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Verification Report

Aguascalientes – EcoMethane Landfill Gas to Energy Project

2nd Periodic Verification

of the registered CDM project

No. 0425

Report No. 1049683

December 19, 2007

TÜV SÜD Industrie Service GmbH
Carbon Management Service
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Industrie Service

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Executing Operational Unit:	TÜV SÜD Industrie Service GmbH Carbon Management Service Westendstr. 199 - 80686 Munich, GERMANY
Client:	EcoSecurities Ltd. 21 Beaumont Street Oxford, United Kingdom
Contract approved by:	Werner Betzenbichler
Report Title:	Periodic Verification of the Aguascalientes – EcoMethane Landfill Gas to Energy Project
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Summary:

The certification body "Climate and Energy" of TÜV SÜD Industrie Service GmbH has been ordered by EcoSecurities Ltd (EcoSecurities) to carry out the periodic verification of the registered CDM project "Aguascalientes – EcoMethane Landfill Gas to Energy Project" in Mexico for period October 18, 2006 to September 07, 2007.

The verifier confirms that the project is implemented as planned and described in validated and registered project design documents and that the monitoring plan of the registered PDD complies with the applicable methodology ACM0001 ver. 2. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is already generating emission reductions, even though they were not official part of this assessment.

The verifier can confirm that the GHG emission reduction for the whole monitoring period is calculated without material misstatements. Our opinion relates to the project's GHG emissions and resulting GHG emissions reductions reported and related to the valid and registered project baseline and monitoring, and its associated documents. Based on the information we have seen and evaluated we confirm the following statement:

Reporting period: from October 18, 2006 to September 07, 2007.

Verified emission in the above reporting period:

Baseline emissions:	102450	t CO_{2e}
Project emission:	82	t CO_{2e}
Emission reductions:	102368	t CO_{2e}

Work carried out by:	Javier Castro (Local expert, GHG Lead auditor) Arturo Lemus (Local expert, GHG auditor) Daniel Galvan (Local expert, GHG auditor)	**Internal Quality Control by:** Werner Betzenbichler

Abbreviations

Abbreviations that have been used in the report here:

AE	Applicant Operational Entity
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
ER	Emission reduction
FAR	Forward Action Request
GHG	Greenhouse gas(es)
KP	Kyoto Protocol
MP	Monitoring Plan
MR	Monitoring Report
PDD	Project Design Document
TÜV SÜD	TÜV Industrie Service GmbH TÜV SÜD Group
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual

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Table of Contents

1 INTRODUCTION

EcoSecurities LTD has commissioned an independent verification by TÜV Industrie Service GmbH TÜV SÜD Group (TÜV SÜD) of its registered CDM projects among which the project: "Aguascalientes-EcoMethane Landfill Gas To Energy Project", The order includes the periodic verification of the project.

Verification is the periodic independent review and ex post determination by the Designated Operational Entity / Independent Entity of the monitored reductions in GHG emissions during the defined verification period.

This report summarizes the findings of the periodic verification. It is based on the Periodic Verification Report Template, which is part of the Validation and Verification Manual (VVM) published by International Emission Trading Association (IETA).

The periodic verification has been performed in a single mission on-site. This consisted of a desk review of the project documents including PDD, monitoring plan, monitoring report and further documentations.

The verification team consists of the following personnel:

Javier Castro	TÜV SÜD, Munich	Project Manager, Team Leader
Daniel Galvan	TÜV SÜD Mexico, Monterrey	Local expert, GHG auditor
Arturo Lemus	TÜV SÜD Mexico, Mexico	Local expert, GHG auditor

1.1 Objective

The objective of verification can be divided in Initial Verification and Periodic Verification:

- Initial Verification:

The objective of an initial verification is to verify that the project is implemented as planned, to confirm that the monitoring system is in place and fully functional, and to assure that the project will generate verifiable emission reductions. A separate initial verification prior to the project entering into regular operations is not a mandatory requirement. The initial verification had been done by TUV SUD Industrie Service in August 01 and 02, 2006. This report was well as the results of the previous periodic verification can be found on the UNFCCC website under:

http://cdm.unfccc.int/Projects/DB/DNV-CUK1146574758.66/view

- Periodic Verification:

The objective of the periodic verification is to verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan; further more the periodic verification evaluates the GHG emission reduction data and express a conclusion with a high, but not absolute, level of assurance about whether the reported GHG emission reduction data is free of material misstatements; and verifies that the reported

GHG emission data is sufficiently supported by evidence, i.e. monitoring records. The verification shall consider both quantitative and qualitative information on emission reductions.

Quantitative data comprises the monitoring reports submitted to the verifier by the project entity. Qualitative data comprises information on internal management controls, calculation procedures, and procedures for transfer, frequency of emissions reports, review and internal audit of calculations/data transfers.

The verification is based on criteria set by UNFCCC, the Kyoto Protocol and the CDM modalities and procedures.

1.2 Scope

Verification scope is defined as an independent and objective review and ex post determination by the Designated Operational Entity of the monitored reductions in GHG emissions. The verification is based on the submitted monitoring report and the validated project design documents including its monitoring plan. The monitoring report and associated documents are reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. TÜV SÜD has, based on the recommendations in the Validation and Verification Manual employed a risk-based approach in the verification, focusing on the identification of significant risks of the project implementation and the generation of CERs.

The verification 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 monitoring activities.

The on-site visit was carried out during September 21, 2007. The audit team has been provided with various documents showing the implementation of the project, such as procedures, manuals, equipment characteristics and equipment calibration records. In September 17, 2007 a Monitoring Report dated September 17, 2007 and calculation sheets have been submitted, covering the period October 18, 2006 to September 07, 2007. This monitoring report has been made publicly available at UNFCCC website http://cdm.unfccc.int/Projects/DB/DNV-CUK1146574758.66/view these documents serve as the basis for the assessment presented herewith.

Studying the existing documentation belonging to this project, it was obvious that the competence and capability of the audit team performing the verification has to cover at least the following aspects:

- Knowledge of Kyoto Protocol and the Marrakech Accords
- Environmental and Social Impact Assessment
- Quality assurance
- Technical aspects of CH4 decomposition
- Monitoring technologies and concepts
- Political, economical and technical conditions in host country

According to these requirements TÜV SÜD has composed a project team in accordance with the appointment rules of the TÜV certification body "climate and energy":

Javier Castro is deputy head of the certification body "Climate and Energy" at TÜV SÜD Industrie Service GmbH. He has an academic background in chemical engineering and energy systems. In his position he participates as project manager the validation, verification and certifications processes for GHG mitigation projects. He has received extensive training and has participated in the CDM and JI validation and verification assessments..

Arturo Lemus is GHG auditor and project Manager of CDM of TUV SUD Mexico in Mexico City. Having an academic education as Mechanical and technical Engineer. In his position he is responsible of coordination of all activities of Validation and Verification of the projects developed in Mexico. He has received extensive training in the CDM validation processes and participated already in several CDM project assessments like Auditor.

Daniel Galvan is a GHG auditor and project manager of CDM TUV SUD Mexico in Monterrey city. He has an academic background in mechanical administrator engineering. He has received extensive training in the CDM validation processes and participated already in several CDM project assessments as auditor.

The audit team covers the above mentioned requirements as follows:

- Knowledge of Kyoto Protocol and the Marrakech Accords (ALL)
- Environmental and Social Impact Assessment (ALL)
- Quality assurance (ALL)
- Technical aspects of Landfills operation (ALL)
- Monitoring technologies and concepts (ALL)
- Political, economical and technical conditions in host country (ALL)

Responsibility for the internal quality control of the project was with Werner Betzenbichler, head of the certification body "climate and energy".

1.3 GHG Project Description

The objective of the Project is to collect and flare the LFG generated at the Cumbres landfill, and to utilize the LFG generated at the San Nicolas landfill. This will involve investing in a highly efficient gas collection system, flaring equipment, and once the project secures a power purchase contract, a modular electricity generation plant. The generators will combust the methane in the 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. At the moment of the visit, there was not electricity generation, is expected to start electricity generation during 2008.

Project participants are Biogas Technology S.A. de C.V., Biogas Technology Ltd as well as Ecosecurities Ltd.

According to the PDD, the project's starting date is June 01, 2006. The crediting period start on July 15th, 2006. Project owners have decided to opt for 10 year Fixed crediting period.

The project has been registered as CDM activity on July 15, 2006 having the reference number 0425 (see: http://cdm.unfccc.int/Projects/DB/DNV-CUK1146574758.66/view).

2 METHODOLOGY

The project assessment aims at being a risk based approach. Based on the received documents (see list of references) a periodic verification checklist (PVC) has been prepared, according to the VVM.

These combined checklists serve the following purposes:

- it organizes details of the audit procedure and clarifies the requirements the project is expected to meet; and
- Ensures a transparent verification process and provides evidence of the how particular requirements have been proved and the result of the verification.

During the verification a special focus was given to:

- the correct implementation of the project (installations, monitoring equipment and procedures, quality assurance procedures)
- the correctness of assumptions with impacts on the monitoring and verification process (e.g. baseline assumptions)
- sustainable development and environmental performance parameters
- training programs
- allocation of responsibilities
- the day-to-day operation of the system

After the document review the audit team conducted

- an on-site inspection at San Nicolas and Cumbres landfill installation
- interviews with the members of the sites.

The findings are the essential part of this verification report, which is based on the verification protocols of the VVM. The completed periodic verification protocol is enclosed in Annex 1 to this report. The structure of the tables is shown in the following:

Periodic Verification Checklist Table 1: Data Management System/Controls		
Expectations for GHG data management system/controls	Score	Verifiers Comments (including *Forward Action Requests*)

The project operator's data management system/controls are assessed to identify reporting risks and to assess the data management system's/control's ability to mitigate reporting risks. The GHG data management system/controls are assessed against the expectations detailed in the table.	A score is assigned as follows: **Full** all best-practice expectations are implemented. **Partial** a proportion of the best practice expectations is implemented **Limited** this should be given if little or none of the system component is in place.	Description of circumstances and further commendation to the conclusion. This is either acceptable based on evidence provided (**OK**), or a **Corrective Action Request (CAR)** of risk or non-compliance with stated requirements. The corrective action requests are numbered and presented to the client in the Verification report. The Initial Verification has additional Forward Action Requests (FAR). FAR indicates essential risks for further periodic verifications

Periodic Verification Checklist Table 2: GHG calculation procedures and management control testing		
Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
Identification of potential reporting risks based on an assessment of the emission estimation procedures. Identification of key source data. Focus on those risks that impact the accuracy, completeness and consistency of the reported data.	Identification of the key controls for each area with potential reporting risks. Assessment of adequacy of the key controls and eventually test that the key controls are actually in operation. Internal controls include, Understanding of responsibilities and roles, Reporting, reviewing and formal management approval of data; Procedures for ensuring data completeness, conformance with reporting guidelines, maintenance of data trails etc.	Identification of areas of residual risks, i.e. areas of potential reporting risks where there are no adequate management controls to mitigate potential reporting risks Areas where data accuracy, completeness and consistency could be improved are highlighted.

Periodic Verification Checklist Table 3: Detailed audit testing of residual risk areas and random testing		
Areas of residual risks	**Additional verification testing performed**	**Conclusions and Areas Requiring Improvement (including *FARs*)**

Periodic Verification Checklist Table 3: Detailed audit testing of residual risk areas and random testing		
Areas of residual risks	**Additional verification testing performed**	**Conclusions and Areas Requiring Improvement (including *FARs*)**
List of residual areas of risks of Periodic Verification Checklist Table 2 where detailed audit testing is necessary. *In addition, other material areas may be selected for detailed audit testing.*	*The additional verification testing performed is described. Testing may include:* ▪ *Sample cross checking of manual transfers of data* ▪ *Recalculation* ▪ *Spreadsheet 'walk throughs' to check links and equations* ▪ *Inspection of calibration and maintenance records for key equipment* ▪ *Check sampling analysis results* *Discussions with process engineers who have detailed knowledge of process uncertainty/error bands.*	*Having investigated the residual risks, the conclusions are noted here. Errors and uncertainties are highlighted.*

2.1 Review of Documentation and Site Visits

The verification was performed as a desk review of the project documents including PDD, monitoring plan, validation report, Monitoring report and further documentations. The monitoring report submitted by the client and additional background documents related to the project performance were reviewed. A complete list of all documents reviewed is attached as annex 2 to this report.

A visit was realized. It enabled the verification of the project installation and of the monitoring plan, as part of the visit, the emission reductions presented in the Monitoring report and all the raw data necessary to confirm such calculation was verified. During the onsite visit interviews with different plant employees have been realized.

Participants on the verification on the part of Project participant were:

Sergi Cuadrat	Carbon Credit Process Manager
Victor Jaimez	Mexico Manager Aguascalientes
Joaquin Pereyra	Monitoring Manager Aguascalientes
Henk Harmsen	Monitoring Manager EcoSecurities

2.2 Resolution of Corrective and Forward Action Requests

The objective of this phase of the verification was to resolve the requests for corrective actions and any other outstanding issues which needed to be clarified for TÜV SÜD's positive conclusion on the GHG emission reduction calculation. Quality and accuracy of the data and documents presented during the on site visit was high nevertheless one CAR has been reported and the same has been solved completely. Forward Action Requests are defined for issues which do not affect the generation of emission reduction in the verified period, but shall be improved within a reasonably time frame in order to ensure the reliability of future data. To guarantee the transparency of the verification process, the reported CAR and FAR and responses that have been given, are summarized in chapter 3 below and documented in more detail in the verification protocol in annex 1.

3 PERIODIC VERIFICATION FINDINGS

In the following sections the findings of the verification are stated. The verification findings for each verification subject are presented as follows:

The findings from the desk review of the monitoring report and further documentation and the findings from interviews during the follow up visit are summarized. A more detailed record of these findings can be found in the Verification Protocol in annex 1.

1) Where TÜV SÜD had identified issues that needed clarification or that represented a risk to the fulfillment of the project objectives, the Corrective Actions Request, respectively, have been issued. The Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Verification Protocol in annex 1. The verification of the project resulted in several Corrective Action Requests.
2) The final conclusions for verification subject are presented.

The verification findings relate to the project implementation as documented and described in the final monitoring report.

3.1 Remaining issues, CARs, FARs from last verifications

One task of the periodic verification is to check the remaining issues from the previous verifications or issues which are clearly defined for assessment in the PDD.

As stated in the last verification period two FARs have been raised. These issues have checked during the presented period and following actions have been taken.

Regarding correct peak LFG flow values: The data has been filtered once received and a verification if the lowest and highest values are realistic. These has been confirmed on-site

Regarding to the environmental requirements from the local authorities, the audit team has checked the evidence that the San Nicolas and Cumbres sites complies with local authority requirements, this is part of the ISO 14001:2004 certification requirements.

3.2 Project Implementation

3.2.1 Discussion

Equipment of this project activity is installed as described in the PDD. According to the PDD, The way the production data is obtained is consistent with the way the historical data had been determined. Measurement equipments are in place and calibrated. All required metering systems have been identified and checked. Responsibility for installation and operation of the equipment is within sites employees. The equipment is calibrated periodically as proven during the on-site visit. The project boundaries have not been changed. The forward action request 1 from the last verification regarding the peak values of flow due to power variations have been checked by the audit team and are not considered relevant events since it has not happened frequently, these values are reviewed by the project participant as part of the quality control in order to ensure if higher and lower values are realistic.

3.2.2 Findings

None

3.2.3 Conclusion

The project complies with the requirement

3.3 Internal and External data

3.3.1 Discussion

The external data has been verified and all are in line with monitoring plan of the registered PDD.

The monitoring plan as provided by the PDD is correctly implemented and hence all internal data to be monitored is available.

Most of the internal data is continuously acquired and stored in the computerized System and from these transferred to excel sheets. All the data have been verified completely.

The audit team can confirm that the used management and operational system is appropriate and is being implemented as defined in the Monitoring Plan. All of above data are stored in different documents all available during the on-site audits.

No significant reporting risk could be identified with respect to external data used for this project activity.

3.3.2 Findings

none

3.3.3 Conclusion

The project complies with the requirements.

3.4 Environmental and Social Indicators

3.4.1 Discussion

All the procedures to processing the data are automated and reflect the monitoring plan content "Operational Procedure CDM Project, Section 1.3 Reporting procedures". Information relates with the environmental monitoring required by the authority are included in the monitoring report. The Forward Action Request 2 regarding to the environmental requirements from the local authorities, the audit team has checked the evidence that the San Nicolas and Cumbres sites complies with local authority requirements, this is part of the ISO 14001:2004 certification requirements.

3.4.2 Findings

None

3.4.3. Conclusion

The environmental authority monitoring requirements refer to the regulation NOM-085-SEMARNAT for exhaust gas emissions, a statement confirming this has been included in the monitoring report. All related issues to these requirements were explained during the onsite audit and the documents from the authority were reviewed. The project complies with the requirements.

3.5 Management and Operational System

3.5.1 Discussion

The Monitoring Reports documents the various processes established to monitor emission reductions. All procedures have been observed and are available. All procedures and records comply with the ISO 14001:2004. The quality environmental system has been certified by an accredited certification body, certificate is available.

Qualification and training procedures are well established by the project participants. Documents were shown that demonstrates qualification requirements. Additionally, training for specific duties and responsibilities could be demonstrated by copies of training certificates of workers.

The responsibilities are clearly defined and communicated.

The plant implemented an emergency plan (in case of fire, explosion, etc.). The procedures are adequately communicated.

3.5.2 Findings

None

3.5.3 Conclusion

The project complies with the requirements.

3.6 Completeness of Monitoring

3.6.1 Discussion

The reporting procedures reflect the monitoring plan completely. All parameters were determined as prescribed. The Monitoring report presents the monitoring concept in the same way as it was presented in the validated PDD. Monitoring plan complies with the applicable methodlogy ACM 0001 version 2.

3.6.2 Findings

Corrective Action Request No.1.

The monitoring report shall include all monitoring parameter included in the monitoring plan in the recording frequency stated in the monitoring plan.

Response:

Monitoring report has been updated.

3.6.3 Conclusion

Parameters have been included in the monitoring report and frequency according to the monitoring plan. The monitoring report complies with the requirements.

3.7 Accuracy of Emission Reduction Calculations

3.7.1 Discussion

Due to the approved methodology there is no need to make corrections for data uncertainty. To confirm that emission reduction calculations have been performed according to the Monitoring Plan and to the calculation methodology reported in the Monitoring Report, the audit team ask about the details of the measures made for the exhaust gas (Flare efficiency determination).

The method to determine GHG emissions is fully documented base on the validated monitoring plan in the last version of the PDD.

The details of the equipments were reviewed, the detection limit of the equipment used is 0.1% of the monitoring reading for CH4.

A statement from the equipment supplier and operation manual was submitted to the verifier. In addition, the corresponding calculations to determine a conservative scenario on how that detection limit impacts on the overall flare efficiency is provided to the verifier. Based on these calculations the overall flare efficiency obtained under a conservative scenario was 99.8%, therefore not affecting the CER calculations. The calculation emission reduction has a high level of the accuracy.

3.7.2 Findings

None

3.7.3 Conclusion

The project complies with the requirements.

3.8. Quality of Evidence to Determine Emission Reductions

3.8.1 Discussion

Concerning verification the calculation of emission reductions is based on internal and external data. The origins of internal and external data were explicitly checked and all were in line with the requirements.

Inspection of calibration and maintenance records for key equipment was performed for all relevant equipment.

3.8.2 Findings

None.

3.8.3 Conclusion

The level of quality evidence to determine emission reductions cover the requirement.

3.9 Management System and Quality Assurance

3.9.1 Discussion

Due to the straightforward approach for calculating GHG emission reductions the existing management system is appropriate and quality assurance is guaranteed. The IT system use is very

powerful, it ensures the quality of the information and the correct management of the data involve in the project.

3.9.2 Findings

Foward Action Request No.1.

In San Nicolas site, there is only one control graph for the two flares and emission reduction control, in order to improve the traceability, please provide for the next verification, one control graph per flare.

Response:

The PPs agree to conform to this requirement.

3.9.3 Conclusion

To be assessed during the next verification

During request for issuance process a request for review has been presented, here are the answers to this review included in order to have a transparent and complete verification report:

Issue 1:

The total amount of electricity imported in October 2006 was calculated from the monthly invoice. However the methodology requires this parameter to be continuously measured. Further clarification is required on how the DOE verified the total amount of the electricity import.

Response by PP

The amount of electricity was obtained from the monthly invoice in October 2006. The invoice itself, present the measured electricity consumption associated with the project. However, for October 2006, part of the electricity consumption stated in the invoice was considered in the previous verification report (17 July-17 October 2006). Therefore, the rest of the electricity consumed during October corresponds to the current monitoring period and the associated emissions were calculated accordingly to this value.

Response by DOE

During the onsite visit carried on September 21, the audit team has confirmed that the project participant is monitoring the electricity consumption using an electricity meter which is under control of the Mexican Energy Company CFE(Comission Federal de Electricidad), furthermore, the only conservative manner to confirm and to evidence the correct amount of electricity consumed by the project is using the invoices provided by the energy Company CFE.

The total amount of electricity consumed during the project has been verified. Part of it has been already taken into account in the last verification period, therefore the difference is the applied for

this period. Attached are the revised monitoring report, revised verification report, revised certification report and revised woorkbook

Issue 2:

No methane was measured in the exhaust gas for calculating the flare efficiency while the monitoring plan requires the methane content of the flare emissions to be analyzed at least quarterly. Further clarification is required on how the DOE verified the flare efficiency.

Response by PP

The flare tests were carried out every quarter as stated in the monitoring plan of the validated PDD. The flare tests were checked by the DOE and found to be satisfactory. No methane was detected in any of the flare tests. Further, the remark 5 in Annex I of the Monitoring report mentions "detection limit of <0.1% CH4", and a conservative flare efficiency has been applied.

Response by DOE

Methane content of the flare efficiency has been analyzed quarterly according to the monitoring plan, this information has been checked by the audit team and test reports are available as evidence, additionally and as further clarification, the statement included in the monitoring report "5 No methane was measured in the exhaust gas of the flare during any of the flare tests [detection limit < 0.1% CH4], a conservative flare efficiency has been applied" means that the results of the methane content analysis results were 0 and as a conservative manner, the project participant has calculated the flare efficiency subtracting the detection limit < 0.1% of the equipment used for the test. The audit team confirms that the flare efficiency of 99.8% has been calculated in a conservative manner and in compliance with the monitoring plan.

Issue 3:

The required values for calculating the quantity of methane destroyed by flaring (Mdflared) presented in the spreadsheet can not reproduce the same result (5,138 tCH4) stated in the monitoring report. Clarification is required.

Response by PP

The calculation of MDflared is the sum of calculated MDflare on a record-by-record basis. For example, the flare efficiency is set to zero if LFG flow, flare combustion temperature and/or methane content are below preset conditions. MDflare = LFGflared * Dch4 * Wch4 * FE [see note 17 in annex of monitoring report]; therefore MDflare will be zero for measurements where FE has been set to zero even if the LFG was flared. The flare efficiencies referred to in note 5 in the annex of the monitoring report refers to quarterly flare efficiency measurements by an external party, as required by the validated monitoring plan. Applying the FE from flare tests will lead to errors as it ignores the fact that FE has been set to zero in cases where CH4%, LFG flow and/or flare com-

bustion temperature are below preset levels. Also note that the methane concentration reported in the annex of the monitoring report is an *average*. The real concentration is used in the calculations as this parameter is continuously monitored [see note 6 of annex of monitoring report.] Applying the average concentration will lead to errors, as the measured CH4% that has been used in the calculations can vary.

Response by DOE

The calculation of the methane destroyed is done using the real values monitored and the the average presented in the monitoring report. Therefore it is not possible to obtain the same result using the data presented in the monitoring report as using the complete raw data, which is the correct way to obtain the total amount of methane destroyed.

Additionally during the review of the data, base on this request for review a mistake in the excel file has been found which lead to a decrease of 50 t CO_{2e} in relation with the value presented before. This difference is now reflected in the revised documents.

4. PROJECT SCORECARD

The conclusions on this scorecard are based on the revised CDM monitoring report.

Risk Areas		Conclusions			Summary of findings and comments
		Baseline Emissions	Project Emissions	Emission Reductions	
Completeness	Source coverage/ boundary definition	✓	✓	✓	All relevant sources are covered by the monitoring plan and the boundaries of the project are defined correctly and transparently. Potential improve is indicate in CAR 1.
Accuracy	Physical Measurement and Analysis	✓	✓	✓	State-of-the-art technology is applied in an appropriate manner. Appropriate back-up solutions are provided.
	Data calculations	✓	✓	✓	Emission reductions are calculated correctly.
	Data management & reporting	✓	✓	✓	Data management and reporting were found to be satisfying. Potential improves is indicated by FAR 1.
Consistency	Changes in the project	✓	✓	✓	Results are consistent to underlying raw data.

5 VERIFICATION STATEMENT

TÜV Industrie Service has performed a periodic verification of the registered CDM project: "Aguascalientes-EcoMethane Landfill Gas to Energy Project" in Mexico. The periodic verification is based on requirements of the UN Framework Convention on Climate Change (UNFCCC). In this context, the relevant documents are the "Marrakech Accords".

The management of Aguascalientes and EcoSecurities is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project Monitoring Plan indicated in the final PDD version number 2 dated May 02, 2006. The development and maintenance of records and reporting procedures is in accordance with that plan. The monitoring plan complies with the applicable methodology ACM 0001 version 2.

The verifier confirms that all the elements of the project necessary for the capture and flare of methane produced in the landfills sites are implemented as planned and described in validated project design documents.

Installed equipment being essential for generating emission reduction and for metering the data defined in the monitoring plan runs reliably and is calibrated appropriately. The monitoring system is in place and the project generates GHG emission reductions according to the approved methodology.

The verifier can confirm that the GHG emission reduction is calculated without material misstatements for the whole monitoring period.

Our opinion relates to the project's GHG emissions reductions reported and related to the valid project baseline and monitoring, and its associated documents.

Based on the information we have seen and evaluated, we confirm the following statement:

Reporting period: from October 18, 2006 to September 07, 2007.

Verified emission in the above reporting period:

Baseline emissions:	102450	t CO_{2e}
Project emission:	82	t CO_{2e}
Emission reductions:	102368	t CO_{2e}

Munich, December 19, 2007

Werner Betzenbichler
Head of certification body „Climate and Energy"

Javier Castro
Project manager

Annex 1: Periodic Verification Checklist

Table 1: Data Management System/Controls

The project operator's data management system/controls are assessed to identify reporting risks and to assess the data management system's/control's ability to mitigate reporting risks. The GHG data management system/controls are assessed against the expectations detailed in the table. A score is assigned as follows:

- Full - all best-practice expectations are implemented.
- Partial - a proportion of the best practice expectations is implemented
- Limited - this should be given if little or none of the system component is in place.

Expectations for GHG data management system/controls	Score	Verifiers Comments (including Forward Action Requests)
1 Defined organisational structure, responsibilities and competencies		
1.1 Position and roles *Position and role of each person in the GHG data management process is clearly defined and implemented, from raw data generation to submission of the final data.*	Full	Operational procedures, positions and roles are documented on Monitoring Manual section 5: Table 6: Landfill Site positions, roles, responsibilities, competences and training required Table 7: Gas Data Ltd: External Data provider positions, roles, responsibilities, competences and training required Table 8: Biogas Technology Ltd: positions, roles, responsibilities, competences and training required Figure 6: Project Staff
1.2 Responsibilities *Specific monitoring and reporting tasks and responsibilities are included in job descriptions or special instructions for employees*.	Full	Responsibilities and job description are clearly identified on Monitoring Manual Section 5: Table 6, 7, 8.
1.3 Competencies needed *Competencies needed for each aspect of the GHG determination process are analysed. Personnel competencies are assessed and training programme implemented as required.*	Full	Professional profiles according to their positions were shown. Training certificates were also shown; see comments above. Additional training measures will be implemented to ensure that all personnel involved in the monitoring process are capable of performing their appointed tasks.
2 Conformance with monitoring plan		

Expectations for GHG data management system/controls	Score	Verifiers Comments (including Forward Action Requests)
2.1 Reporting procedures *Reporting procedures should reflect the monitoring plan content. Where deviations from the monitoring plan occur, the impact of this on the data is estimated and the reasons justified.*	Partial	All the procedures to processing the data are automated and reflect the monitoring plan content "List of process in Aguascalientes LFG Project" Procedures include: 6.1 Operation Data Collection 6.2 CDM Data Collection 6.3 Data Assessment 7.1 CER's Calculations 7.2 Fault Reporting and Recording 8.1 Calibration 8.2 Maintenance 9.1 Monthly Reports 10.1 Saving data from Server 11.2 Flare compound checks 25 Gas well reading 26 Gas Balancing The procedures have been confirmed on-site **Corrective Action Request No.1.** The monitoring report shall include all monitoring parameter included in the monitoring plan in the recording frequency stated in the monitoring plan. **Foward Action Request No.1.** In San Nicolas site, there is only one control graph for the two flares and emission reduction control, in order to improve the traceability, please provide for the next verification, one

Expectations for GHG data management system/controls	Score	Verifiers Comments (including Forward Action Requests)
		control graph per flare.
2.2 Necessary Changes *Necessary changes to the monitoring plan are identified and changes are integrated in local procedures as necessary*.	Full	There are not changes in monitoring plan during this period.
3 Application of GHG determination methods		
3.1 Methods used *There are documented description of the methods used to determine GHG emissions and justification for the chosen methods. If applicable, procedures for capturing emissions from non-routine or exceptional events are in place and implemented.*	Full	All the reporting procedures are clearly defined and documented. The operational procedures and monitoring responsibilities are completely described. All the working instructions are clearly defined and documented. (See List of Process in Aguascalientes LFG CDM Project)
3.2 Information/process flow *An information/process flow diagram, describing the entire process from raw data to reported totals is developed.*	Full	Forward Action request from last verification period has been revised and the system is programmed in order to correct peak values of flow due to power variations. "Flow chart CERs calculation and organization chart" describes the process from raw data to the CERs calculated.
3.3 Data transfer *Where data is transferred between or within systems/spreadsheets, the method of transfer (automatic/manual) is highlighted - automatic links/updates are implemented where possible. All assumptions and the references to original data sources are documented.*	Full	The data collection is automated (the data are transmitted from the site to the central offices in UK via satellite) all the data processing is described, including the collecting frequency and data transmission, see annex A of Monitoring Plan.
3.4 Data trails *Requirements for documented data trails are defined and implemented and all documentation are physically available.*	Full	"Section 6 of Monitoring Manual, Data Management for the Project" provides a clear data trail for the project. Records will be kept during project life and two more years, 12 years in total. (See annex 8 section 12 on Monitoring Manual).
4 Identification and maintenance of key process parameters		

Expectations for GHG data management system/controls	Score	Verifiers Comments (including Forward Action Requests)
4.1 Identification of key parameters *The key physical process parameters that are critical for the determination of GHG emissions (e.g. meters, sampling methods) are identified.*	Full	Operational Procedure CDM Project, Section 2 Instrumentation for measuring identifies physical processes that are required to determine the GHG emissions.
4.2 Calibration/maintenance *Appropriate calibration/maintenance requirements are determined.*	Full	Records of calibration of measurement equipment were checked during the onsite visit, maintenance program is documented on "Monitoring Manual Table 5 Maintenance schedule".
5 GHG Calculations		
5.1 Use of estimates and default data *Where estimates or default data are used, these are validated and periodically evaluated to ensure their ongoing appropriateness and accuracy, particularly following changes to circumstances, equipment etc. The validation and periodic evaluation of this is documented.*	Full	All estimates and default data is obtained form the validated PDD, this has been confirmed and is also mentioned in Monitoring Manual section 4 Monitoring equipment table 2.
5.2 Guidance on checks and reviews *Guidance is provided on when, where and how checks and reviews are to be carried out, and what evidence needs to be documented. This includes spot checks by a second person not performing the calculations over manual data transfers, changes in assumptions and the overall reliability of the calculation processes.*		Checks and reviews are documented on "List of Process in Aguascalientes LFG CDM Project" 6.1 Operation Data Collection 6.2 CDM Data Collection 6.3 Data Assessment 7.1 CER's Calculations 9.1 Monthly Reports 10.1 Saving data from Server 11.2 Flare compound cheks The procedures have been confirmed on-site
5.3 Internal verification *Internal verifications include the GHG data management systems, to ensure consistent application of calculation methods.*	Full	The system has been programmed to select only the values generated under optimal operation conditions. 6.3 Data Assessment has been developed as a part of the quality control of the data. This has been confirmed after checking the calculation files

Expectations for GHG data management system/controls	Score	Verifiers Comments (including Forward Action Requests)
5.4 Internal validation *Data reported from internal departments should be validated visibly (by signature or electronically) by an employee who is able to assess the accuracy and completeness of the data. Supporting information on the data limitations, problems should also be included in the data trail.*	Full	Internal audits are carried out according to ISO standards, Landfill gas is ISO 14001. The documentation is available and has been revised during on-site visit
5.5 Data protection measures *Data protection measures for databases/spreadsheets should be in place (access restrictions and editor rights).*	Full	Satellite system webpage(CSV format) systems and back ups in England using Monitor-Pro version 5.0 software owned by Biogas Technology Limited, The Data from both sources are stored in the secure archive for the time of duration of the project and subsequent two years (total 12 years). Independent verifier and stakeholders have limited access (visitor/guest level without data processing options) to webpage with processed data. The data has been crosscheck with the data available on-site, no errors have been found.
5.6 IT systems *IT systems used for GHG monitoring and reporting should be tested and documented.*	Full	IT system is very powerful, all management of parameter, data transfer and backups are carried out in an efficient way.

Table 2: GHG calculation procedures and management control testing

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
The main potencial risk are: • Raw data collection • Calculation methods • Metering records	This projects has a high level of automation, the data transferring system the data collection frequency (each 30 minutes) is enough to ensure the accuracy of the emission reduction calculation. Complementary the monitoring plan does not consider the data generated when the equipment does not works under normal conditions. As secondary data, operators monitoring manually the parameters, all these data is used in order to carry out a cross checked with automated data, in case of transmission failure, secondary data is used to calculate the emission reduction, this information is documented and identified on the workbooks. Raw data collection: In general, ER calculation was performed on the basis of consolidated data, eliminating all periods for which open doubts could not be cleared. Calculation methods All the calculations are according to the approved methodology and are consistent with the	No areas of residual risk were found during the on site visit.

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
	monitoring plan described in the PDD. All the assessments were developed in transparent way, and all the documents and data used for it were revised during on site visit. Metering Records Data capture is performed remotely by Biogas, all the procedures of management data are totally defined and clear.	

Table 4: Compilation of open issues

Corrective and Forward Action Requests by audit team	Summary of project owner response	Audit team conclusion
Corrective Action Request No.1. The monitoring report shall include all monitoring parameter included in the monitoring plan in the recording frequency stated in the monitoring plan.	Monitoring report has been updated.	Parameters have been included in the monitoring report and frequency according to the monitoring plan. ☑
Foward Action Request No.1. In San Nicolas site, there is only one control graph for the two flares and emission reduction control, in order to improve the traceability, please provide for the next verification, one control graph per flare.	The PPs agree to conform to this requirement.	This information will be checked by the audit team during the next verification

Annex 2: Reference List

Reference No.	Document or Type of Information
1	On-site interview at the offices of San Nicolás Landfill in Aguascalientes, Mexico in cooperation with the project developer and the project owner conducted on September 21, 2007 by auditing team of TÜV SÜD **Validation team on-site:** Arturo Lemus CDM-Auditor Daniel Galvan CDM-Auditor **Interviewed persons:** Sergi Cuadrat Credit Process Manager Victor Jaimez Mexico Manager Joaquin Pereyra Monitoring Manager Mex Henk Harmsen Monitoring Manager
2	Project Design Document of Aguascalientes-EcoMethane Landfill Gas to Energy Project, Version 2, dated, 2/05/2006, registered under the number 0425 on July 15, 2006.
3	Monitoring Report for Aguascalientes-EcoMethane Lanfill gas to Energy Project, dated September 17, 2007.
4	Validation Report of Aguascalientes-EcoMethane landfill gas to Energy Project in Mexico, Report Number 2006-0625, Rev. 01
5	List of operational Procedures in Flare and Gas Collection Systems for CDM Projects from Eco-methane
6	Calibration Certificates for Flow meters (02 for San Nicolás Landfill, 01 for Cumbres Landfill), Fixed gas Analizer (01, for Cumbres Landfill, 02 for San Nicolás Landfill), Thermocouple (01 for Cumbres LF, 02 for San Nicolás LF), Portable Gas Analizer(serial number-5241)
7	Revised Monitoring Report for Aguascalientes-EcoMethane Lanfill gas to Energy Project, dated December 17, 2007.
8	Flowchart for Understanding CERs Calculation from Input to Monthly Report from Eco-methane
9	Approved Consolidated Methodology ACM0001 Version 2
10	Flare efficiency results of Cumbres and San Nicolas from Desarrollo Ecologico Industrial SA de CV(Laboratory): Cumbres Quemador 27-4 dated Aug 27, 2007 Cumbres Quemador 27-4 dated May 29, 2007 Cumbres Quemador 27-4 dated Dec 23, 2006 San Nicolas Quemador 27-41 A and B dated Aug 27, 2007

Reference No.	Document or Type of Information
	San Nicolas Quemador 27-41 A and B dated May 29, 2007 San Nicolas Quemador 27-41 A and B dated Dec 23, 2006
11	Workbook CERS from Aguascalientes - SUMMARY dated September 24, 2007 Workbook CERS from San Nicolas2 - Summary dated September 24, 2007 Workbook CERS from San Nicolas1 - Summary dated September 24, 2007 Workbook CERS from Cumbres - Summary dated September 24, 2007
12	Electricity invoices of the electricity consumption from the complete period from Cumbres and San Nicolas from December 2006 to September 2007.
13	Signed participant list of the on-site visit – dated Sept 21, 2007
14	Flow meter calibration document: “Recommendations for re-calibration intervals from Endress Hauser” Rev 01, 2003
15	Approval letters of the environmental reports submitted to the local authority “Secretaria de Servicios Publicos y Ecologia” San Nicolas letter – dated April 04, 2007 San Nicolas letter – dated Aug 27, 2007 Cumbres letter - dated April 04, 2007 Cumbres letter – dated Aug 27, 2007
16	Revised Workbook CERS from Aguascalientes – SUMMARY, submitted December 2007