VALIDATION REPORT

CONESTOGA – ROVERS E ASSOCIADOS ENGENHARIA SA

Aurá Landfill Gás Project

SGS Climate Change Programme
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Summary

This report summarizes the results of the validation of the project, performed on the basis of UNFCCC criteria. The validation has been performed as a desk review of the project documents presented by Conestoga-Rovers & Associates (CRA) and a site visit to Aurá landfill, where staff from the company was interviewed. The Validation was performed on the basis of the UNFCCC criteria and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting. Using a risk based approach, the review of the project design documentation and the subsequent follow-up interviews have provided SGS with sufficient evidence to determine the fulfilment of the stated criteria.

The emission reductions from Aurá landfill will be achieved through flaring the LFG collected.

Total amount of emission reductions for the crediting period (10 years) is therefore 3,201,518.5 t CO_2e.

The SGS will request the registration of the Aurá landfill gas project as a CDM project activity, once the written approval by the DNA of the participating Parties and the confirmation by the DNA of Brazil that the project assists in achieving sustainable development has been received.

Subject.:			
CDM validation			**Indexing terms**
Work carried out by			
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Technical review			
Irma Lubrecht			☒ No distribution without permission from the Client or responsible organisational unit
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Abbreviations

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AM	Approved Methodology
CAR	Corrective Action Request
CER	Certified Emission Reduction
DNA	Designated National Authority
MP	Monitoring Plan
NIR	New Information Request
PDD	Project design Document
SGS	Société Générale de Surveillance
EF	Emission Factor

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1. Introduction

1.1 Objective

The Conestoga – Rovers e Associados Engenharia SA has commissioned SGS to perform the validation of the project: Aurá Landfill Gas Project with regard to the relevant requirements for CDM project activities. The purpose of a validation is to have an independent third party assess the project design. In particular, the project's baseline, the monitoring plan (MP) and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of Certified Emission Reduction (CER). UNFCCC criteria refer to the Kyoto Protocol criteria and the CDM rules and modalities and related decisions by the COP/MOP and the CDM Executive Board.

1.2 Scope

The scope of the validation is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. SGS has employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of CERs.

The validation is not meant to provide any consulting towards the Client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

1.3 GHG Project Description

The purpose of the project activity is to collect landfill gas (LFG) at the Aurá Landfill and combust the extracted LFG over a ten year period utilizing a high efficiency enclosed flare, thereby reducing greenhouse gas (GHG) emissions and generating tonnes of Certified Emissions Reductions (CER).

The Aurá Landfill is located 19 kilometers (km) from the centre of the City of Belém, Pará, Brazil. The entire site covers an area of 120 hectares (ha) and the waste fill area of the site is approximately 30 hectares in size.

The Aurá landfill received non-hazardous solid municipal, industrial, commercial, institutional and some agricultural wastes for approximately 15 years. The project will involve the construction of a landfill gas collection system consisting of a grid of horizontal trenches and vertical gas extraction wells, centrifugal blowers and all other supporting mechanical and electrical subsystem necessary to collect the LFG. To combust the LFG collected from the site, an enclosed flare with full process controls and instrumentation will also be constructed and operated. The flare will be capable of providing sufficient temperature and retention time of the extracted landfill gas for complete destruction of hydrocarbons.

The emission reductions from Aurá landfill will be achieved through flaring the LFG collected.

Total amount of emission reductions for the crediting period (10 years) is therefore 3,201,518.5 t CO_2e.

Baseline Scenario:
The project baseline is total atmospheric release of the landfill gas.

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With-project scenario:
Construction of a landfill gas collection system and flaring/destruction of captured landfill gas.

Leakage:
No leakage needs to be accounted in this project. However, the methodology ACM0001 requires that quantities of electricity or any other fuels required for operating the landfill gas project, including the pumping equipment for the collection system and energy required to transport heat, should be monitored.
In the project activity, electricity consumption is associated with the blower system used to draw landfill gas to the enclosed drum flare, and the total emission resulting from electricity consumption is considered in the total project emissions. Emissions from electricity consumption over the crediting period will be 1599 tCO_2 e

Environmental and social impacts:
No significant environmental impacts are expected due to the project activity. A system for collection and treatment of the condensate generated will be installed. The sanitary water will be properly collected and treated to comply with local environmental regulations. The carbon dioxide component of landfill gas is considered to be a natural product of the carbon cycle. In the combustion of landfill gas, carbon dioxide is additionally produced, but this is also considered to be part of the natural carbon cycle and not of anthropogenic origin. There is minimal visual impact from the flare. Other potential impacts, such as noise and vibration from the blower and flare will be limited to site.

Positive environmental impacts are expected, as decreasing of landfill gas emissions and odour and reduction of leachate accumulation.

The positive social contributions expected from the project are: providing technical expertise for local recycling activities, improvement of local human health and the environment, improvement of working conditions and employment creation, contribution to income generation, technological capacity building, contribution to regional integration and cooperation with other sectors.

1.4 The names and roles of the validation team members

Name	***Role***
Aurea Nardelli	*Lead assessor*
Fabian Gonçalves	*Local assessor*
Irma Lubrecht	*Technical reviewer*

2. Methodology

2.1 Review of CDM-PDD and additional documentation
The validation is performed primarily as a document review of the publicly available project documents. The assessment is performed by trained assessors using a validation protocol.

A site visit is usually required to verify assumptions in the baseline. Additional information can be required to complete the validation, which may be obtained from public sources or through telephone and face-to-face interviews with key stakeholders (including the project developers and Government and NGO representatives in the host country). These may be undertaken by the local SGS affiliate. The results of this local assessment are summarized in Annex 1 to this report.

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2.2 Use of the validation protocol

The validation protocol used for the assessment is partly based on the templates of the IETA / World Bank Validation and Verification Manual and partly on the experience of SGS with the validation of CDM projects. It serves the following purposes:

- it organises, details and clarifies the requirements the project is expected to meet; and
- it documents both how a particular requirement has been validated and the result of the validation.

The validation protocol consists of several tables. The different columns in these tables are described below.

Checklist Question	***Means of verification (MoV)***	***Comment***	***Draft and/or Final Conclusion***
The various requirements are linked to checklist questions the project should meet.	*Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.*	*The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.*	*This is either acceptable based on evidence provided (**Y**), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question (See below). **New Information Request (NIR)** is used when the validation team has identified a need for further clarification.*

The completed validation protocol for this project is attached as Annex 2 to this report

2.3 Findings

As an outcome of the validation process, the team can raise different types of findings

In general, where insufficient or inaccurate information is available and clarification or new information is required the Assessor shall raise a **New Information Request (NIR)** specifying what additional information is required.

Where a non-conformance arises the Assessor shall raise a **Corrective Action Request (CAR).** A CAR

is issued, where:

I. mistakes have been made with a direct influence on project results;

II. validation protocol requirements have not been met; or

III. there is a risk that the project would not be accepted as a CDM project or that emission reductions will not be verified.

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The validation process may be halted until this information has been made available to the assessors' satisfaction. Failure to address a NIR may result in a CAR. Information or clarifications provided as a result of an NIR may also lead to a CAR.

Observations may be raised which are for the benefit of future projects and future verification or validation actors. These have no impact upon the completion of the validation or verification activity.

Corrective Action Requests and New Information Requests are raised in the draft validation protocol and detailed in a separate form (Annex 3). In this form, the Project Developer is given the opportunity to "close" outstanding CARs and respond to NIRs and Observations.

2.4 Internal quality control

Following the completion of the assessment process and a recommendation by the Assessment team, all documentation will be forwarded to a Technical Reviewer. The task of the Technical Reviewer is to check that all procedures have been followed and all conclusions are justified. The Technical Reviewer will either accept or reject the recommendation made by the assessment team.

3. Determination Findings

3.1 Participation requirements

Host Party: Brazil is listed as the host Party. Brazil ratified the Kyoto Protocol on 23rd August 2002. (http://unfccc.int/files/essential_background/kyoto_protocol/application/pdf/kpstats.pdf).

At time of the validation, no Letter of Approval from the host country had been provided. The Letter of Approval will be signed when the DNA of Brazil has received and analyzed the validation report.

United Kingdom is listed as party of the project. UK ratified the Kyoto Protocol on 31st May 2002.

No Letter of Approval from Annex I country (UK) has been provided. One of the required documents to apply for UK approval is the host country letter of approval from the Brazilian DNA. CRA will apply for the UK DNA letter of approval as soon as the Brasilian DNA issues its letter of approval. The LoA from UK DNA will be issued after receiving the LoA from Brazil.

3.2 Baseline selection and additionality

The methodology applied to the project is the Approved Consolidated Baseline methodology ACM 0001 - "Consolidated baseline methodology for landfill gas project activities" and "Consolidated monitoring methodology for landfill gas project activities" (version 4).
ACM 0001 is applicable to landfill gas capture project activities, where the baseline scenario is the partial or total atmospheric release of the gas (as verified in Aurá landfill, total release) and the project activities include the situation where the captured gas is flared.

Aurá project's boundary is the site of the project activity where the gas is captured and destroyed. It is consistent with ACM 0001.

The methodology defines that project proponents should provide an ex ante estimate of emissions reductions, by projecting the future GHG emissions of the landfill using verifiable methods.
The total methane emissions in the absence of the Aurá project activity were estimated based on the waste tonnage of the landfill using a United States Environmental Protection Agency (USEPA) first-order kinetic model for landfill gas.

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The relevant information for the baseline analysis and additionality had been presented in the PDD. The project demonstrated additionality discussing and presenting evidences for each condition required in ACM0001. The methodology requires the use of the "Tool for the demonstration and assessment of additionality". The steps were clearly described and demonstrated in the PDD. The project is likely to mitigate GHG emissions by implementing a landfill gas collection system, generating less methane emissions than emitted under the baseline scenario, where the LFG is totally released to atmosphere.

The discussion of additionality applied the following analysis:
- Investment analysis: it was applied the simple cost analysis to demonstrate that the project activity generates no financial or economic benefits other than CDM related income. It was provided evidence to support the investments done by CRA for project implementation. A copy of the cash flow of the project was provided (Excel spreadsheet) and values and assumptions presented seemed reasonable to the project conditions and context. There is not indication that the project will have other income besides the sale of emission reductions. In this case, the IRR of the project is negative ie. there is no financial incentive for investment that would allow the project to proceed without revenue from CERs. It was the main justification of the additionality of the Aurá project.

- Barriers analysis: in addition to the investment analysis, two barriers were identified – investment and technological barriers – and three alternatives to the project were discussed under these barriers – (1) Landfill gas recovery not implemented (continuation of the current situation); (2) Project undertaken as a non-CDM project activity; (3) Electricity generation from the methane component of the extracted landfill gas. It was concluded that the only plausible scenario is the continuation of the current scenario ie., landfill gas recovery system not implemented.

- Common practice analysis: It was confirmed that active LFG recovery systems are in operation only in other CDM projects activities in Brazil. It is not a common practice and there is no legal requirement for the collection and combustion of LFG.

The validation team concluded that the information provided during the validation process evidenced that the project activity is additional.

3.3 Application of Baseline methodology and calculation of emission factors

As described in the PDD, the landfill gas not captured by the landfill gas collection and flaring system cannot be monitored, as this emission is diffused over the landfill. The amount of landfill gas collected and destroyed by combustion can be monitored using a flow meter. Project emissions are thus comprised of the quantity of methane collected and not flared due to flaring inefficiency, and this amount is subtracted from the measured amount of collected methane (expected efficiency is upwards of 99.99%). Electricity and thermal energy emission reductions do not apply to the project Aurá.

No leakage effects need to be accounted under ACM 0001. However the methodology defines that the electricity required for the operation of the project activity should be accounted and monitored (electricity imported). In Aurá project, electrical consumption will be associated with the blower system used to draw landfill gas to the enclosed drum flare, which corresponds to 327 MWh/year.
Project proponents will account for CO2 emissions by multiplying the quantity of electricity required with the CO2 emissions intensity of the electricity displaced. In Aurá project, CO2 emissions resulting from electricity consumption will be deducted from the total emission reductions.
In order to provide a conservative value of the emissions associated with electrical consumption by the project activity, it was assumed a conservative electrical distribution for Brazil: hydroelectric power would represent 50%; and diesel-generated power represent 50% of the grid. According to the IPCC and the Operador Nacional do Sistema Elétrico of Brasil (ONS) daily reports, the specific emission factor for hydroelectric power is 0 kg CO_2/MWh and the specific emission factor for diesel-generated power is 978 kg CO_2/MWh (ONS). It was calculated an estimate of the grid emission factor as 489 kg

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CO_2/MWh. This value was used to estimate the emissions resulting from electricity imported by the project activity.

3.4 Application of Monitoring methodology and Monitoring Plan

The data to be collected or used to monitor emissions from the project activity are defined according to the ACM0001 (version 4). The Section D and Annex 4 of PDD (Monitoring Plan) covers all the relevant parameters to be monitored, including indicators of environmental impacts and sustainable development. CRA has prepared a Design Brief for the project, and once the detailed design is completed, CRA will prepare a tailored Operating & Maintenance Manual. Observation (2): CRA shall ensure implementation of the procedures for monitoring, measurements and reporting since the project start the operation.

No monitoring of baseline emissions is required in the Aurá project, as the baseline scenario is the total uncontrolled landfill gas releasing to atmosphere. Monitoring methodology is based on the direct measurement of the quantity of LFG captured, collected and destroyed by the LFG management system.

As defined in ACM0001, no leakage needs to be considered, but electricity required for the operation of the project activity should be accounted and monitored. There was no clear information in the PDD regarding monitoring of the energy consumption and how the amount of energy required for operating the collection system will be calculated (NIR 5). The PDD was revised to include more information about electricity consumption and its monitoring. Section E.2 of the revised PDD provides an estimate for electrical consumption of the project. It is estimated for the electricity consumption associated with the mechanical and electrical components of the plant required to draw and process the LFG flow.. It was informed that monthly electrical bills charged to the project will be monitored and considered as the actual energy consumption for the project. The annual electrical consumption of 327 MWh/year was calculated based on 8,760 hours of operating time per year for an hourly energy consumption of 37 kWh. NIR 5 was closed out.

3.5 Project design

The project applies the correct PDD format and no modifications have been made to the format.

As the project is under construction, additional information and evidences was required during the desk review and site visit for validating the information provided in the PDD. Some documents are not available during the site visit, as following:

- The agreement between CRA and Belem Municipality: NIR 2 was raised requiring a documented evidence of the contract between the landfill owner (Belém Municipality) and CRA, signed on 21st October, 2005.
CRA made available the agreement at its Sao Paulo office for review and the document was verified by SGS local assessor. The Agreement object is to design, build, commission and operate a plant for the capture and flaring of landfill gas at the Aurá Landfill. NIR 2 was closed out.

- A list of equipment to be purchased and installed: NIR 3 was raised asking details about the equipment specifications and purchasing. CRA sent a list of key equipment for the LFG collection system; it consist of blowers; flare unit (installed with flame arrestor, propane pilot system, flame scanner, temperature control dampers, purge blower, and thermocouples); Programmable Logic Controller (PLC); flow meters; gas analyzer; data acquisition system; remote alarm transmission system; Uninterruptable power supply (UPS); condensate pump stations; condensate handling station; and heat and flame detectors. SGS team concluded that they are consistent to the project design. NIR 3 was closed out.

- The project implementation schedule: NIR 4 was raised asking a project schedule, for checking if

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times are plausible and to understand each stage of project construction. CRA presented a detailed table providing the necessary information, including each stage of the project and dates for its completion (43440 Belém Project Schedule.pdf). Design activities have started in late 2005 and the project start up is scheduled for November 1st, 2006. NIR 4 was closed out.

Observation 1: Regarding social aspects of the project, ie waste pickers, it should be provided information about how they will be accommodated.

The Municipality of Belém has plans to improve the quality and effectiveness of recycling activities currently conducted by waste pickers at the Aurá Landfill. CRA is willing to assist the Municipality of Belém, providing technical expertise and CRA international experience in similar situations to implement an organized recycling program customized to the local conditions. Specific details of this program will be developed concurrently with the development of the project system.

Observation 2: Regarding project management, ensure implementation of the procedures for monitoring, measurements and reporting since the project start the operation.

CRA has prepared a Design Brief for the project, and once the detailed design is completed, CRA will prepare a tailored Operating & Maintenance Manual.

3.6 Environmental Impacts

No significant adverse environmental impact due to the project activity is expected. Measures for environmental control have been implemented.

During the desk study and visit on-site, the environmental licenses were not available to confirm that the project is in compliance with national environmental legal requirements. NIR 6 was raised.

The Previous license for the project (LP n° 0002/2006) was issued by SEMMA (Municipal Environmental Agency) on 3/03/2006 and the Installation license LI n°0001/2006 was issued by SEMMA on 15/03/2006. Copies of the documents were provided to SGS. NIR 6 was closed out.

Positive environmental impacts due to the project activity are identified. Landfill gas emissions will decrease, reducing greenhouse gas emissions and local impacts related to air pollution. Odour will be diminished at local receptors. Operationally, proper management of the landfill gas will reduce the potential for landfill fires and the associated release of incomplete combustion products. Further, the driving force for subsurface migration of landfill gas and landfill gas components is minimized, protecting adjacent buildings and water bodies.

3.7 Local stakeholder comments

It is required that relevant stakeholder have been consulted. No consultation process had been carried out until December, 2005 when the local assessor visited the site. CAR 1 was raised.
In addition, the stakeholder consultation shall follow the DNA requirements: "Resolution n° 1 (2003/09/11) Brazil". To close out CAR 1, evidences of the consultation process were provided, as copies of the letters sent, phtos and records of a local meeting, comments received and formal receipts from the post office. The PDD was updated to include this information.

It was confirmed that the invitation was sent to specific stakeholders, considered representative of the general public.

- The municipality mayor house of Belém;
- The municipality chamber of Belém;
- The local attorneys' office ;
- The Brazilian NGO Forum;
- The state environmental agency (SECTAM – Secretaria Executiva de Ciência e Tecnologia e

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Meio Ambiente);
- The municipality's environmental authority (SEMMA – Secretaria Municipal de Meio Ambiente);
- Local communities associations (ASCAMBEL – Associação dos Servidores da Câmara Municipal de Belém, ASMOJE – Associação dos Moradores Moara e Jerusalém, Associação dos Moradores do Conjunto Verdejante I, II, III).

It was verified that CRA submitted the letters on 18th January, 2006 (by checking the formal records of post office).

In addition to the letters mentioned above, project proponents promoted a meeting with local stakeholders (in Belém, on 1st February, 2006) to present the project to the public as well as to local official authorities. Evidences, as invitations published on local newspapers, attendance sheets, photos and written comments were verified during the site visit. Details were included in the revised PDD. Comments received during consultation process were positive and supportive of the project.
CAR 1 was closed out.

4. Comments by Parties, Stakeholders and NGOs

In accordance with sub-paragraphs 40 (b) and (c) of the CDM modalities and procedures, the project design document of a proposed CDM project activity shall be made publicly available and the DOE shall invite comments on the validation requirements from Parties, stakeholders and UNFCCC accredited non-governmental organizations and make them publicly available. This chapter describes this process for this project.

4.1 Description of how and when the PDD was made publicly available

The PDD and the monitoring plan for this project were made available on the SGS website http://cdm.unfccc.int/Projects/Validation/DB/Z5MX2M56Z1YLPAC8R5CSPR4030QBQN/view.html and were open for comments from 02 Dec 2005 until 1 Jan 2006. Comments were invited through the UNFCCC CDM homepage

4.2 Compilation of all comments received

Comment number	*Date received*	*Submitter*	*Comment*
1	13 December 2005	Antonio Carlos de Salles	As in Brazil, public auction is required for public entities to contract services, concessions, partnerships, and other, is absolutely necessary to provide answers to several questions that are not clear regarding :Aura Landfill Gas Project", as follows: 1. In which date was the public auction that contracted CONESTOGA-ROVERS & ASSOCIADOS Engenharia S/A? 2. What is the type of the contract? Services Provider, concession, partnership or other? 3. What were the contract

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Comment number	Date received	Submitter	Comment
			conditions established for remunerating CONESTOGA-ROVERS & ASSOCIADOS Engenharia S/A? 4. In which date was the public auction that established a partnership, or contracted BGC International? 5. What is BGC International role as project participant and what are the remunerating basis and criteria for remunerating on this contract? 6. How does Belém Municipality intend to commercialize its CERs ? 7. Is it clear for the municipality that they are not authorized by local legislation to commercialize CERs prior to its emissions? 8. As it's a public landfill, it's mandatory having public information regarding all procedures and assure it is in compliance to local laws. 9. Must be on the web site, not only the PDD, the Auction documents and contracts signed between the players involved.
2	14 December 2005	Nabil Onaissi	The PDD informs that there are no public funds in the project. As the landfill is public (Belém Municipallity), and it is understood that no public auction was carried out, what are the criteria applied for selecting the companies involved in the project? How the participants (companies) will be remunerated?

4.3 Explanation of how comments have been taken into account

Answer for comment I:

1. In which date was the public auction that contracted CONESTOGA-ROVERS & ASSOCIADOS Engenharia S/A?

There was no public auction for this project. Local authorities have confirmed that a public auction was not necessary.

2. What is the type of the contract? Services Provider, concession, partnership or other?

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The contract is a concession to the rights for the biogas.

3. What were the contract conditions established for remunerating CONESTOGA-ROVERS & ASSOCIADOS Engenharia S/A?

Revenue for Conestoga-Rovers & Associados Engenharia S/A will be generated solely from the sale of certified emission reductions (CERs). No public money will be used in any fashion to remunerate Conestoga-Rovers & Associados Engenharia S/A. Belém Municipality will not provide money to the project but will receive a royalty based on the CERs.

4. In which date was the public auction that established a partnership, or contracted BGC International?

There was no public auction for this project.

5. What is BGC International role as project participant and what are the remunerating basis and criteria for remunerating on this contract?

BGC International is involved as an Annex I party participant and is involved in the CER transaction associated with the project.

6. How Belém Municipality intends to commercialize its CERs?

Conestoga-Rovers & Associados Engenharia S/A will commercialize CERs from the project and Belém Municipality will receive a royalty for each CER.

7. Is it clear for the municipality that they are not authorized by local legislation to commercialize CERs prior to its emissions?
Belém Municipality will not commercialize the CERs. Conestoga-Rovers & Associados Engenharia S/A will commercialize CERs from the project and is fully cognizant of the international legislation regarding certification of CERs.

8. As it's a public landfill, it's mandatory having public information regarding all procedures and assure it's compliance to local laws.

The project participants will undertake a public consultation session with the local municipality in January 2006. All required stakeholders will be invited and the required advertisements will be delivered beforehand. Additionally, the project participants will complete the documentation required by the host country with respect to environmental and labour laws.

9. Must be on the web site, not only the PDD but, Auction documents and contracts signed between the players involved.

Contracts are not necessary components of the PDD, but will be reviewed by a Designated Operational Entity (DOE) during the validation process to ensure that the requirements for a CDM project activity are met. Conestoga-Rovers & Associados Engenharia S/A will provide these documents to the DOE as part of the validation process and the results of the DOE assessment will be available in the validation report, which will be publicly posted on the UNFCCC website.

Answer for comment II:

Local authorities confirmed that no public auction was required for the project. The landfill belongs to the Municipality. Revenue for Conestoga-Rovers & Associados Engenharia S/A will be generated solely from the sale of certified emission reductions (CERs). No public money will be used in any fashion to remunerate Conestoga-Rovers & Associados Engenharia S/A. Belém Municipality will not provide money to the project but will receive a royalty based on the CERs.

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5. Validation opinion

Actions have been taken to close out 6 findings and 2 observations.

SGS has performed a validation of project: Aurá Landfill Gas. The validation was performed on the basis of the UNFCCC criteria and host country criteria, as well as criteria given to provide consistent project operations, monitoring and reporting.
Using a risk based approach, the validation of the project design documentation and the subsequent follow-up interviews have provided SGS with sufficient evidence to determine the fulfilment of the stated criteria.

By collecting landfill gas (LFG) at the Aurá Landfill and combust the extracted LFG over a ten year period utilizing a high efficiency enclosed flare, the project results in reducing greenhouse gas emissions that are real, measurable and give long-term benefits to the mitigation of climate change. A review of the investment analysis and barriers presented demonstrates that the proposed project activity was not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. If the project is implemented as designed, the project is likely to achieve the estimated amount of emission reductions.
The validation is based on the information made available to SGS and the engagement conditions detailed in the report. The validation has been performed using a risk based approach as described above. The only purpose of this report is its use during the registration process as part of the CDM project cycle. Hence SGS can not be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

6. List of persons interviewed

Date	Name	Position	Short description of subject discussed
14 December 2005	Guy L. Treadwell	Project Manager	Technical information about the project, operational structure and PDD issues.
14 December 2005	Carlson Cabral	Project Coordinator	Environmental license, contracts and stakeholder meeting.
14 December 2005	Jeancarlo Antunes Azevedo	Project Technician	Information about the project.

7. Document references

Category 1 Documents (documents provided by the Client that relate directly to the GHG components of the project, (i.e. the CDM Project Design Document, confirmation by the host Party on contribution to sustainable development and written approval of voluntary participation from the designated national authority):

/1/ Project Design Document, Aurá Landfill Gas Project, version 01, 24 November 2005; version 02, 7 March 2006; version 03, 23 May 2006; version 04, 22 October 2006.

/2/ Approved consolidated baseline methodology ACM0001 - “Consolidated baseline methodology for landfill gas project activities” (Version 4, 28 July 2006).

/3/ Approved consolidated monitoring methodology ACM0001 - “Consolidated monitoring methodology for landfill gas project activities” (Version 4, 28 July 2006).

/4/ Tool for the demonstration and assessment of additionality (28 November, 2005).

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Category 2 Documents (background documents used to check project assumptions and confirm the validity of information given in the Category 1 documents and in validation interviews):

/5/ Equipment list provided by email from CRA.

/6/ LFG Construction schedule Aurá Landfill site Belém,Brasil (Dec 2005 – Nov 2006).

/7/ City Government of Belém Agreement between The City of Belém and Conestoga-Rovers & Associados Engenharia S/A, October 2005. The Agreement object of which is to design, build, commission and operate a plant for the capture and flaring of landfill gas at the Aurá Landfill.

/8/ Previous license number 0002/2006, 3 March 2006 issued by SEMMA (Municipality environmental agency) – provided after the site visit. Previous license for the landfill gas project.

/9/ Installation license number 0001/2006, 15 March 2006 issued by SEMMA (Municipality environmental agency) – provide after the site visit. Installation license for the landfill gas project.

/10/ Aerial photo of the Aurá landfill.

/11/ Financial worksheet.

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