Landfill. By flaring LFG, the project results in the reduction of CH<sub>4</sub> 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. The Bragança Paulista's landfill has an Operation 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. Two comments have been received by local stakeholders and Embralixo - Empresa Bragantina de Varrição e Coleta de Lixo Ltda has taken them into account.

In summary, it is DNV's opinion that the "Embralixo/Araúna - Bragança Landfill Gas Project (EABLGP)" as described in the revised and resubmitted project design document of 26 June 2006, 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 will request the

registration of the "Embraliço/Araúna - Bragança Landfill Gas Project (EABLGP)" 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 2005-1496, 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 the DNA of Brazil including confirmation that the project assists in achieving sustainable development.

Name of authorized officer signing for the DOE

*Michael Lehmann*

Michael Lehmann

Date and signature for the DOE

05 July 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