VALIDATION REPORT

METHANE RECOVERY AND ELECTRICITY GENERATION PROJECT GCM 23 IN MEXICO

REPORT NO. 2006-1351

REVISION NO. 02

DET NORSKE VERITAS

VALIDATION REPORT

Date of first issue: 2006-08-14	Project No.: 4500084
Approved by: Einar Telnes Director	Organisational unit: DNV Certification, International Climate Change Services
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Summary:

Det Norske Veritas Certification Ltd. (DNV) has performed a validation of the "Methane Recovery and Electricity Generation Project GCM 23" in Mexico on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM modalities and procedures, the simplified modalities and procedures for small-scale CDM project activities and the subsequent decisions by the CDM Executive Board. This validation report summarizes the findings of the validation.

The validation consisted of the following three phases: i) a desk review of the project design documents, ii) follow-up interviews with project stakeholders and iii) the resolution of outstanding issues and the issuance of the final validation report and opinion.

In summary, it is DNV's opinion that the project, as described in the project design document version 02 dated 18 September 2006, meets all relevant UNFCCC requirements for the CDM, is eligible as category I.D & III.D small-scale CDM project activity and correctly applies the approved simplified baseline and monitoring methodologies AMS-I.D (version 08) and AMS-III.D (version 09). Hence, DNV requests the registration of the "Methane Recovery and Electricity Generation Project GCM 23" as a CDM project activity.

Report No.: 2006-1351	Subject Group: Environment
Report title: Methane Recovery and Electricity Generation Project GCM 23 in Mexico	
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Date of this revision: 2006-09-19	Rev. No.: 02	Number of pages: 11

Indexing terms

Key words Climate Change Kyoto Protocol Validation Clean Development Mechanism	Service Area Verification Market Sector Process Industry

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Abbreviations

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEF	Carbon Emission Factor
CER	Certified Emission Reduction
CH_4	Methane
CL	Clarification request
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
DNV	Det Norske Veritas
DNA	Designated National Authority
GCM	Granjas Carroll México
GHG	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
MP	Monitoring Plan
N_2O	Nitrous oxide
NGO	Non-governmental Organisation
ODA	Official Development Assistance
PDD	Project Design Document
UNFCCC	United Nations Framework Convention on Climate Change

1 INTRODUCTION

EcoSecurities Ltd has commissioned Det Norske Veritas Certification Ltd. (DNV) to perform the validation of the "Methane Recovery and Electricity Generation Project GCM 23" in Mexico (here after called the project). This report summarises the findings of the validation of the project, performed on the basis of UNFCCC criteria for small-scale CDM projects, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The validation team consisted of the following personnel:

Mr Gustavo Godínez	DNV México City, México	Team leader
Mr Alfonso Capuchino	DNV México City, México	GHG auditor
Mr Sergio Cabral	DNV México City, México	GHG auditor
Mr Luis Filipe Tavares	DNV Rio de Janeiro, Brazil	Sector expert
Mr Michael Lehmann	DNV Oslo, Norway	GHG auditor, Technical reviewer

1.1 Validation Objective

The purpose of a validation is to have an independent third party assess the project design. In particular, the project's baseline, monitoring plan, and the project's compliance with relevant UNFCCC and host Party criteria are validated in order to confirm that the project design, as documented, is sound and reasonable and meets the identified criteria. Validation is a requirement for all CDM projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reductions (CERs).

1.2 Scope

The validation scope is defined as an independent and objective review of the project design document (PDD). The PDD is reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords, the simplified modalities and procedures for small-scale CDM project activities and the relevant decisions by the CDM Executive Board, including the approved simplified baseline and monitoring methodologies AMS-III.D (version 09) and AMS-I.D (version 08). The validation team has, based on the recommendations in the Validation and Verification Manual /14/, employed a risk-based approach, 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 project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the project design.

1.3 Description of Proposed CDM Project

The objective of the project is to mitigate animal effluent related GHG emissions by improving the animal waste management at Granjas Carroll Mexico's (GCM) Farm 16 consisting of two sites: 16-3a and 16-3c located in Jalacingo, Veracruz, México.

The project activity consists of the construction of a new covered in-ground anaerobic reactor that will utilize the organic material of manure which is currently treated in the wastewater ponds

from the sites listed above to produce biogas. The biogas produced in the anaerobic digester will be captured and used to generate electricity on-site. Currently, the operations covered under the project rely on electricity from the Mexican grid. With the implementation of the project activity, electricity will henceforth be supplied by renewable biogas, displacing thus grid electricity. Surplus biogas, where produced, will be flared rather than released to the atmosphere.

The project's average annual emission reduction forecast is 5 428 tonnes of CO_2 equivalents (tCO_2e) over a fixed crediting period of 10 years.

2 METHODOLOGY

The validation consisted of the following three phases:

I a desk review of the project design, baseline and monitoring plan
II follow-up interviews with project stakeholders
III the resolution of outstanding issues and the issuance of the final validation report and opinion.

In order to ensure transparency, a validation protocol was customised for the project, according to the Validation and Verification Manual /14/. The protocol shows in transparent manner criteria (requirements), means of verification and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organises, details and clarifies the requirements a CDM project is expected to meet;
- It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation.

The validation protocol consists of three tables. The different columns in these tables are described in Figure 1.

The completed validation protocol for the "Methane Recovery and Electricity Generation Project GCM 23" is enclosed in Appendix A to this report.

Findings established during the validation can either be seen as a non-fulfilment of validation protocol criteria or where a risk to the fulfilment of project objectives is identified. Corrective action requests (CAR) are 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 certified.

The term "clarification" may be used where additional information is needed to fully clarify an issue.

Validation Protocol Table 1: Mandatory Requirements for CDM Project Activities			
Requirement	***Reference***	***Conclusion***	***Cross reference***
The requirements the project must meet.	*Gives reference to the legislation or agreement where the requirement is found.*	*This is either acceptable based on evidence provided (**OK**), a **Corrective Action Request (CAR)** of risk or non-compliance with stated requirements or a request for **Clarification (CL)** where further clarifications are needed.*	*Used to refer to the relevant checklist questions in Table 2 to show how the specific requirement is validated. This is to ensure a transparent Validation process.*

Validation Protocol Table 2: Requirement Checklist				
Checklist Question	***Reference***	***Means of verification (MoV)***	***Comment***	***Draft and/or Final Conclusion***
The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organised in seven different sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.	*Gives reference to documents where the answer to the checklist question or item is found.*	*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 (**OK**), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question (See below).A request for **Clarification (CL)** is used when the validation team has identified a need for further clarification.*

Validation Protocol Table 3: Resolution of Corrective Action Requests and Requests for Clarification			
Draft report corrective action requests and requests for clarifications	***Ref. to Table 2***	***Summary of project participants' response***	***Final conclusion***
If the conclusions from the draft Validation are either a Corrective Action Request or a Clarification Request, these should be listed in this section.	*Reference to the checklist question number in Table 2 where the Corrective Action Request or Clarification Request is explained.*	*The responses given by the project participants during the communications with the validation team should be summarised in this section.*	*This section should summarise the validation team's responses and final conclusions. The conclusions should also be included in Table 2, under "Final Conclusion".*

Figure 1 Validation protocol tables

2.1 Review of Documents

The PDD /1/ (Version 01 dated 08 August, 2006 and Version 02 dated 18 September 2006) submitted by EcoSecurities Ltd. and additional background documents related to the project design and baseline /7/-/14/ were assessed as part of the validation. During the site visit, DNV also reviewed the project's permits regarding water discharge.

2.2 Follow-up Interviews

In the period of 22 August 2006 to 25 August 2006, DNV performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of the farm owner GCM, the technology providers UEM, Inc. and GO Sistemas Ambientales, S.A. de C.V., EcoSecurities and the Mexican DNA were interviewed /15/-/20/. The main topics of the interviews are summarised in Table 1.

In addition to this project, the project participants have also proposed another 28 very similar projects at GCM farms in Mexico, which DNV has validated in parallel with the validation of this project. DNV has thus applied a sampling method and not all farms included in all 29 projects were visited. DNV visited 6 of the farms among others to verify that GCM's current practise for treatment of organic material is treatment in primary treatment lagoons in which the organic material is digested under anaerobic conditions.

The farms included in this project were visited.

Table 1 Interview topics

Entity	Interview Topic
GCM	- Permits - Project management (Maintenance, calibration and QA/QC, responsibilities, authorities, internal audits, corrective actions, etc). - Stakeholder consultation process - Current Operation
UEM, Inc./ GO Sistemas Ambientales, S.A. de C.V.	- Technology description (equipment, capacity, flare system details, etc.). - Emergency responses actions - Determination of project lifetime - Training provision
EcoSecurities	- Letter of approval - Starting day of projects and crediting period - Determination of project lifetime - Project boundary - Leaks - Baseline calculations
Mexican DNA	- Letter of approval - Sustainable development goals

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation was to resolve any outstanding issues which needed to be clarified for DNV's positive conclusion on the project design. The initial validation of the project identified some corrective action requests (CARs) and request for clarification (CLs) and the project participants were invited to provide a respond to these CARs and CLs which were communicated to the project participants in the form of a draft validation report.

The project participants' response to DNV's initial findings, which also included the submission of the final PDD of Version 02 dated 18 September 2006, addressed the raised requests to DNV's satisfaction.

To guarantee the transparency of the validation process, the concerns raised and responses given are documented in more detail in the validation protocol in Appendix A.

3 VALIDATION FINDINGS

The findings of the validation are stated in the following sections. The validation criteria (requirements), the means of verification and the results from validating the identified criteria are documented in more detail in the validation protocol in Appendix A.

The final validation findings relate to the project design as documented and described in PDD Version 02 dated 18 September 2006.

3.1 Participation Requirements

The project participants are EcoSecurities Ltd. of the United Kingdom, Cargill International S.A. of Switzerland and Granjas Carroll México, S. de R.L. de C.V of Mexico. The host Party México and the participating Annex I Parties Switzerland and the United Kingdom meet the requirements to participate in the CDM. Letter of Approvals, including authorization of the project participants, by the DNA of México, Switzerland and the United Kingdom have been obtained. The DNA of Mexico has also provided confirmation that the project assists in achieving sustainable development.

The project does not involve public funding, and the validation did not reveal any information that indicates that the project can be seen as a diversion of official development assistance (ODA) funding towards México.

3.2 Project Design

The project comprises the implementation of anaerobic digestion for the treatment of swine manure from the swine farm of Granjas Carroll Mexico. The objective of the project is to capture the biogas generated by the anaerobic digestion process and to flare the collected biogas and/or utilise it for electricity generation. Generated electricity will be used on-site and will displace electricity imports from the Mexican Grid. The project installed generation capacity will be lower than 1 MW according to the daily biogas calculations.

The project reflects good practice for the collection of the methane contained in biogas and its destruction through flaring and/or utilization for generation of electricity. The technology used in the project will be imported by UEM, Inc. and GO Sistemas Ambientales, S.A. de C.V.

A fixed crediting period of 10 years has been chosen with the starting date being 01 February 2007.

3.3 Baseline Determination

The project applies the approved simplified baseline and monitoring methodology AMS-III.D (version 09) titled "Methane recovery in agricultural and agro industrial activities" in combination with AMS-I.D (version 08) titled "Grid connected renewable electricity generation"

The project qualifies as a small scale project of Type III category D, i.e. methane recovery, which reduce anthropogenic emissions by sources and which emits less than 15 kilo tonnes of carbon dioxide equivalent (tCO_2e) per year and results in emission reduction lower than 25 000 tCO_2e.

The simplified small scale methodology AMS-I.D. is applied to this project because it comprises renewable energy generation that displaces electricity from an electricity distribution system that is supplied by at least one fossil fuel fired generating unit and the generation capacity is less than 15 MW.

For the methane recovery component of the project the emission baseline is the amount of methane that would be emitted to the atmosphere during the crediting period in the absence of the project activity. In accordance with AMS-III.D, this is the amount of methane captured and flared and/or combusted.

It has been verified that open lagoon treatment system (several lagoons can be part of the system depending of the farm size) is the most common practice in Mexico for treating manure and wastewater from swine farms. This practise is in compliance with regulation NOM 001-SEMARNAT /13/ which establishes maximum limits of polluting for wastewater discharge. The permits for water discharge for the sites comprised by the project are available as well as evidence of periodical reports issued in order to evaluate compliance with NOM-001SEMARNAT.

For the renewable electricity generation component of the project the baseline is the kWh produced by the renewable generating unit multiplied by an emission coefficient calculated in a transparent and conservative manner as the average of the approximate operating margin and the build margin.

3.4 Additionality

As required by Attachment A of the indicative simplified baseline and monitoring methodologies for selected small-scale CDM project activity categories, the project's additionality is demonstrated due to the project facing the following barriers:

Investment barrier:

1) The current pond system is financially more attractive and meets national regulations.
2) Mexico currently does not allow electricity generated onsite from biogas to be sold back to the grid, so that there is no real economic incentives (apart from reducing the farm's electricity bill) to capture and utilise biogas in absence of CDM benefits.

3) The Mexican hog industry faces economic challenges. Due to this odour reduction and an increase in water quality alone are not compelling enough arguments for farms to implement expensive anaerobic digestion systems.
4) Local banks are not interested in financing these projects primarily because of lack of knowledge and experience with the technology.

Technological barrier:

Anaerobic digester systems are a new technology in Mexico, and where these are implemented without considering CDM benefits, these have often been mismanaged in the past due to inadequate operation and maintenance.

Prevailing practice:

An open lagoon treatment system is the most common practice in Mexico for treating swine manure and wastewater. The implementation of anaerobic digester systems represents a higher risk alternative than the business-as-usual scenario.

In DNV's opinion, the investigation of the above barriers has effectively demonstrated the additionality of the project.

3.5 Monitoring Plan

The project applies the approved simplified monitoring methodologies AMS-III.D (version 09) titled "Methane recovery in agricultural and agro industrial activities" and AMS-I.D (version 08) titled "Grid connected renewable electricity generation". The monitoring parameters proposed in the PDD are fully consistent with both methodologies. The monitoring plan provides for monitoring of:

- Net amount of electricity generated by the project
- Amount of biogas recovered and used as fuel or flared
- Methane content of the biogas
- Flare and generator efficiency

The authority for project management is sufficiently described in Section D.4 of the PDD. The responsibilities for collection of project related data, entering data into spreadsheets, making periodical reports, archive data and reports and calibration / maintenance of monitoring equipment have been allocated.

3.6 Calculation of GHG Emissions

The US EPA AGSTAR model is used to determine estimated methane emissions from manure management. The methane generation estimate applied for the ex-ante estimation of emission reductions was determined using reasonable assumptions. The actual amount of methane being generated and flared and/or combusted will be measured ex-post.

For the ex-ante estimation of project emissions due to incomplete flaring and combustion of biogas, a 90% flare/generator efficiency is assumed. The actual flare and generator efficiency will be monitored and used to ex-post calculate emissions reductions.

The project's electricity generation will be metered. In addition, the estimated electricity consumption of the project equipment will be calculated and subtracted from electricity generation and only the net electricity will be used to calculate CO_2 emissions from displacing grid electricity. If no or insufficient amounts of electricity is generated in the period for which emission reductions are verified, the CO_2 emissions associated with the electricity use are accounted as project emissions.

A grid electricity emission coefficient of 0.531 tCO_2/MWh is determined ex-ante in accordance with AMS-I.D as the average of the "approximate operating margin" and the "build margin" and remains fixed during the crediting period. The operating margin and build margin emission coefficients have been determined using data on electricity generation and CO_2 emissions for the years 2002-2004 published by the Mexican Energy Secretariat (SENER). For some power plants operated by independent power producers no CO_2 emissions and fuel consumption data are publicly available and a proxy for these plants emission factor has been determined, using conservative assumptions for the efficiency of these plants.

3.7 Environmental Impacts

According to the PDD the host country does not require an analysis of the environmental impacts because is only a requirement for projects with installed electricity generating capacity greater than 3 MW. For the project the installed capacity is under 3 MW.

3.8 Comments by Local Stakeholders

A local stakeholder consultation process took place on 12 July 2006 at the Crown Plaza Hotel in the City of Xalapa, México. No actions were necessary in order to take due account of comments received.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

The PDD of 08 August 2006 was made publicly available on DNV's climate change website (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 12 August 2006 to 10 September 2006. No comments were received.

5 VALIDATION OPINION

Det Norske Veritas Certification Ltd. (DNV) has performed a validation of the "Methane Recovery and Electricity Generation Project GCM 23" in Mexico. The validation was performed on the basis of UNFCCC criteria for the Clean Development Mechanism and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The review of the project design documentation and the subsequent follow-up interviews have provided DNV with sufficient evidence to determine the fulfilment of stated criteria.

The project participants are EcoSecurities Ltd. of the United Kingdom, Cargill International S.A. of Switzerland and Granjas Carroll México, S.de R.L. de C.V of Mexico. The host Party México and the participating Annex I Parties Switzerland and the United Kingdom meet the requirements to participate in the CDM. Letter of Approvals, including authorization of the project participants, by the DNA of México, Switzerland and the United Kingdom have been obtained.

Having an installed capacity of less than 15 MW and having project emissions of less than 25 000 tonnes CO_2 equivalents per year, the project is eligible as type I and type III small-scale CDM project activity, respectively.

The project correctly applies the simplified baseline and monitoring methodology AMS-III.D (version 09) and AMS-I.D (version 08).

By treating swine manure in an anaerobic digester, by capturing generated methane and by flaring the captured methane or by utilising it to generate renewable energy, which will displace grid electricity, the project results in reductions of CH_4 and CO_2 emissions that are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated that the project is 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.

The project's average annual emission reduction forecast is 5 428 tonnes of CO_2 equivalents over a fixed crediting period of 10 years. The emission reduction forecast has been checked and it is deemed likely that the state amount is achieved given that the underlying assumptions do not change.

Adequate training and monitoring procedures will be implemented according to the schedule of the project.

In summary, it is DNV's opinion that the project, as described in the project design document version 02 dated 18 September 2006, meets all relevant UNFCCC requirements for the CDM, is eligible as category I.D and III.D small-scale CDM project activity and correctly applies the approved simplified baseline and monitoring methodologies AMS-I.D (version 08) and AMS-III.D (version 09). Hence, DNV requests the registration of the "Methane Recovery and Electricity Generation Project GCM 23" as a CDM project activity.

REFERENCES

Documents provided by the project proponent that relate directly to the project:

/1/ EcoSecurities Ltd.: *CDM-SSC-PDD for the "Methane Recovery and Electricity Generation Project GCM 23"*, Version 01 dated 08 August, 2006 and Version 02 dated 18 September 2006.

/2/ Ministry of Environment and Natural Resources (DNA of Mexico): *Letter of approval*, 8 September 2006

/3/ Department of Environment, Food and Rural Affairs (DEFRA) (DNA United Kingdom): *Letters of Approval*, 15 September 2006.

/4/ Swiss Agency for the Environment, Forests and Landscape (SAEFL) (DNA of Switzerland): *Letters of Approval*, 18 September 2006.

/5/ EcoSecurities Ltd. *Spreadsheet for baseline calculation*, 18 September 2006

/6/ EcoSecurities Ltd: *Spreadsheets for the Calculation of the Mexican Grid Emission Factor*, April 2006.

Background documents related to the design and/or methodologies employed in the design or other reference documents:

/7/ IPCC: 1996 IPCC Guidelines – Reference Manual, 1996

/8/ CDM Executive Board: *Indicative simplified baseline and monitoring methodologies for selected small-scale CDM project activity categories – Category III.D. Methane recovery (AMS-III.D)*, version 09 of 12 May 2006

/9/ CDM Executive Board: *Indicative simplified baseline and monitoring methodologies for selected small-scale CDM project activity categories – Category I.D. Grid connected renewable electricity generation'*, version 08 of 03 March 2006

/10/ Secretaría de Energía (SENER): *Emisiones del Sector Eléctrico (CFE Y LFC)*, http://www.sener.gob.mx/wb2/SenerNva/ibEse last time accessed on 17 August 2006

/11/ Secretaría de Energía (SENER): *Prospectiva del Sector Eléctrico 2005 – 2014, Prospectiva del Sector Eléctrico 2004-2013 & Prospectiva del Sector Eléctrico 2003-2012*, http://www.sener.gob.mx/wb2/SenerNva/iiPro514 last time accessed on 17 August 2006

/12/ Comisión Federal de Electricidad (CFE): *Listado de centrales generadoras*, http://www.cfe.gob.mx/es/LaEmpresa/generacionelectricidad/listralesgeneradoras/ last time accessed 17 August 2006

/13/ NOM-001-SEMARNAT-1996 *Norma Oficial Mexicana, que establece los limites máximos permisibles de contaminantes en las descargas de aguas residuales en aguas y bienes nacionales.*

/14/ International Emission Trading Association (IETA) & the World Bank's Prototype Carbon Fund (PCF): *Validation and Verification Manual*, http://www.vvmanual.info

Persons interviewed during the validation, or persons who contributed with other information that are not included in the documents listed above:

/15/ Jorge Landa, Project Manager GCM

/16/ Matthieu Dumas, EcoSecurities, Ltd.

/17/ Paloma Sarria, Ecosecurities, Ltd.

/18/ Kushaana Kushaana, Project Manager, UEM Inc.

/19/ Humberto Canto Bonilla General Director, GO Sistemas Ambientales

/20/ Miguel Cervantes, Mexican DNA

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APPENDIX A

VALIDATION PROTOCOL
FOR SMALL-SCALE CDM PROJECT ACTIVITIES

Table 1 Mandatory Requirements for Small Scale Clean Development Mechanism (CDM) Project Activities

Requirement	Reference	Conclusion	Cross Reference/Comment
1. The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3	Kyoto Protocol Art. 12.2	OK	Table 2, Section E.4.1
2. The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof	Kyoto Protocol Art. 12.2, Simplified Modalities and Procedures for Small Scale CDM Project Activities §23a	OK	Table 2, Section A.3 The Letter of Approval (LoA) by the DNA of Mexico was received.
3. The project shall assist non-Annex I Parties in contributing to the ultimate objective of the UNFCCC	Kyoto Protocol Art. 12.2.	OK	Table 2, Section E.4.1
4. The project shall have the written approval of voluntary participation from the designated national authority of each party involved	Kyoto Protocol Art. 12.5a, Simplified Modalities and Procedures for Small Scale CDM Project Activities §23a	OK	Approval by DNA of each Party has been received
5. The emission reductions should be real, measurable and give long-term benefits related to the mitigation of climate change	Kyoto Protocol Art. 12.5b	OK	Table 2, Section E.1 to E.4
6. Reduction in GHG emissions must be additional to any that would occur in absence of the project activity, i.e. a CDM project activity is additional if anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the registered CDM project activity	Kyoto Protocol Art. 12.5.c, Simplified Modalities and Procedures for Small Scale CDM Project Activities §26	OK	Table 2, Section B.2.1
7. In case public funding from Parties included in Annex I is used for the project activity, these Parties shall provide an affirmation that such funding does not result in a diversion of official development assistance	Decision 17/CP.7, CDM Modalities and Procedures Appendix B,	OK	No public funding involved in the project

Requirement	Reference	Conclusion	Cross Reference/Comment
and is separate from and is not counted towards the financial obligations of these Parties.	§ 2		
8. Parties participating in the CDM shall designate a national authority for the CDM	CDM Modalities and Procedures § 29	OK	DNA of Mexico: Autoridad Nacional Competente DNA of Switzerland: Swiss Agency for the Environment, Forests and Landscape (SAEFL) DNA of UK: The Department for Environment, Food and Rural Affairs
9. The host Party and the participating Annex I Party shall be a Party to the Kyoto Protocol	CDM Modalities and Procedures § 30, 31b	OK	Mexico: Ratification on 7 September 2000 Switzerland: Ratification on 09 July 2003 UK: Ratification on 31 May 2002;
10. The participating Annex I Party's assigned amount shall have been calculated and recorded	CDM Modalities and Procedures §31b	OK	Switzerland's and the United Kingdom's assigned amount is 92% of the emissions in 1990.
11. The participating Annex I Party shall have in place a national system for estimating GHG emissions and a national registry in accordance with Kyoto Protocol Article 5 and 7	CDM Modalities and Procedures §31b	OK	Switzerland and the United Kingdom reports on an annual basis their GHG inventory to the UNFCCC
12. The proposed project activity shall meet the eligibility criteria for small scale CDM project activities set out in § 6 (c) of the Marrakech Accords and shall not be a debundled component of a larger project activity	Simplified Modalities and Procedures for Small Scale CDM Project Activities §12a,c	OK	Table 2, Section A.1
13. The project design document shall conform with the Small Scale CDM Project Design Document format	Simplified Modalities and Procedures for Small Scale CDM Project Activities, Appendix A	OK	PDD in accordance with version 02 of the CDM-SSC-PDD
14. The proposed project activity shall confirm to one of	Simplified Modalities and	OK	Table 2, Section A.1.3, B and D.

Requirement	Reference	Conclusion	Cross Reference/Comment
the project categories defined for small scale CDM project activities and uses the simplified baseline and monitoring methodology for that project category	Procedures for Small Scale CDM Project Activities §22e		AMS-III.D: and AMS-I.D. have been used.
15. Comments by local stakeholders are invited, and a summary of these provided	Simplified Modalities and Procedures for Small Scale CDM Project Activities §22b	OK	Table 2, Section G
16. If required by the host country, an analysis of the environmental impacts of the project activity is carried out and documented	Simplified Modalities and Procedures for Small Scale CDM Project Activities §22c	OK	Table 2, Section F
17. Parties, stakeholders and UNFCCC accredited NGOs have been invited to comment on the validation requirements and comments have been made publicly available	Simplified Modalities and Procedures for Small Scale CDM Project Activities §23b,c,d	OK	The PDD has been published on DNV´s Climate change website. And Parties, stakeholders, and NGO´s were through the UNFCCC CDM website invited to provide comments during a 30 days period from 12 August 2006 to 10 September 2006. No comments were received.

Table 2 Requirements Checklist

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
A. **Project Description** The project design is assessed.					
A.1. Small scale project activity It is assess whether the project qualifies as small scale CDM project activity.					
A.1.1. Does the project qualify as a small scale CDM project activity as defined in paragraph 6 (c) of decision 17/CP.7 on the modalities and procedures for the CDM?	/1/	DR I	The project qualifies as a small scale project of Type III category D, i.e. methane recovery, which reduce anthropogenic emissions by sources and which emits less than 15 kilo tonnes of carbon dioxide equivalent (tCO_2e) per year and results in emission reduction lower than 25,000 tCO_2e. The simplified small scale methodology AMS-I.D. is applied to this project because it comprises renewable energy generation that displaces electricity from an electricity distribution system that is supplied by at least one fossil fuel fired generating unit and the generation capacity is less than 15 MW. However, the PDD does not define the generation capacity of the electricity component and under Mexican law (LGEEPA) and EIA could be a requirement if the projects is greater than 3 MW.	~~CL 1~~	OK
A.1.2. The small scale project activity is not a debundled component of a larger project activity?	/1/	DR	The project activity is not a debundled component of a larger project activity as the other similar projects proposed by the project participants for registration as CDM project activities are not within 1 km of the project boundary of this project activity..		OK

* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
A.1.3. Does proposed project activity confirm to one of the project categories defined for small scale CDM project activities?	/1/	DR I	The project conforms to project categories III.D and I.D since a) the project both reduces anthropogenic emissions by sources, directly emits less than 15 kilotonnes of carbon dioxide equivalent annually, and results in emission reductions lower than 25,000 tCO2e annually and b) the project installed generation capacity will be lower than 1 MW according to the daily biogas calculations.	~~CL 1~~	OK
A.2. Project Design Validation of project design focuses on the choice of technology and the design documentation of the project.					
A.2.1. Are the project's spatial (geographical) boundaries clearly defined?	/1/	DR	The specific location of the project needs to be confirmed as there were some inconsistencies in the PDD.	~~CAR 1~~	OK
A.2.2. Are the project's system (components and facilities used to mitigate GHG's) boundaries clearly defined?	/1/	DR I	The PDD does not clearly describe the systems included in the project boundary. Figure 1 in section A.4 of the PDD describes only the anaerobic digester but not the collection and pumping equipment, flare system and the possible electric generation component.	~~CL 2~~	OK
A.2.3. Does the project design engineering reflect current good practices?	/1/	DR	Yes, the project design seems to reflect current good practice		OK
A.2.4. Will the project result in technology transfer to the host country?	/1/	DR	The project is installing an anaerobic digester and the generated biogas is captured and flared and/or utilized for electricity generation. In absence of the		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			project the biogas would have been released to the atmosphere.		
A.2.5. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period? Does the project make provisions for meeting training and maintenance needs?	/1/	DR I	The PDD does not describe necessary initial training and maintenance efforts.	~~CL 3~~	OK
A.3. Contribution to Sustainable Development The project's contribution to sustainable development is assessed					
A.3.1. Will the project create other environmental or social benefits than GHG emission reductions?	/1/	DR	Yes. It can be expected that the project will create additional environmental benefits by reducing emissions of Volatile Organics Compounds (VOCs) and eliminating odor in surrounding areas, as well as increase local employment opportunities.		OK
A.3.2. Will the project create any adverse environmental or social effects?	/1/	DR	The project is not likely to create any adverse social or environmental effect.		OK
A.3.3. Is the project in line with sustainable development policies of the host country?	/1/	DR	The Approval letter of the DNA of Mexico indicates that the project is in line will sustainable development policies.		OK
A.3.4. Is the project in line with relevant legislation and plans in the host country?	/1/	DR I	The project's compliance with all relevant legislation remains to be confirmed on receipt of the approval letter by the DNA of Mexico.	~~CL 4~~	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
B. **Project Baseline** The validation of the project baseline establishes whether the selected baseline methodology is appropriate and whether the selected baseline represents a likely baseline scenario.					
B.1. Baseline Methodology It is assessed whether the project applies an appropriate baseline methodology.					
B.1.1. Is the selected baseline methodology in line with the baseline methodologies provided for the relevant project category?	/1/	DR	The project applies the approved simplified baseline methodologies AMS-I.D and AMS-III.D for small-scale CDM project activities.		OK
B.1.2. Is the baseline methodology applicable to the project being considered?	/1/	DR	The selected methodologies are applicable to the different components of the project: AMS-III.D for the construction of a methane recovery anaerobic digester, AMS-I.D for the introduction of a renewable energy generation unit.		OK
B.2. Baseline Determination It is assessed whether the project activity itself is not a likely baseline scenario and whether the selected baseline represents a likely baseline scenario.					
B.2.1. Is it demonstrated that the project activity itself is not a likely baseline scenario due to the existence of one or more of the following barriers: investment barriers, technology barriers, barriers due to prevailing practice or other barriers?	/1/	DR	As required by Attachment A of the indicative simplified baseline and monitoring methodologies for selected small-scale CDM project activity categories, the project's additionality is demonstrated due to the project facing the following barriers:		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			Investment barrier: 1) The current pond system is financially more attractive and meets National regulations. 2) Mexico currently does not allow electricity generated onsite from biogas to be sold back to the grid, so that there is no real economic incentives (apart from reducing the farm's electricity bill) to capture and utilize biogas in absence of CDM benefits. 3) The Mexican hog industry faces economic challenges. Due to this odour reduction and an increase in water quality alone are not compelling enough arguments for farms to implement expensive anaerobic digestion systems. 4) Local banks are not interested in financing these projects primarily because of lack of knowledge and experience with the technology. **Technological barrier:** Anaerobic digester systems are a new technology in Mexico, and where implemented without considering CDM benefits, have often been mismanaged in the past due to inadequate operation and maintenance. **Prevailing practice:** An open lagoon treatment system is the most common practice in Mexico for treating swine manure and wastewater. The implementation of anaerobic digester systems represents a higher risk alternative than the business-as-usual scenario.		
B.2.2. Is the application of the baseline	/1/	DR	Yes, for the methane recovery component of the project activity, the baseline has been calculated	~~CL 1~~ ~~CL 5~~	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
methodology and the discussion and determination of the chosen baseline transparent and conservative?		I	according to project activity type III.D, The baseline shall cover only the capture and flaring that would not have happened in the absence of the project activity. *For the Electricity Generation component* the baseline has been calculated according to project activity type I.D, baseline emissions will be calculated by multiplying the kWh purchased from the Mexican grid by the Carbon Emission Factor (CEF) for the grid, which is determined by using Option (a) of item 9. The project participants are requested to provide the data and spreadsheets used to estimate the baseline emissions.		
B.2.3. Are relevant national and/or sectoral policies and circumstances taken into account?	/1/	DR	Yes, relevant national and sectoral policies have been taken into account, such as. NOM-001 SEMARNAT which establishes maximum limits of polluting for wastewater discharge.		OK
B.2.4. Is the baseline selection compatible with the available data?	/1/	DR I	The project participants are requested to provide the data and spreadsheets used to estimate the baseline emissions.	~~CL 1~~ ~~CL 5~~	OK
B.2.5. Does the selected baseline represent the most likely scenario describing what would have occurred in absence of the project activity?	/1/	DR	The continuation of the management of wastewater with anaerobic pond system and the purchase of electricity from the grid is the most likely baseline scenario.		OK
C. **Duration of the Project / Crediting Period** It is assessed whether the temporary boundaries of the project are clearly defined.					
C.1.1. Are the project's starting date and operational lifetime clearly defined?	/1/	DR	The starting date of the project needs to be confirmed as there were some inconsistencies in	~~CAR 1~~	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			the PDD.		
C.1.2. Is the assumed crediting time clearly defined (renewable crediting period of seven years with two possible renewals or fixed crediting period of 10 years with no renewal)?	/1/	DR	The starting date of the crediting period needs to be confirmed as there were some some inconsistencies in the PDD.	~~CAR 1~~	OK
D. **Monitoring Plan** The monitoring plan review aims to establish whether all relevant project aspects deemed necessary to monitor and report reliable emission reductions are properly addressed.					
D.1. Monitoring Methodology It is assessed whether the project applies an appropriate monitoring methodology.					
D.1.1. Is the selected monitoring methodology in line with the monitoring methodologies provided for the relevant project category?	/1/	DR	The monitoring methodologies selected comply with the requirements in AMS-I.D and AMS-III.D.		OK
D.1.2. Is the monitoring methodology applicable to the project being considered?	/1/	DR	The project activity fulfils the applicable criteria of the approved methodologies AMS-III.D and AMS-I.D.		OK
D.1.3. Is the application of the monitoring methodology transparent?	/1/	DR	Yes		OK
D.1.4. Will the monitoring methodology give opportunity for real measurements of achieved emission reductions?	/1/	DR	The parameters to be monitored to evaluate the emissions due to the project activities are measurable.		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
D.2. Monitoring of Project Emissions It is established whether the monitoring plan provides for reliable and complete project emission data over time.					
D.2.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the greenhouse gas emissions within the project boundary during the crediting period?	/1/	DR	All relevant data necessary for the estimation of GHG emissions within the project boundary have been included in the monitoring plan.		OK
D.2.2. Are the choices of project GHG indicators reasonable?	/1/	DR I	Import of electricity from the grid when the generator does not work will have to be assessed in order to confirm if it is negligible.	~~CL 6~~	OK
D.2.3. Will it be possible to monitor / measure the specified project GHG indicators?	/1/	DR I	It is not clearly defined how the flare efficiency will be determined and how it will be applied to determine project emissions.	~~CL 7~~	OK
D.2.4. Will the indicators give opportunity for real measurements of project emissions?	/1/	DR	Yes		OK
D.3. Monitoring of Leakage If applicable, it is assessed whether the monitoring plan provides for reliable and complete leakage data over time.					
D.3.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	/1/	DR	According to AMS-III.D no leakage calculation is required. According to AMS-I.D leakage is to be considered if the energy generating equipment is transferred from another activity or if the existing equipment is transferred to another activity. This is not the case in the project activity and no leakage		OK

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Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			must thus be considered.		
D.4. Monitoring of Baseline Emissions It is established whether the monitoring plan provides for reliable and complete project emission data over time.					
D.4.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining baseline emissions during the crediting period?	/1/	I	Yes		OK
D.4.2. Is the choice of baseline indicators, in particular for baseline emissions, reasonable?	/1/	DR	Yes		OK
D.4.3. Will it be possible to monitor / measure the specified baseline indicators?	/1/	DR	Yes		OK
D.4.4. Will the indicators give opportunity for real measurements of baseline emissions?	/1/	DR	Yes		OK
D.5. Project Management Planning It is checked that project implementation is properly prepared for and that critical arrangements are addressed.					
D.5.1. Is the authority and responsibility of project management clearly described?	/1/	DR I	Project management is not sufficiently addressed in the PDD (Authorities, responsibilities, preparedness for emergency response, control of documents and records, adjustment of uncertainties, internal audits, corrective actions).	~~CL 8~~	OK
D.5.2. Is the authority and responsibility for registration monitoring measurement and	/1/	DR I	See D.5.1	~~CL 8~~	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
reporting clearly described?					
D.5.3. Are procedures identified for training of monitoring personnel?	/1/	DR I	See D.5.1	~~CL 8~~	OK
D.5.4. Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	/1/	DR I	See D.5.1	~~CL 8~~	OK
D.5.5. Are procedures identified for calibration of monitoring equipment?	/1/	DR I	See D.5.1	~~CL 8~~	OK
D.5.6. Are procedures identified for maintenance of monitoring equipment and installations?	/1/	DR I	See D.5.1	~~CL 8~~	OK
D.5.7. Are procedures identified for monitoring, measurements and reporting?	/1/	DR I	See D.5.1	~~CL 8~~	OK
D.5.8. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	/1/	DR I	See D.5.1	~~CL 8~~	OK
D.5.9. Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?	/1/	DR I	See D.5.1	~~CL 8~~	OK
D.5.10. Are procedures identified for internal audits of GHG project compliance with operational requirements as applicable?	/1/	DR I	See D.5.1	~~CL 8~~	OK
D.5.11. Are procedures identified for project performance reviews?	/1/	DR I	See D.5.1	~~CL 8~~	OK
D.5.12. Are procedures identified for corrective actions?	/1/	DR I	See D.5.1	~~CL 8~~	OK

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Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
E. **Calculation of GHG emission** It is assessed whether all material GHG emission sources are addressed and how sensitivities and data uncertainties have been addressed to arrive at conservative estimates of projected emission reductions.					
E.1. Project GHG Emissions The validation of ex-ante estimated project GHG emissions focuses on transparency and completeness of calculations.					
E.1.1. Are all aspects related to direct and indirect project emissions captured in the project design?	/1/	DR I	Relevant direct and indirect GHG emissions have been captured in the project design and through the application of the methodology. Import of electricity from the grid when the generator does not work will be negligible. The approach described in section E.1.2.1 does not reflect the actual approach applied for determining project emissions. According to AMS-III.D "Regular maintenance should ensure optimal operation of flares. The flare efficiency, defined as the fraction of time in which the gas is combusted in the flare, multiplied by the efficiency of the flaring process, shall be monitored." It remains to be clarified if the project intends to apply a 5% default for this instead of actually monitoring the flare efficiency. However, in section D.3 of the PDD it is indicated that the flare efficiency will be monitored quarterly. It is not clearly defined how the flare efficiency will be	~~CAR 2~~ ~~CL 6~~ ~~CL 9~~	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			determined and how it will be applied to determine project emissions. Moreover, there is misunderstanding in the PDD. The 5% leaks is not leakage (i.e. emissions occurring outside the project boundary), but the 5% leaks are project emissions. The 5% seems to account for CH_4 leaks from the gas handling system and incomplete combustion in the flare or the electricity generator. t remains to be clarified if the project intends to apply a 5% default for this instead of actually monitoring the flare efficiency. However, in section D.3 of the PDD it is indicated that the flare efficiency will be monitored quarterly.		
E.1.2. Have all relevant greenhouse gases and sources been evaluated?	/1/	DR	Yes		OK
E.1.3. Do the methodologies for calculating project emissions comply with existing good practice?	/1/	DR	See E.1.1		OK
E.1.4. Are the calculations documented in a complete and transparent manner?	/1/	DR	See E.1.1		OK
E.1.5. Have conservative assumptions been used?	/1/	DR	See E.1.1		OK
E.1.6. Are uncertainties in the project emissions estimates properly addressed?	/1/	DR	See E.1.1		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
E.2. Leakage It is assessed whether there leakage effects, i.e. change of emissions which occurs outside the project boundary and which are measurable and attributable to the project, have been properly assessed and estimated ex-ante.					
E.2.1. Are leakage calculation required for the selected project category and if yes, are the relevant leakage effects assessed?	/1/	DR	According to AMS-III.D no leakage calculation is required. According to AMS-I.D leakage is to be considered if the energy generating equipment is transferred from another activity or if the existing equipment is transferred to another activity. This is not the case in the project activity and no leakage must thus be considered		OK
E.2.2. Are potential leakage effects properly accounted for in the calculations (if applicable)?	/1/	DR	See E.2.1		OK
E.2.3. Do the methodologies for calculating leakage comply with existing good practice (if applicable)?	/1/	DR	See E.2.1		OK
E.2.4. Are the calculations documented in a complete and transparent manner and (if applicable)?	/1/	DR	See E.2.1		OK
E.2.5. Have conservative assumptions been used (if applicable)?	/1/	DR	See E.2.1		OK
E.2.6. Are uncertainties in the leakage estimates properly addressed (if applicable)?	/1/	DR	See E.2.1		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
E.3. Baseline GHG Emissions The validation of ex-ante estimated baseline GHG emissions focuses on transparency and completeness of calculations.					
E.3.1. Are the baseline emission boundaries clearly defined and do they sufficiently cover sources for baseline emissions?	/1/	DR	Yes. The required information are available in section E.1.2.4 to the PDD		OK
E.3.2. Are all aspects related to direct and indirect baseline emissions captured in the project design?	/1/	DR I	It is assumed that the amount of CH_4 generated by the anaerobic digester in the project scenario is representative for the amount of CH_4 generated by the open anaerobic lagoons in the baseline. However, further justification is required with regard to whether the digester in terms of size, depth, manure retention time is comparable with the open anaerobic lagoons used prior to project implementation in order to ensure that the amount of CH_4 generated by the anaerobic digester in the project scenario is representative for the amount of CH_4 generated by the open anaerobic lagoons in the baseline.	~~CL 10~~	OK
E.3.3. Have all relevant greenhouse gases and sources been evaluated?	/1/	DR	Yes		OK
E.3.4. Do the methodologies for calculating baseline emissions comply with existing good practice?	/1/	DR	Yes		OK
E.3.5. Are the calculations documented in a complete and transparent manner?	/1/	DR I	If version 09 of AMS-I.D is applied as indicated in section D.1, the emission coefficient must be determined in accordance with ACM0002. ACM0002 (version 06) requires that the OM shall	~~CAR 3~~ ~~CL 11~~	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			be the full generation-weighted average for the most recent 3 years for which data are available. However, the OM is currently determined as the simply average of the most recent 3 years and needs to be corrected. The calculation of the methane emissions avoided by the project is not presented in a transparent manner.		
E.3.6. Have conservative assumptions been used?	/1/	DR	Yes		OK
E.3.7. Are uncertainties in the baseline emissions estimates properly addressed?	/1/	DR	Yes		OK
E.4. Emission Reductions Validation of ex-ante estimated emission reductions.					
E.4.1. Will the project result in fewer GHG emissions than the baseline case?	/1/	DR	Yes. The average annual emission reduction forecast is 5 428 tCO_2e per year		OK
F. **Environmental Impacts** It is assessed whether environmental impacts of the project are sufficiently addressed.					
F.1.1. Does host country legislation require an analysis of the environmental impacts of the project activity?	/1/	DR I	The PDD does not define the generation capacity of the electricity component and under Mexican law (LGEEPA) and an EIA could be a requirement if the projects is greater than 3 MW.	~~CL 1~~	OK
F.1.2. Does the project comply with environmental legislation in the host	/1/	DR I	Yes concession title for water discharge is available as well as evidence of periodical reports issued in		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
country?			order to evaluate compliance with NOM-001SEMARNAT.		
F.1.3. Will the project create any adverse environmental effects?	/1/	DR	Negative environmental effects are not expected to be created by the project. Given the nature of the project design this seems to be reasonable.		OK
F.1.4. Have environmental impacts been identified and addressed in the PDD?	/1/	DR I	No relevant impacts have been identified.		OK
***G.* Comments by Local Stakeholder** Validation of the local stakeholder consultation process.					
G.1.1. Have relevant stakeholders been consulted?	/1/	DR	A stakeholder consultation process took place. However, the specific date and location of the stakeholder consultation process needs to be confirmed as there were some inconsistencies in the PDD.	~~CAR 1~~	OK
G.1.2. Have appropriate media been used to invite comments by local stakeholders?	/1/	DR I	Till date no formal comments have been received from stakeholders. However, some "suggestions" were made during the consultation. These will need to be further reviewed.	~~CL 12~~	OK
G.1.3. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	/1/	DR	A stakeholder consultation process for the project is not required by the regulations in México		OK
G.1.4. Is a summary of the comments received provided?	/1/	DR I	Yes. It was described in section G.2. of the PDD		OK
G.1.5. Has due account been taken of any comments received?	/1/	DR	No formal comments were raised during the stakeholder consultation process. Therefore no		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
		I	actions are required.		

Table 3 Resolution of Corrective Action and Clarification Requests

Draft report corrective action requests and requests for clarification	Ref. to Table 2	Summary of project participants' response	Final conclusion
CAR 1 Some data should be confirmed as some inconsistencies were found between data in PDD and complementary information regarding to specific location of the project activity start date, crediting period start date, date and place for stakeholder consultation process	A.2.1 C.1.1 C.1.2 G.1.1	All issues were reviewed and addressed in the final version of PDD. Version 02 dated on 18 September 2006	OK The project is located in the city of Jalacingo, Veracruz, in Mexico. The project is expected to start on 01 May, 2006 and the operational lifetime of the project is 25 years. The project selects a fixed crediting period of 10 years starting from 01 February 2007. The stakeholder consultation process took place on July 12, 2006 at the Crown Plaza Hotel in the city of Xalapa, Veracruz.
CAR 2 The approach described in section E.1.2.1 does not reflect the actual approach applied for determining project emissions.	E.1.1	Project emissions of 5% have been replaced by a 10% default **ex-ante** associated with the incomplete combustion from the flares and the gensets. Semi-enclosed and closed flares, for which the default flare efficiency value is 90 %, will be installed. This conservative value will also be applied to the gensets. Assuming that 10% of the biogas produced will be released into the atmosphere due to incomplete combustion from flares and generators is indeed conservative because both are rated by their manufacturers at 98% combustion efficiency. (The 5% and 3%	OK The formula in section E.1.2.1 was corrected.

Draft report corrective action requests and requests for clarification	Ref. to Table 2	Summary of project participants' response	Final conclusion
		mentioned earlier no longer apply.) The measurement of flare efficiency will be attempted ex-post to determine the actual quantity of methane associated with the project activity. In the case that actual flare or generator efficiency is measured the project emissions will be adjusted according to actual measured values. Other project emissions might include emissions associated with the use of electricity by equipment associated to the project activity (i.e. biogas blowers, slow speed mixers, recycle/waste sludge disposal pumps, dewatering pumps and lighting). An estimate of these emissions based on estimated energy usage by equipment will be provided on the PDDs and this parameter will be included into the monitoring plan	
CAR 3 If version 09 of AMS-I.D is applied as indicated in section D.1, the emission coefficient must be determined in accordance with ACM0002. ACM0002 (version 06) requires that the OM shall be the full generation-weighted average for the most recent 3 years for which data are available. However, the OM is currently determined as the simply average of the most recent 3 years	E.3.5	Version 08 of AMS-I.D. is being used; this has already been edited in all PDDs. Based on this the approach for determining OM as the simple average of the most recent 3 years is correct.	OK Version 08 of AMS-I.D. is being used and calculations were presented in a transparent manner.

Draft report corrective action requests and requests for clarification	Ref. to Table 2	Summary of project participants' response	Final conclusion
and needs to be corrected.			
CL 1 The PDD does not define the generation capacity of the electricity component and under Mexican law (LGEEPA) and EIA could be a requirement if the projects is greater than 3 MW.	A.1.1 A.1.3 B.2.2 F.1.1	A spreadsheet had been provided to DNV win the estimated installed capacity of each project. None exceed 3 MW; in fact, they will each have less than 1 MW. GCM 20 has the grated estimated installed capacity with 0.54 MW, and GCM 16 has the least with installed capacity of 0.03 MW. Therefore, none of these projects will require EIAs. In the event that generation would increase in any of the projects due to expansions, we would do what is required under Mexican law and this has been indicated in the PDDs; however, no expansions that would have such effect are envisioned.	OK The project installed generation capacity will be lower than 1 MW according to the daily biogas calculations.
CL 2 The PDD does not clearly describe the systems included in the project boundary. Figure 1 in section A.4 of the PDD describes only the anaerobic digester but not the collection and pumping equipment, flare system and the possible electric generation component.	A.2.2	The systems that will be included within the project boundary are the digester, the flare system, and the generator. In terms of the collection and pumping of manure, this will be done via gravity through pipes that connect to the lagoons. A line diagram will be included in the PDDs, as well as a description of the technology once it is provided by the provider.	OK Project boundary is clearly defined in the final version of the PDD. PDD describes that the project boundary is the physical, geographical site of the methane recovery facility and of the generating unit and the equipment that uses the electricity produced. Figure 1 in section A.4 of the PDD describes the anaerobic digester, flare system and the possible electric generation component.
CL 3 The PDD does not describe necessary initial	A.2.5	The initial training will be divided as follows:	OK The technology supplier will provide

Draft report corrective action requests and requests for clarification	Ref. to Table 2	Summary of project participants' response	Final conclusion
training and maintenance efforts.		-UEM or G.O. Sistemas (depending on the project) will provide equipment operation, maintenance and calibration training; -EcoSecurities will provide CDM Monitoring training - GCM will be responsible for delegating qualified technician(s) to conduct Operation, Maintenance, and Monitoring (OMM) at the projects. These technicians will be trained by UEM, G.O. Sistemas and EcoSecurities.	training for operation, maintenance and calibration. EcoSecurities will provide CDM Monitoring training. GCM will be responsible to conduct operation, maintenance and monitoring.
CL 4 The project's compliance with all relevant legislation remains to be confirmed on receipt of the approval letter by the DNA of Mexico.	A.3.4	LOAs have been requested and should be ready on September 8, 2006.	OK Approval by DNA of each Party has been received on September 2006
CL 5 The project participants are requested to provide the data and spreadsheets used to estimate the baseline emissions.	B.2.2 B.2.4	Spreadsheets with baseline emissions calculations have been sent to DNV. Biogas offtake data have been provided to DNV in a separate spreadsheet as well.	OK The project participants have provided the data and spreadsheet used to estimate the baseline emissions in a transparent manner. The combined margin has been determined in accordance with Version 08 of AMS-I.D
CL 6 Import of electricity from the grid when the generator does not work will have to be assessed order to confirm if it is negligible.	D.2.2 E.1.1	Electricity consumption of the project equipment is included in the monitoring plan it was evaluated and will be considered as project emission if it is applicable according to the equipment provided by the technology supplier.	OK Monitoring plan was reviewed and up dated. The project's electricity generation will be metered. In addition, the estimated electricity consumption of the project equipment will be calculated

Draft report corrective action requests and requests for clarification	Ref. to Table 2	Summary of project participants' response	Final conclusion
			and subtracted from electricity generation and only the net electricity will be used to calculate CO_2 emissions from displacing grid electricity. If none or not enough electricity is generated during a year, the CO2 emissions associated with this electricity use will be estimated based on the calculated electricity consumption of the project equipment
CL 7 It is not clearly defined how the flare efficiency will be determined and how it will be applied to determine project emissions.	D.2.3	A default flare efficiency of 90%, which is a very conservative value given the flare efficiency of the manufacturer- 98%- will be applied in this project. This 90% flare efficiency will also cover incomplete combustion of methane from the generator. Therefore, project emissions will be equivalent to10% of methane captured.	OK Monitoring plan was reviewed and up dated. Given that the flare efficiency given by the manufacturer is 98% the default flare efficiency of 90% for closed flared suggested by recent EB guidance and included in other approved monitoring methodologies such as ACM0001, is also deemed applicable to semi-enclosed flares.
CL 8 Project management is not sufficiently addressed in the PDD (Authorities, responsibilities, preparedness for emergency response, control of documents and records, adjustment of uncertainties, internal audits, corrective actions).	D.5.1 - D.5.12	As mentioned earlier, GCM will be responsible for delegating qualified technician(s) to conduct Operation, Maintenance, and Monitoring (OMM) at the projects. These technicians will be trained by UEM and G.O. Sistemas on the operation, maintenance and calibration, and by EcoSecurities on CDM monitoring requirements. In terms of EPR, this should be	OK The authority for project management is described in Section D.4 of the PDD. The responsibilities for collection of project related data, entering data into spreadsheets, making periodical reports, archive data and reports and calibration / maintenance of monitoring equipment have been allocated.

Draft report corrective action requests and requests for clarification	Ref. to Table 2	Summary of project participants' response	Final conclusion
		determined by GCM in conjunctions with UEM and G.O. Sistemas. GCM will be responsible for the recording of data in the data entry spreadsheets provided by EcoSecurities. Recording of data will be done daily and will be backed-up by paper and electronically. Data will be checked by GCM for transposing and rounding on a weekly basis. Data sheets will be sent monthly to EcoSecurities; EcoSecurities will cross-check data on a monthly basis. Any missing data will be verified and will be brought to the attention of the verifier. Uncertainties will be mitigated through regular maintenance and calibration. Excel cells will be locked to prevent any changes in the data. For the purpose of audits, GCM will cross-check data on a weekly basis and EcoSecurities on a monthly basis.	
CL 9 Moreover, there is misunderstanding in the PDD. The 5% leaks is not leakage (i.e. emissions occurring outside the project boundary), but the 5% leaks are project emissions. The 5% seems to account for CH_4 leaks from the gas handling system and incomplete combustion in the flare or the electricity generator. According to AMS-III.D	E.1.1	Project emissions of 5% have been replaced by a 10% default **ex-ante** associated with the incomplete combustion from the flares and the gensets. Semi-enclosed and closed flares, for which the default flare efficiency value is 90 %, will be installed. This conservative value will also apply to the gensets. Assuming that 10% of the biogas produced will be	OK 5 % was removed from leaks and calculations were adjusted as well.

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"Regular maintenance should ensure optimal operation of flares. The flare efficiency, defined as the fraction of time in which the gas is combusted in the flare, multiplied by the efficiency of the flaring process, shall be monitored." It remains to be clarified if the project intends to apply a 5% default for this instead of actually monitoring the flare efficiency. However, in section D.3 of the PDD it is indicated that the flare efficiency will be monitored quarterly.		released into the atmosphere due to incomplete combustion from flares and generators is indeed conservative because both are rated by their manufacturers at 98% combustion efficiency. (The 5% and 3% mentioned above no longer apply.) The measurement of flare efficiency will be attempted ex-post to determine the actual quantity of methane associated with the project activity. In the case that actual flare or generator efficiency is measured the project emissions will be adjusted according to actual measured values. Other project emissions might include emissions associated with the use of electricity by equipment associated to the project activity (i.e. biogas blowers, slow speed mixers, recycle/waste sludge disposal pumps, dewatering pumps and lighting). An estimate of these emissions based on estimated energy usage by equipment will be provided on the PDDs and this parameter will be included into the monitoring plan	
CL 10 It is assumed that the amount of CH_4 generated by the anaerobic digester in the project scenario is representative for the	E.3.2	Actual retention time in the lagoons of the baseline scenario are almost six times the retention time of the bio digester in terms of number of days, in addition the final configuration of the	OK It is reasonable to assume that the amount of methane generated by the anaerobic digester is representative for

Draft report corrective action requests and requests for clarification	Ref. to Table 2	Summary of project participants' response	Final conclusion
amount of CH_4 generated by the open anaerobic lagoons in the baseline. However, further justification is required with regard to whether the digester in terms of size, depth, manure retention time is comparable with the open anaerobic lagoons used prior to project implementation in order to ensure that the amount of CH_4 generated by the anaerobic digester in the project scenario is representative for the amount of CH_4 generated by the open anaerobic lagoons in the baseline.		CDM project will be the bio digester plus a secondary lagoon and the bio digester will be adjusted in order to obtain the volume in cubic meters required for the project.	the emissions generated by the open lagoons. The digester may optimize the growth environment for the bacteria involved in anaerobic degradation of COD. However, it is unlikely that any additional, optimized conversion of COD is significant and measurable given the comparable temperatures inside the reactor and the anaerobic lagoons previously, a key variable in anaerobic digestion of COD. In accordance with AMS-III.D, the amount of methane that would be emitted to the atmosphere during the crediting period in the absence of the project activity is thus the amount of methane captured and flared and/or combusted.
CL 11 The calculation of the methane emissions avoided by the project is not presented in a transparent manner.	E.3.5	Methane emissions avoided by the project are calculated based on measurements of biogas offtake associated with each project. The biogas offtake numbers used, which have been provided to DNV, have been estimated using the projected production of Volatile Solids (VS) per type of animal based on weight category. This model is based on data provided by Waste Solutions Ltd. and on IPCC defaults.	OK Methane emissions avoided by the project are calculated based on measurements of biogas offtake associated with each project. The biogas offtake numbers used have been estimated using the projected production of Volatile Solids (VS) per type of animal based on weight category. This model is based on data provided by Waste Solutions Ltd. and on IPCC defaults. The calculations of the methane

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			emissions avoided by the project were presented in a transparent manner.
CL 12 Till date no formal comments have been received from stakeholders. However, some "suggestions" were raised during the consultation. These will be reviewed during the site visit.	G.1.2	No formal comments were raised during the stakeholder consultation process. Therefore no actions are required.	OK It has been confirmed that no formal comments were raised during the stakeholder consultation process.

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