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# Validation Report

VALIDATION OF THE CDM-PROJECT:  
PIG CITY CONFINED SWINE FEEDING OPERATIONS  
METHANE CAPTURE AND COMBUSTION FROM IM-  
PROVED ANIMAL WASTE MANAGEMENT SYSTEM

REPORT NO. 733864

Revision 4

**2008, August 19**

TÜV SÜD Industrie Service GmbH  
Carbon Management Service  
Westendstr. 199 - 80686 Munich – GERMANY

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<b>Subject:</b> Validation of a CDM Project	
<b>Accredited TÜV SÜD Unit:</b> TÜV SÜD Industrie Service GmbH Certification Body "climate and energy" Westendstr. 199 - 80686 Munich Federal Republic of Germany	<b>TÜV SÜD Contract Partner:</b> TÜV SÜD Philippines INC. F Ortigas, Jr. Road, Ortigas Center 1605 Pasig City Philippines
<b>Client:</b> Cavite Pig City Inc. 632 Elcano St. Binondo Manila 1006 Philippines	<b>Project Site(s):</b> Barangay Province of Cavite Philippines
<b>Project Title:</b> Pig City confined swine feeding operations methane capture and combustion from improved animal waste management system.	
<b>Applied Methodology / Version:</b> AMS III.D version 12	<b>Scope(s):</b> 15
<b>First PDD Version:</b> Date of issuance: 2006-01-16 Version No.: 3 Starting Date of GSP 2006-01-17	<b>Final PDD version:</b> Date of issuance: 2008-03-14 Version No.: 7-4
<b>Estimated Annual Emission Reduction:</b> 45 620 tons CO <sub>2e</sub>	
<b>Assessment Team Leader:</b> Thomas Kleiser	<b>Further Assessment Team Members:</b> Cristian Delamarian GHG-Auditor Sergio Degener GHG-Auditor
<b>Summary of the Validation Opinion:</b> <p><input checked="" type="checkbox"/> The review of the project design documentation and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM. Hence TÜV SÜD will recommend the project for registration by the CDM Executive Board in case letters of approval of all Parties involved will be available before the expiring date of the applied methodology(ies) or the applied methodology version respectively.</p> <p><input type="checkbox"/> The review of the project design documentation and the subsequent follow-up interviews have not provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. Hence TÜV SÜD will not recommend the project for registration by the CDM Executive Board and will inform the project participants and the CDM Executive Board on this decision.</p>	

## Abbreviations

<b>ACM</b>	Approved Consolidated Methodology
<b>AM</b>	Approved Methodology
<b>AWMS</b>	Animal Waste Management System
<b>CAR</b>	Corrective Action Request
<b>CDM</b>	Clean Development Mechanism
<b>CER</b>	Certified Emission Reduction
<b>CR</b>	Clarification Request
<b>DNA</b>	Designated National Authority
<b>DOE</b>	Designated Operational Entity
<b>EB</b>	Executive Board
<b>EIA / EA</b>	Environmental Impact Assessment / Environmental Assessment
<b>ER</b>	Emission reduction
<b>GHG</b>	Greenhouse gas(es)
<b>KP</b>	Kyoto Protocol
<b>MP</b>	Monitoring Plan
<b>NGO</b>	Non Governmental Organisation
<b>PDD</b>	Project Design Document
<b>PP</b>	Project Participant
<b>TÜV SÜD</b>	TÜV SÜD Industrie Service GmbH
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>VVM</b>	Validation and Verification Manual

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Annex 1: Validation Protocol

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## 1 INTRODUCTION

### 1.1 Objective

The validation objective is an independent assessment by a Third Party (Designated Operational Entity = DOE) of a proposed project activity against all defined criteria set for the registration under the Clean Development Mechanism (CDM). Validation is part of the CDM project cycle and will finally result in a conclusion by the executing DOE whether a project activity is valid and should be submitted for registration to the CDM-EB. The ultimate decision on the registration of a proposed project activity rests at the CDM Executive Board and the Parties involved.

The project activity discussed by this validation report has been submitted under the project title:

Pig City confined swine feeding operations methane capture and combustion from improved animal waste management system.

### 1.2 Scope

The scope of any assessment is defined by the underlying legislation, regulation and guidance given by relevant entities or authorities. In the case of CDM project activities the scope is set by:

- The Kyoto Protocol, in particular § 12
- Decision 2/CMP1 and Decision 3/CMP.1 (Marrakech Accords)
- Further COP/MOP decisions with reference to the CDM (e.g. decisions 4 – 8/CMP.1)
- Decisions by the EB published under <http://cdm.unfccc.int>
- Specific guidance by the EB published under <http://cdm.unfccc.int>
- Guidelines for Completing the Project Design Document (CDM-PDD), and the Proposed New Baseline and Monitoring Methodology (CDM-NM)
- The applied approved methodology
- The technical environment of the project (technical scope)
- Internal and national standards on monitoring and QA/QC
- Technical guideline and information on best practice

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

Once TÜV SÜD receives a first PDD version, it is made publicly available on the internet at TÜV SÜD's webpage as well as on the UNFCCC CDM-webpages for starting a 30 day global stakeholder consultation process (GSP). In case of any request a PDD might be revised (under certain conditions the GSP will be repeated) and the final PDD will form the basis for the final evaluation as presented by this report. Information on the first and on the final PDD version is presented at page 1.

The only purpose of a validation is its use during the registration process as part of the CDM project cycle. Hence, TÜV SÜD can not be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

## 2 METHODOLOGY

The project assessment aims at being a risk based approach and is based on the methodology developed in the Validation and Verification Manual, an initiative of Designated and Applicant Entities, which aims to harmonize the approach and quality of all such assessments.

In order to ensure transparency, a validation protocol was customised for the project. TÜV SÜD developed a "cook-book" for methodology-specific checklists and protocol based on the templates presented by the Validation and Verification Manual. The protocol shows, in a transparent manner, criteria (requirements), the discussion of each criterion by the assessment team 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 the figure below.

The completed validation protocol is enclosed in Annex 1 to this report.

<b>Validation Protocol Table 1: Conformity of Project Activity and PDD</b>				
<b>Checklist Topic / Question</b>	<b>Reference</b>	<b>Comments</b>	<b>PDD in GSP</b>	<b>Final PDD</b>
<i>The checklist is organised in sections following the arrangement of the applied PDD version. Each section is then further subdivided. The lowest level constitutes a checklist question / criterion.</i>	<i>Gives reference to documents where the answer to the checklist question or item is found in case the comment refers to documents other than the PDD.</i>	<i>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. In some cases sub-checklist are applied indicating yes/no decisions on the compliance with the stated criterion. Any <b>Request</b> has to be substantiated within this column</i>	<i>Conclusions are presented based on the assessment of the first PDD version. This is either acceptable based on evidence provided (✓), or a <b>Corrective Action Request (CAR)</b> due to non-compliance with the checklist question (See below). <b>Clarification Request (CR)</b> is used when the validation team has identified a need for further clarification.</i>	<i>Conclusions are presented in the same manner based on the assessment of the final PDD version.</i>



<b>Validation Protocol Table 2: Resolution of Corrective Action and Clarification Requests</b>			
<b>Clarifications and corrective action requests</b>	<b>Ref. to table 1</b>	<b>Summary of project owner response</b>	<b>Validation team conclusion</b>
<i>If the conclusions from table 1 are either a Corrective Action Request or a Clarification Request, these should be listed in this section.</i>	<i>Reference to the checklist question number in Table 1 where the Corrective Action Request or Clarification Request is explained.</i>	<i>The responses given by the client or other project participants during the communications with the validation team should be summarised in this section.</i>	<i>This section should summarise the validation team's responses and final conclusions. The conclusions should also be included in Table 1, under "Final PDD".</i>

In case of a denial of the project activity more detailed information on this decision will be presented in table 3.

<b>Validation Protocol Table 3: Unresolved Corrective Action and Clarification Requests</b>		
<b>Clarifications and corrective action requests</b>	<b>Id. of CAR/CR 1</b>	<b>Explanation of the Conclusion for Denial</b>
<i>If the final conclusions from table 2 results in a denial the referenced request should be listed in this section.</i>	<i>Identifier of the Request.</i>	<i>This section should present a detail explanation, why the project is finally considered not to be in compliance with a criterion.</i>

## 2.1 Appointment of the Assessment Team

According to the technical scopes and experiences in the sectoral or national business environment TÜV SÜD has composed a project team in accordance with the appointment rules of the TÜV SÜD certification body "climate and energy". The composition of an assessment team has to be approved by the Certification Body ensuring that the required skills are covered by the team. The Certification Body TÜV SÜD operates four qualification levels for team members that are assigned by formal appointment rules:

- Assessment Team Leader (ATL)
- Greenhouse Gas Auditor (GHG-A)
- Greenhouse Gas Auditor Trainee (T)
- Experts (E)

It is required that the sectoral scope linked to the methodology has to be covered by the assessment team.

The validation team was consisting of the following experts (the responsible Assessment Team Leader in written in bold letters):

Name	Qualification	Coverage of technical scope	Coverage of sectoral expertise	Host country experience
<b>Thomas Kleiser</b>	ATL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Cristian Delamarian	GHG-A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Sergio Degener	GHG-A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

**Thomas Kleiser** is a lead auditor for CDM and JI projects at TÜV SÜD Industrie Service GmbH. In his position he is responsible for the implementation of verification and certifications processes for GHG mitigation projects. He has received extensive training in the CDM and JI validation processes and participated already in many CDM and JI project assessments.

**Cristian Delamarian** was a GHG-Auditor in the TÜV-SÜD Philippines office. He has plenty experience in the host country and received extensive training in CDM audits and process.

**Sergio Degener** is a GHG auditor at the "Carbon Management Service" in the head office of TÜV SÜD Industrie Service GmbH, Germany. Mr. Degener studied environmental engineer at the University of Applied Science in Bingen, Germany. Beside his main focus in studies of environmental economics and law, he dealt with environmental management and environmental controlling issues.



## 2.2 Review of Documents

The first PDD version submitted by the client and additional background documents related to the project design and baseline were reviewed as initial step of the validation process. A complete list of all documents and proofs reviewed is attached as annex 2 to this report.

## 2.3 Follow-up Interviews

In the period of October 25 to 26, 2005 TÜV SÜD performed interviews on-site with project stakeholders to confirm selected information and to resolve issues identified in the first document review. The table below provides a list of all persons interviewed in the context of this on-site visit.

Name	Organisation
Alan Silayan	Consultant Cafisinc
Joven Ngo	General Manager- Cavite Pig Farm
Mariano S. Venida Jr.	Best- Technology Provider

Due to the fact that the technical description and the proposed general design of the project have not been change it was not necessary to perform a second on-site audit. Nevertheless intensive communication with the project participants have been done to assure the quality of the documentation received.

## **2.4 Resolution of Clarification and Corrective Action Requests**

The objective of this phase of the validation is to resolve the requests for corrective actions and clarifications and any other outstanding issues which needed to be clarified for TÜV SÜD's positive conclusion on the project design. The Corrective Action Requests and Clarification Requests raised by TÜV SÜD were resolved during communication between the client and TÜV SÜD. To guarantee the transparency of the validation process, the concerns raised and responses that have been given are summarised in chapter 3 below and documented in more detail in the validation protocol in annex 1.

## **2.5 Internal Quality Control**

As final step of a validation the validation report and the protocol have to undergo an internal quality control procedure by the Certification Body "climate and energy", i.e. each report has to be approved either by the head of the certification body or his deputy. In case one of these two persons is part of the assessment team approval can only be given by the other one.

It rests at the decision of TÜV SÜD's Certification Body whether a project will be submitted for re-requesting registration by the EB or not.

### 3 SUMMARY OF FINDINGS

The on-site visit to the Pig City Project has been done in the period of October 25 to 26, 2005 based in the initial PDD submitted to the DOE. This PDD has not been made public available for Global Stakeholder Process (the normal procedure at this time was to realize the on-site visit before making public available the PDD). After the on-site visit, the new PDD was sent to TÜV SÜD on January 2006 and a Global Stakeholder Process was started immediately. A new on-site visit was not necessary, because the same technical data as in the initial PDD has been used. The Validation of the second PDD was made in a desk review, e-mail exchange and telephone conference basis.

Pig City now operates a total population of 64 000 heads. The purpose of the project activity is to upgrade the current waste treatment facility capacity to accommodate the expansion as well as to utilize current and more effective waste water treatment techniques. The current waste management system uses seven separate basic anaerobic lagoons into which swine slurry/waste water is transported. The wastewater flows and resides in the seven-stage lagoon for a period of at least 30 days then flows to the nearest streams with substantial concentrations of organic nutrients in the treated water outflow. The project activity is defined as the upgrading of the current waste water system by building an enclosed anaerobic digester into which the animal waste slurry will flow. In the process of anaerobic decomposition of swine waste in the digester, biogas is produced. Since the digester is enclosed, biogas is trapped, collected, and used as a fuel to generate electricity for use by the facility.

As informed above all finding are summarized in table 2 of the attached validation protocol. In total the assessment team expressed 5 Clarification Requests and 11 Corrective Action Requests.

The key findings in both PDD versions were related to the provision of information on the intended monitoring approach, the correct allocation of those parameters either to be fixed ex-ante or to be monitored throughout the project's lifetime.

Additional information was required about not consistent data given in the PDD. All corrections have been made and supporting data, related for example to the technology used, was provided to the DOE for Validation purposes.

Within the original documents and spreadsheets there have been some inconsistencies on figures and calculations delivering the result on the emission reduction estimation. These inconsistencies have been resolved in the final versions of the submitted documents. The given estimation is reproducible and substantiated by verified data and assumptions.

#### **Additionality**

The DOE confirms that the project activity comprises flaring and electricity generation from the captured methane and there is no regulation in Philippines obliging the project owner to collect and flare or use the methane from open lagoons. Therefore there is no economic incentive to realise the activity without CERs revenue, also the investment required for buying the electricity generation unit and the revenues expected for this activity confirms that the project is not financial attractive only for the energy savings. As thus the only incentive to realise this kind of activities in Philippines is to generate CERs and sell them it is evident that the project is additional.

The investment barrier has been validated based on the fact that there is not economical interest investing in a biodigester to flare the biogas, which is the project activity, as there is no remuneration for this activity if not conducted as a CDM activity.

Therefore a logical conclusion is that not any bank would be willing to give a credit for an activity that has no monetary revenues (without CDM).



The project activity will help to overcome the technological barrier by the presentation of the project in the context of the CDM, allowing the project to surpass the risk associated to the implementation of advanced technologies due to the application of the methodology regarding the assurance of the performance of the technology by the project participant and operators.

The prevailing practice is based on the fact that the activity is first of its kind. As all similar activities in Phillippines are also CDM activities, the relation to the regulatory framework is a reference to show that there is no requirement to collect and combust the biogas. The common practice in the region is the use of anaerobic lagoons.

Baseline determination and additionality are correctly discussed by the PDD. There is no concern on this discussion as the continuation of the current situation is obviously the most likely scenario as long as there are no legal constraints.

## 4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

TÜV SÜD published the project documents on UNFCCC website by installing a link to TÜV SÜD's own website and invited comments by Parties, stakeholders and non-governmental organisations during a period of 30 days.

The following table presents all key information on this process:

<b>webpage:</b> <a href="http://www.netinform.net/KE/Wegweiser/Guide2.aspx?ID=1523&amp;Ebene1_ID=26&amp;Ebene2_ID=402&amp;mode=3">http://www.netinform.net/KE/Wegweiser/Guide2.aspx?ID=1523&amp;Ebene1_ID=26&amp;Ebene2_ID=402&amp;mode=3</a>	
<b>Starting date of the global stakeholder consultation process:</b> 17.01.2006	
<b>Comment submitted by:</b> No comments have been received.	<b>Issues raised:</b> -
<b>Response by TÜV SÜD:</b> -	

Due to the fact that the revised PDD is applying a more recent revision of the approved methodology this global stakeholder consultation process has been repeated. Information is presented below.

<b>webpage:</b> <a href="http://www.netinform.net/KE/Wegweiser/Guide2_3.aspx?ID=3073&amp;Ebene1_ID=26&amp;Ebene2_ID=942&amp;mode=0">http://www.netinform.net/KE/Wegweiser/Guide2_3.aspx?ID=3073&amp;Ebene1_ID=26&amp;Ebene2_ID=942&amp;mode=0</a>	
<b>Starting date of the global stakeholder consultation process:</b> 31.05.2007	
<b>Comment submitted by:</b> No comments have been received.	<b>Issues raised:</b>
<b>Response by TÜV SÜD:</b> -	

## 5 VALIDATION OPINION

TÜV SÜD has performed a validation of the following proposed CDM project activity:

Pig City confined swine feeding operations methane capture and combustion from improved animal waste management system.

The review of the project design documentation and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfilment of stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM. Hence TÜV SÜD will recommend the project for registration by the CDM Executive Board.

An analysis as provided by the applied methodology demonstrates that the proposed project activity 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. Given that the project is implemented as designed, the project is likely to achieve the estimated amount of emission reductions as specified within the final PDD version.

The validation is based on the information made available to us and the engagement conditions detailed in this report. The validation has been performed using a risk based approach as described above. The only purpose of this report is its use during the registration process as part of the CDM project cycle. Hence, TÜV SÜD can not be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

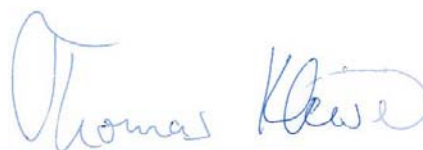
Munich, 2008-08-19



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Certification Body "climate and energy"  
TÜV SÜD Industrie Service GmbH

Munich, 2008-08-19



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Assessment Team Leader

Validation of the CDM Project:  
Pig City confined swine feeding operations methane capture and  
combustion from improved animal waste management system.



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## **Annex 1: Validation Protocol**

## Validation Protocol

Project Title: Pig City confined swine feeding operations methane capture and combustion from improved animal waste management system

Date of Completion: 19.08.2008

Number of Pages: 30



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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
<b>A. General description of small-scale project activity</b>				
<b>A.1. Title of the small-scale project activity</b>				
A.1.1. Does the used project title clearly enable to identify the unique CDM activity?	4	Yes, the name of the project is clearly identifying the project activity.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.1.2. Are there any indication concerning the revision number and the date of the revision?	3,4	Yes, version number and date are included in the project title..	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.1.3. Is this consistent with the time line of the project's history?	3,4	Yes, it is in timeline with the project history.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>A.2. Description of the small-scale project activity</b>				
A.2.1. Is the description delivering a transparent overview of the project activities?	4	Yes, number of animals, technical description and an overview of the project activity are described under this chapter.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.2.2. What proofs are available demonstrating that the project description is in compliance with the actual situation or planning?		The actual situation has been confirmed by the audit team during the on-site visit.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.2.3. Is the information provided by these proofs consistent with the information provided by the PDD?	14	Yes, the proofs provided are consistent with the information provided in the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.2.4. Is all information presented consistent with details provided by further chapters of the PDD?		Yes, further chapters of the PDD are in line with the information provided.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.2.5. Describe the type of Waste Management System (WMS) used in the site (e. g. Anaerobic lagoon, composting, solid separator, etc.)	6	The proposed project consists in a anaerobic digester into witch animal waste slurry from the farm will flow. During the anaerobic decomposition of the swine waste in the digester, biogas is produced, collected and used as fuel to generate electricity for use in	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



## Validation Protocol

Project Title: Pig City confined swine feeding operations methane capture and combustion from improved animal waste management system

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		the facility. The main interest of the project is the capture and combustion of methane.		
A.2.6. Does the description of the technology to be applied provide sufficient and transparent input to evaluate its impact on the greenhouse gas balance?	14,7, 5	<p>The project design engineering does reflect current good practices widely..</p> <p><b><u>Corrective Action Request No.1.</u></b></p> <p>The explanation about the actual wastewater system (manure system) is not clear. The retention time in the system is defined as a period of time. The actual retention time should be specified more detailed (what is considered (only solids or the whole manure?), how is the retention time calculated).</p> <p><b><u>Corrective Action Request No.2.</u></b></p> <p>a.) As mentioned in chapter A.4. of the PDD the two digesters allow for a total of 20 day hydraulic retention time. This statement should be confirmed with technical information to demonstrate that 20 days are enough for the production of more than 95% of the possible methane.</p> <p><u>Annotation:</u> The standard period is at least 30 days.</p> <p>b.) The assumption, that almost 100 % of the methane produced will be captured in the digester, is not conservative. IPCC suggests using a 15% loss for a biodigester. This has to be corrected.</p> <p><b><u>Clarification Request No. 1.</u></b></p> <p>The electricity generation is only vague described. Some (more detailed) characteristics of the equipment should be included in the PDD (generator capacity etc.).</p>	CAR 1 CAR 2 CR1 CR2 CR3	<input checked="" type="checkbox"/>

## Validation Protocol

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		<p><b>Clarification Request No. 2.</b> The PDD should have a date and a version, to allow a clear reference. Furthermore the date for the baseline development should be changed every time the baseline is recalculated.</p> <p><b>Clarification Request No. 3.</b> The MCF used for the baseline calculation refers to: "Cattle/swine dung and urine are excreted on stall floor. The accumulated waste is removed after a long time &lt;1 month". This is not applicable according to the definition of the actual situation and has to be corrected.</p>		
A.2.7. Is the brief explanation how the project will reduce greenhouse gas emission transparent and suitable?		Yes, the reduction of GHG is clearly explained.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>A.3. Project participants</b>				
A.3.1. Is the form required for the indication of project participants correctly applied?	3,4	Yes, the form is correctly used.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.3.2. Is the participation of the listed entities or Parties confirmed by each one of them?		<p><b>Clarification Request No. 4.</b> The LoA of Philippines should be submitted to the DOE..</p>	CR4	<input checked="" type="checkbox"/>
A.3.3. Is all information on participants / Parties provided in consistency with details provided by further chapters of the PDD (in particular annex 1)?		Yes, Cavite Pig City Inc. and CaFis Inc. are also included in annex 1.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>A.4. Technical description of the small-scale project activity</b>				
<i>A.4.1. Location of the small-scale project activity</i>				

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
A.4.1.1. Does the information provided on the location of the project activity allow for a clear identification of the site(s)?	3,4	<p><b><u>Corrective Action Request No.3.</u></b></p> <p>The project boundaries are not clearly identified. The lagoons system is not included in the diagram. This has to be corrected. It has to be described clearly whether the barns are part (inside) of the project or not.</p> <p><b><u>Clarification Request No. 5.</u></b></p> <p>The barns are included in the project boundaries but the emissions from the barns are not considered. This issue should be clearly explained in the PDD.</p>	CAR3 CR5	<input checked="" type="checkbox"/>
A.4.1.2. How is it ensured and/or demonstrated, that the project proponents can implement the project at this site (ownership, licenses, contracts etc.)?		Documents demonstrating that the projects activity can be implemented have been provided to the DOE.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>A.4.2. Type and category(ies) and technology/measure of the small-scale project activity</b>				
A.4.2.1. To which type(s) does the project activity belong to? Is the type correctly identified and indicated?		The activity belongs to Type III.D, "Methane recovery in agricultural and agro industrial activities." The type is correctly indicated in the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2.2. Does the technical design of the project activity reflect current good practices?		See A.2.6.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2.3. Does the implementation of the project activity require any technology transfer from Annex-I-countries to the host country (ies)?		Yes. The HDPE is imported and only few people can handle the material (technology and equipment).	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2.4. Is the technology implemented by the project activity environmentally safe?		Yes, the technology is environmentally safe.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

## Validation Protocol

Project Title: Pig City confined swine feeding operations methane capture and combustion from improved animal waste management system

Date of Completion: 19.08.2008

Number of Pages: 30



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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
A.4.2.5. Is the information provided in compliance with actual situation or planning?		Yes, the information provided is in compliance with the actual situation.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2.6. Does the project use state of the art technology and / or does the technology result in a significantly better performance than any commonly used technologies in the host country?	19	Yes, the technology used result in a better performance than the common used technology in the host country, open air anaerobic lagoons. <b><u>Corrective Action Request No.4.</u></b> A description of the project's contribution to sustainable development and of the general benefits of the project should be prepared by the consultant and submitted to the national DNA	CAR4	<input checked="" type="checkbox"/>
A.4.2.7. Is the project technology likely to be substituted by other or more efficient technologies within the project period?		No, the technology will not be substitute during the proposed crediting period.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2.8. Does the project require extensive initial training and maintenance efforts in order to be carried out as scheduled during the project period?		No extensive training and maintenance efforts are required. Nevertheless a project specific quality manual addressing all these issued will be established according to the PDD and to the information given during the on-site audits.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2.9. Is information available on the demand and requirements for training and maintenance?		Yes, see 4.2.8.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2.10. Is a schedule available for the implementation of the project and are there any risks for delays?		Risks for delays are not to be expected in the project.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>A.4.3. Estimated amount of emission reductions over the chosen crediting period</b>				
A.4.3.1. Is the form required for the indication of projected emission reductions correctly applied?	5	Yes, the form is correctly applied. <b><u>Corrective Action Request No.5.</u></b> The starting date of the crediting period and the table indicating	CAR5	<input checked="" type="checkbox"/>

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		the emission reductions should be change to a date after the registration of the project.												
A.4.3.2. Are the figures provided consistent with other data presented in the PDD?		Yes, the figures provided are consistent in the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
A.4.3.3. Are the figures consistent with the small-scale criteria for the used Type?	4	Yes, the annual emission reductions estimated by the project developer are 45 620 tonnes of CO2. These are less than 60 kt and consistent with the small-scale criteria.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
A.4.4. Public funding of the small-scale project activity														
A.4.4.1. Is the information provided on public funding provided in compliance with the actual situation or planning as available by the project participants?	4	The project has not received and is not seeking public funding.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
A.4.4.2. Is all information provided consistent with the details given in remaining chapters of the PDD (in particular annex 2)?	4	Yes, the information is consistent.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
A.4.5. Confirmation that the small-scale project activity is not a debundled component of a large scale project activity														
A.4.5.1. Is there a registered small-scale CDM site of a project activity or an application to register another small-scale CDM project activity: with the following characteristics:	3,4	<table><tr><th>Debundling checklist</th><th>Yes / No</th></tr><tr><td>the same project participants?</td><td>No</td></tr><tr><td>In the same project category and technology/measure?</td><td>No</td></tr><tr><td>Registered within previous two years? Or in registration process?</td><td>No</td></tr><tr><td>Whose boundary is within 1 km of the project boundary of the small scale project activity (sites) under consideration?</td><td>No</td></tr></table>	Debundling checklist	Yes / No	the same project participants?	No	In the same project category and technology/measure?	No	Registered within previous two years? Or in registration process?	No	Whose boundary is within 1 km of the project boundary of the small scale project activity (sites) under consideration?	No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Debundling checklist	Yes / No													
the same project participants?	No													
In the same project category and technology/measure?	No													
Registered within previous two years? Or in registration process?	No													
Whose boundary is within 1 km of the project boundary of the small scale project activity (sites) under consideration?	No													

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A.4.5.2. If the answer to all the above question is 'Yes' then does the total size of the small scale project activity combined with previously registered small scale CDM project activity exceeds the limits of small scale CDM project activities?		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
<b>B. Application of a baseline and monitoring methodology</b>												
<b>B.1. Title and reference of the approved baseline and monitoring methodology applied to the small-scale project activity</b>												
B.1.1.1. Are reference number, version number, and title of the baseline and monitoring methodology clearly indicated?		The Methodology applicable for this project is ASM III.D - Methane recovery in agricultural and agro industrial activities.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
B.1.1.2. Is the applied version the most recent one and / or is this version still applicable?		Version 12 has been used; Registration can be submitted until 09/04/08.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
<b>B.2. Justification of the choice of the project category</b>												
B.2.1. Is the applied methodology considered the most appropriate one?		Yes, the chosen methodology is the most appropriate one.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
B.2.1.1. Criterion 1:  Does the project category comprise methane recovery from manure and wastes from agricultural or agro-industrial activities by (a) installing methane recovery and combustion system to an existing source of methane emissions, or (b) changing the management practice of a biogenic waste or raw material in order to achieve thecon-	14, 12	<table><tr><td>Applicability checklist</td><td>Yes / No / NA</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No / NA											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											

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trolled anaerobic digestion equipped with methane recovery and combustion system?												
B.2.1.2. Criterion 2:  Does the project are not recovering methane from landfills or waste water treatment?	12, 14	<table><tr><td>Applicability checklist</td><td>Yes / No / NA</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No / NA											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.1.3. Criterion 3:  Are the measures limited to those that result in emis- sion reductions of less than or equal to 60 kt CO2 equivalent annually?	12, 14	<table><tr><td>Applicability checklist</td><td>Yes / No / NA</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No / NA											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.1.4. Criterion 4:  Are the technical measures being used (e.g. flared, combusted) to ensure that all biogas produced by the digester is destroyed?		<table><tr><td>Applicability checklist</td><td>Yes / No / NA</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No / NA											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.1.5. Criterion 5:  Will the sludge be handled aerobically? Are the proper conditions of the final sludge application en- sured?		<table><tr><td>Applicability checklist</td><td>Yes / No / NA</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes		
Applicability checklist	Yes / No / NA											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											

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<b>B.3. Description of the project boundary</b>				
B.3.1. Does the project boundary include physical, geographical site(s) where the methane recovery facilities are taking place?		<b><u>Corrective Action Request No.6.</u></b> According to the diagram of the process, there is a pre-filter system, which is not explained in the PDD. If a part of the solids are separated, this amount should be considered (as a reduction) in the calculation of the emission reduction (as these solids would not be available for methane production).	CAR6	<input checked="" type="checkbox"/>
B.3.2. Do the spatial and technological boundaries as verified on-site comply with the discussion provided by / indication included to the PDD?		Yes, but See CAR 4.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>B.4. Description of baseline and its development</b>				
Integrate questions concerning the determination of the additionality as provided by the methodology applied or insert the module provided when applying the "additionality tool"; Replace blue text, if necessary				
B.4.1. Have all technically feasible baseline scenario alternatives to the project activity been identified and discussed by the PDD? Why can this list be considered as being complete?		All plausible alternatives have been identified and discussed. The emissions occurring in the absence of the project activity are also explained in the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.4.2. Does the project identify correctly and excludes those options not in line with regulatory or legal requirements?		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.4.3. Have applicable regulatory or legal requirements been identified?	8	The legal requirements have been discussed in the PDD. The Department Administrative Order No. 35(water quality standards) Confirms the legal requirements applicable to the project.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



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B.4.4. Does the PDD identify the most likely baseline scenario in absence of the project activity?	8	Yes, the most likely baseline scenario is included.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.4.5. Is this identification supported by official and/or verifiable documents (e.g. studies, web pages, certificates, etc)?		Supporting documents have been submitted to the DOE. The environmental compliance certificate confirms that the actual situation is in line with the local legal requirements.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.4.6. Is the identified baseline scenario in line with regulatory or legal requirements?	8	Yes, the baseline is the normal AWMS in the host country and in line with regulatory and legal requirements. As described in the Department Administrative Order No. 35	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>B.5. Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the registered small-scale CDM project activity:</b>				
Integrate questions concerning the determination of the additionality when applying the “additionality tool”; Replace blue text, if necessary				
B.5.1. In case of applying step 2 / investment analysis of the additionality tool: Is the analysis method identified appropriately (step 2a)?		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.2. In case of Option I (simple cost analysis): Is it demonstrated that the activity produces no economic benefits other than CDM income?		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.3. In case of Option II (investment comparison analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.4. In case of Option III (benchmark analysis): Is the most suitable financial indicator		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?				
B.5.5. In case of Option II or Option III: Is the calculation of financial figures for this indicator correctly done for all alternatives and the project activity?		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.6. In case of Option II or Option III: Is the analysis presented in a transparent manner including publicly available proofs for the utilized data?		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.7. In case of applying step 3 (barrier analysis) of the additionality tool: Is a complete list of barriers developed that prevent the different alternatives to occur?		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.8. In case of applying step 3 (barrier analysis): Is transparent and documented evidence provided on the existence and significance of these barriers?		N/A.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.9. In case of applying step 3 (barrier analysis): Is it transparently shown that the execution of at least one of the alternatives is not prevented by the identified barriers?		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.10. Have other activities in the host country / region similar to the project activity been identified and are these activities appropriately analyzed by the PDD (step 4a)?		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.11. If similar activities are occurring: Is it		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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demonstrated that in spite of these similarities the project activity would not be implemented without the CDM component (step 4b)?																			
B.5.12. Is it appropriately explained how the approval of the project activity will help to overcome the economic and financial hurdles or other identified barriers (step 5)?		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															
If the additionality tool has not been used please answer B.5.13 to B.5.18																			
B.5.13. If the starting date of the project activity is before the date of validation, is evidence available to prove that incentive from the CDM was seriously considered in the decision to proceed with the project activity?		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															
B.5.14. Is a complete list of barriers developed that prevents the project activity to occur?		Yes, Barrier due to prevailing practice and technological barrier are included in the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															
B.5.15. Does this list include at least one of the following barriers?	8	<table><tr><th>Barrier</th><th>Discussed?</th><th>Verifiable?</th></tr><tr><td>Investment</td><td>N/A</td><td>N/A</td></tr><tr><td>Technological</td><td>Yes</td><td>Yes</td></tr><tr><td>Due to prevailing practice</td><td>Yes</td><td>Yes</td></tr><tr><td>Other</td><td>N/A</td><td>N/A</td></tr></table>	Barrier	Discussed?	Verifiable?	Investment	N/A	N/A	Technological	Yes	Yes	Due to prevailing practice	Yes	Yes	Other	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Barrier	Discussed?	Verifiable?																	
Investment	N/A	N/A																	
Technological	Yes	Yes																	
Due to prevailing practice	Yes	Yes																	
Other	N/A	N/A																	
B.5.16. Does the discussion sufficiently take into account relevant national and/or sectoral		Yes, it national policies are discussed in the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															

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policies?										
B.5.17. Is transparent and documented evidence provided on the existence and significance of these barriers?		Supporting documents have been provided to the DOE. See chapter B.4.3. and B.4.5.	☑	☑						
B.5.18. Is it appropriately explained how the approval of the project activity will help to overcome the identified barriers?		Yes, it is explained how the revenues of CERs will help to overcome the financial hurdles of the project activity.	☑	☑						
B.6. Emissions reductions										
Integrate questions concerning methodological choices and selection of options, if necessary										
B.6.1. Explanation of methodological choices										
B.6.1.1. Is it explained how the procedures provided in the methodology are applied by the proposed project activity?		Yes, the explanation of the methodological choice has been described.	☑	☑						
B.6.1.2. Is every selection of options offered by the methodology correctly justified and is this justification in line with the situation verified on-site?		Yes, all options are included.	☑	☑						
B.6.1.3. Determination of project emissions (Comment on any line answered “No”) if biogas is released to the atmosphere unburned, these methane emissions shall be considered as the project emissions. Project emissions therefore consist of:										
a. Component 4: emissions from CO2 emissions from use of fossil fuels or electricity for the operation of the facility	4	<table><tr><td>Project emission checklist</td><td>Yes / No</td></tr><tr><td>Component discussed in the PDD?</td><td>Yes</td></tr><tr><td>Formulae correctly applied?</td><td>Yes</td></tr></table> <p><b><u>Corrective Action Request No.7.</u></b></p> <p>The project emissions are stated (estimated) as zero. This should be confirmed with technical documentation (documents).</p>	Project emission checklist	Yes / No	Component discussed in the PDD?	Yes	Formulae correctly applied?	Yes	☑	☑
Project emission checklist	Yes / No									
Component discussed in the PDD?	Yes									
Formulae correctly applied?	Yes									

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B.6.1.4. Are the formulae required for the determination of baseline emissions correctly presented, enabling a complete identification of parameters to be used and / or monitored?		Yes, the formula for calculating the emission reductions is correctly applied. IPCC values 2006 has been applied.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																		
B.6.1.5. Are the formulae required for the determination of leakage emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?		The formula for determination of leakage is correctly applied.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																		
B.6.1.6. Are the formulae required for the determination of emission reductions correctly presented?		Yes, it is correctly presented.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																		
B.6.2. Data and parameters that are available at validation																						
B.6.2.1. Is the list of parameters presented in chapter B.6.2 considered to be complete with regard to the requirements of the applied methodology?		<b><u>Corrective Action Request No.8.</u></b> Please include all the parameters that are available at validation and for monitoring in the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																		
B.6.2.2. Comment on any line answered with “No”																						
b. Parameter 1: amount of the waste or raw material	4	<table><tr><th>Data Checklist</th><th>Yes / No / NA</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table>	Data Checklist	Yes / No / NA	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data Checklist	Yes / No / NA																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	Yes																					
Correct value provided?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	Yes																					

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c. Parameter 2: most recent IPCC tier 2 (i.e. Vs, Bo, MCF)	4	<table><tr><th>Data Checklist</th><th>Yes / No / NA</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table>	Data Checklist	Yes / No / NA	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data Checklist	Yes / No / NA																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	Yes																					
Correct value provided?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	Yes																					
d. Parameter 3 (only for Animal WMS):population and type of animals.	4	<table><tr><th>Data Checklist</th><th>Yes / No / NA</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table>	Data Checklist	Yes / No / NA	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data Checklist	Yes / No / NA																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	Yes																					
Correct value provided?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	Yes																					
B.6.3. Ex-ante calculation of emission reductions																						
B.6.3.1. Is the projection based on the same		Yes, the projection is correctly applied.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																		

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procedures as used for future monitoring?				
B.6.3.2. Are the GHG calculations documented in a complete and transparent manner?		Yes, the calculations are documented in a transparent form.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.3.3. If there is more than one component of the project activity, then, are emission reduction calculations provided separately for each component?		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.3.4. Is the data provided in this section consistent with data as presented in other chapters of the PDD?		The data is consistent with other chapters of the PDD	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>B.6.4. Summary of the ex-ante estimation of emission reductions</b>				
B.6.4.1. Will the project result in fewer GHG emissions than the baseline scenario?		Yes, it would definitely result in a fewer GHG emission.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.4.2. Is the form/table required for the indication of projected emission reductions correctly applied?		Yes, the table it is correctly applied.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.4.3. If the project activity involves more than one component, is separate table included for each of the component.		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.4.4. Do these values comply with small-scale criteria for every year?		Yes, the emission reduction is around 48 kt per year, much lower than 60 kt applicable for small scale criteria.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.4.5. Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period?		Yes, the table includes the 7 year crediting period.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.4.6. Is the data provided in this section in consistency with data as presented in other		Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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chapters of the PDD?																												
B.7. Application of the monitoring methodology and description of the monitoring plan																												
B.7.1. Data and parameters monitored																												
B.7.1.1. Is the list of parameters presented in chapter B.7.1 considered to be complete with regard to the requirements of the applied methodology?		Yes, the parameters are complete.	☑	☑																								
B.7.1.2. Comment on any line answered with “No”																												
e. Parameter 1: biogas flow	4	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	Yes	Correct reference to standards?	Yes	Indication of accuracy provided?	Yes	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	Yes	☑	☑
Monitoring Checklist	Yes / No																											
Title in line with methodology?	Yes																											
Data unit correctly expressed?	Yes																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	Yes																											
Correct value provided for estimation?	Yes																											
Has this value been verified?	Yes																											
Measurement method correctly described?	Yes																											
Correct reference to standards?	Yes																											
Indication of accuracy provided?	Yes																											
QA/QC procedures described?	Yes																											
QA/QC procedures appropriate?	Yes																											
f. Parameter 2: biogas temperature		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	☑	☑														
Monitoring Checklist	Yes / No																											
Title in line with methodology?	Yes																											
Data unit correctly expressed?	Yes																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	Yes																											



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		Correct value provided for estimation?	Yes		
		Has this value been verified?	Yes		
		Measurement method correctly described?	Yes		
		Correct reference to standards?	Yes		
		Indication of accuracy provided?	Yes		
		QA/QC procedures described?	Yes		
		QA/QC procedures appropriate?	Yes		
g. Parameter 3: pressure				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided for estimation?	Yes		
		Has this value been verified?	Yes		
		Measurement method correctly described?	Yes		
		Correct reference to standards?	Yes		
		Indication of accuracy provided?	Yes		
		QA/QC procedures described?	Yes		
		QA/QC procedures appropriate?	Yes		
h. Parameter 4: fraction of CH <sub>4</sub>	4			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided for estimation?	Yes		
		Has this value been verified?	Yes		

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		Measurement method correctly described?	Yes																											
		Correct reference to standards?	Yes																											
		Indication of accuracy provided?	Yes																											
		QA/QC procedures described?	Yes																											
		QA/QC procedures appropriate?	Yes																											
i. Parameter 5: flare efficiency	4	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	Yes	Correct reference to standards?	Yes	Indication of accuracy provided?	Yes	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																													
Title in line with methodology?	Yes																													
Data unit correctly expressed?	Yes																													
Appropriate description of parameter?	Yes																													
Source clearly referenced?	Yes																													
Correct value provided for estimation?	Yes																													
Has this value been verified?	Yes																													
Measurement method correctly described?	Yes																													
Correct reference to standards?	Yes																													
Indication of accuracy provided?	Yes																													
QA/QC procedures described?	Yes																													
QA/QC procedures appropriate?	Yes																													
j. Parameter 6: combusted gas	4	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	Yes	Correct reference to standards?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
Monitoring Checklist	Yes / No																													
Title in line with methodology?	Yes																													
Data unit correctly expressed?	Yes																													
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Source clearly referenced?	Yes																													
Correct value provided for estimation?	Yes																													
Has this value been verified?	Yes																													
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Correct reference to standards?	Yes																													

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD																								
		Indication of accuracy provided?	Yes																										
		QA/QC procedures described?	Yes																										
		QA/QC procedures appropriate?	Yes																										
k.Parameter 7: fraction of time in which the gas is combusted in the flare		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	Yes	Correct reference to standards?	Yes	Indication of accuracy provided?	Yes	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																												
Title in line with methodology?	Yes																												
Data unit correctly expressed?	Yes																												
Appropriate description of parameter?	Yes																												
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Correct value provided for estimation?	Yes																												
Has this value been verified?	Yes																												
Measurement method correctly described?	Yes																												
Correct reference to standards?	Yes																												
Indication of accuracy provided?	Yes																												
QA/QC procedures described?	Yes																												
QA/QC procedures appropriate?	Yes																												
B.7.2. Description of the monitoring plan																													
B.7.2.1. Is the operational and management structure clearly described and in compliance with the envisioned situation?		The operational and management structure is in compliance with the actual situation.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																								
B.7.2.2. Are responsibilities and institutional arrangements for data collection and archiving clearly provided?	9,10	No, there are no procedures for training of monitoring personnel mentioned in the PDD or have been submitted to the validator during the on-site audit. <b><u>Corrective Action Request No.9.</u></b> All the procedures for training of monitoring personnel should be submitted to the validator or a confirmation about the intention on create these procedures (aspect such as intended trainings, procedures for emergency cases, calibration issues, monitoring de-		CAR8	<input checked="" type="checkbox"/>																								

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		tails should at least be mentioned in the PDD).		
B.7.2.3. Does the monitoring plan provide current good monitoring practice?		Yes, it provides good monitoring practices.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.7.2.4. If applicable: Does annex 4 provide useful information enabling a better understanding of the envisioned monitoring provisions?		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>B.8. Date of completion of the application of the baseline study and monitoring methodology an the name of the responsible person(s)/entity(ies)</b>				
B.8.1.1. Is there any indication of a date when the baseline was determined?		Yes, Baseline determination data and responsible person are included in the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.8.1.2. Has dd/mm/yyyy format been used to indicate the date.		<b><u>Corrective Action Request No.10.</u></b> Please change the date to dd/mm/yyyy format.	CAR9	<input checked="" type="checkbox"/>
B.8.1.3. Is this consistent with the time line of the PDD history?		Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.8.1.4. Is the information on the person(s) / entity (ies) responsible for the application of the baseline and monitoring methodology provided consistent with the actual situation?		Yes, the person works for CaFis Inc. company.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.8.1.5. Is information provided whether this person / entity is also considered a project participant?		Yes, see B.8.1.4.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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<b>C. Duration of the project activity / crediting period</b>				
<b>C.1. Duration of the project activity</b>				
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?		See CAR 5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>C.2. Choice of the crediting period and related information</b>				
C.2.1. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2 renewals or fixed crediting period of max. 10 years)?		Yes, a 7 years crediting period with 2 renewable options has been chosen.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C.2.2. Has dd/mm/yyyy format been used to indicate the start date of the crediting period.		Yes, the dates are correctly indicated, but see CAR 5.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>D. Environmental impacts</b>				
<b>D.1. If required by the host Party, documentation on the analysis of the environmental impacts of the project activity:</b>				
D.1.1. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, has an EIA been approved? If yes answer also D.1.2 to D.1.4	12, 14 18	EIA is not required by the host country.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.1.2. Has the analysis of the environmental impacts of the project activity been sufficiently described?		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.1.3. Will the project create any adverse environmental effects?		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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D.1.4. Were transboundary environmental impacts identified in the analysis?		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>D.2. If environmental impacts are considered significant by the project participants or the host Party, please provide conclusions and all references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party</b>				
D.2.1. Have the identified environmental impacts been addressed in the project design sufficiently?		In the PDD is stated that the EIA is not required. Furthermore an environmental compliance certificate (ECC) has been issued to PigCity.  <b><u>Corrective Action Request No.11.</u></b>  Documentation/concrete information (source, law) to confirm that the EIA is not required for this type of project should be submitted to the validator.	CAR10	<input checked="" type="checkbox"/>
D.2.2. Does the project comply with environmental legislation in the host country?		Yes, an ECC has been issued.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>E. Stakeholders' comments</b>				
<b>E.1. Brief description how comments by local stakeholders have been invited and compiled</b>				
E.1.1. Have relevant stakeholders been consulted?	20	This issue is clearly explain in the PDD	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.1.2. Have appropriate media been used to invite comments by local stakeholders?	20	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.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	20	Yes, as required by law.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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regulations/laws?				
E.1.4. Is the undertaken stakeholder process that was carried out described in a complete and transparent manner?		Yes, the stakeholder process was carried out in a complete manner.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>E.2.Summary of the comments received</b>				
E.2.1. Is a summary of the received stakeholder comments provided?	20	Yes, a summary of comments received are included in the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>E.3.Report on how due account was taken of any comments received</b>				
E.3.1. Has due account been taken of any stakeholder comments received?		There was no objection submitted by the stakeholders.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>F. Annexes 1 - 4</b>				
<b>F.1.Annex 1: Contact Information</b>				
F.1.1. Is the information provided consistent with the one given under section A.3?	3,4	Yes, the information is consistent.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.1.2. Is the information on all private participants and directly involved Parties presented?		Yes, all information about the involved parties is included.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>F.2.Annex 2: Information regarding public funding</b>				
F.2.1. Is the information provided on the inclusion of public funding (if any) in consistency with the actual situation presented by the project participants?		Yes, no public funding has been provided.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.2.2. If necessary: Is an affirmation available that any such funding from Annex-I-		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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countries does not result in a diversion of ODA?				
<b>F.3. Annex 3: Baseline information</b>				
F.3.1. If additional background information on baseline data is provided: Is this information consistent with data presented by other sections of the PDD?		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.3.2. Is the data provided verifiable? Has sufficient evidence been provided to the validation team?		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.3.3. Does the additional information substantiate / support statements given in other sections of the PDD?		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>F.4. Annex 4: Monitoring information</b>				
F.4.1. If additional background information on monitoring is provided: Is this information consistent with data presented in other sections of the PDD?		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.4.2. Is the information provided verifiable? Has sufficient evidence been provided to the validation team?		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.4.3. Do the additional information and/or documented procedures substantiate/support statements given in other sections of the PDD?		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



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**Table 2 Resolution of Corrective Action and Clarification Requests**

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
CARs			
<p><b><u>Corrective Action Request No.1.</u></b> T</p> <p>The explanation about the actual wastewater system (manure system) is not clear. The retention time in the system is defined as a period of time. The actual retention time should be specified more detailed (what is considered (only solids or the whole manure?), how is the retention time calculated).</p>	A.2.6.	<p>The retention time is at least 30 days. This statement was added in the PDD.</p> <p><b><u>TÜV SÜD:</u></b></p> <p>Detailed information concerning the lagoons has to be submitted to the validator (the pictures taken during the on-site audit could not finally confirm the characteristics required for this type of CDM project).</p> <p><b><u>PP:</u></b></p> <p>The retention time is computed to be 25.73 days (please refer to file Open Lagoons Pig City.doc)</p> <p>A hard copy of the engineering report will be submitted which will include the requested calculations.</p> <p><b><u>TÜV SÜD:</u></b></p> <p>We do not need only the description of the new lagoon system but we also need information about the former lagoon system (number, size, depth of the existing lagoons). This information is required for the demonstration that the methane emissions really have been existing as described in the baseline.</p> <p><b><u>PP:</u></b></p>	<p>The file sent by the project developer (Engineering Report on Pig City Lagoons) includes the information requested by the DOE, including the size of the lagoons measured by the project developer and the calculations of the retention time for demonstrating the valued needed to confirm that the retention time is 30 days and methane production in the lagoons is the correct baseline.CAR solved</p> <p>☑</p>

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		Please refer to the Open Lagoons Pig City.doc file, it contains the details of the old lagoons.	
<p><b><u>Corrective Action Request No.2.</u></b></p> <p>As mentioned in chapter A.4. of the PDD the two digesters allow for a total of 20 day hydraulic retention time. This statement should be confirmed with technical information to demonstrate that 20 days are enough for the production of more than 95% of the possible methane.</p> <p><u>Annotation:</u> The standard period is at least 30 days.</p> <p>b.) The assumption, that almost 100 % of the methane produced will be captured in the digester, is not conservative. IPCC suggests using a 15% loss for a biodigester. This has to be corrected.</p>	A.2.6	<p>A hard copy of the engineering report will be submitted which will include the requested calculations. The report will show the calculated retention time. Moreover a methane production curve is part of the report showing that 20 days is sufficient in the production of methane</p> <p>An excel calculation sheet will be part of the engineering report showing a retention time of 29 days.</p> <p>The statement has been erased from the PDD.</p> <p><b><u>TÜV SÜD:</u></b></p> <p>IPCC values have been used taking into consideration a 10% loss of project emissions as suggested based on the given parameters of table B-6 of the Revised 1996 IPCC guidelines for National GHG Inventories. This reference is the methane conversion factor. The 15% (conservative value) is referred to Table 4-8 Revised 1996 IPCC: Reference Manual</p> <p><b><u>PP:</u></b></p> <p>Please refer to the Engineering Report which provides the calculations of the retention time of the project activity</p>	<p>Additional documents submitted. CAR solved.</p> <p>☑</p>
<p><b><u>Corrective Action Request No.3.</u></b></p> <p>The project boundaries are not clearly identified. The lagoons system is not included in the diagram. This has to be corrected. It has to be described clearly whether the barns are part (inside) of the project or not.</p>	A.4.1.1.	<p>The project boundaries have been changed. The barns are not anymore included inside the boundaries.</p> <p>A statement is added in B.4 of the PDD clarifying why the swine barns are not part of the project boundary. Moreover, the lagoon system is not included in the project boundary since the project activity, which is the biogas digester will render the anaerobic lagoon system obsolete and therefore will not be operational once the</p>	<p>The project boundary is well defined. CAR has been solved.</p> <p>☑</p>

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		<p>anaerobic digester is online.</p> <p>The aquatic wetland portion of the water treatment has been added to the diagram in sec. B.4 of the PDD.</p> <p>This is outside the project boundary because methane is no longer produced at this stage.</p>	
<p><b><u>Corrective Action Request No.4.</u></b></p> <p>A description of the project's contribution to sustainable development and of the general benefits of the project should be prepared by the consultant and submitted to the national DNA</p>	A.4.2.6.	A Sustainable Development Benefits Description has been submitted the Philippine DNA. (AD 15)	<p>This issue has been solved .</p> <p>A letter has been submitted to the DNA.</p> <p><input checked="" type="checkbox"/></p>
<p><b><u>Corrective Action Request No.5.</u></b></p> <p>The starting date of the crediting period and the table indicating the emission reductions should be change to a date after the registration of the project.</p>	A.4.3.1.	The starting date has been updated.	<p>Starting date of the crediting period has been updated.</p> <p><input checked="" type="checkbox"/></p>
<p><b><u>Corrective Action Request No.6.</u></b></p> <p>According to the diagram of the process, there is a pre-filter system, which is not explained in the PDD. If a part of the solids are separated, this amount should be considered (as a reduction) in the calculation of the emission reduction (as these solids would not be available for methane production).</p>	B.3.1.	A statement is added in A.4 of the PDD clarifying the purpose of the pre-filter system and the solid-liquid separator system and its subsequent impact to the reduction of methane.	<p>The pre-filter system takes non –organic material and organic material as hair out of the AMWS. The system does not have an impact in the baseline calculations.CAR solved.</p> <p><input checked="" type="checkbox"/></p>
<p><b><u>Corrective Action Request No.7.</u></b></p> <p>The project emissions are stated (estimated) as zero. This should be confirmed with technical documentation (documents).</p>	B.6.1.3.	<p>The project emissions are calculated.</p> <p>All references to zero project emissions have been deleted.</p>	<p>Project emissions calculations have been included in the PDD. CAR solved</p> <p><input checked="" type="checkbox"/></p>

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<b><u>Corrective Action Request No.8.</u></b> Please include all parameters that are available at validation and for monitoring in the PDD.	B.6.2.1.	All parameters are included in the PDD	The parameter list is complete. CAR solved. <input checked="" type="checkbox"/>
<b><u>Corrective Action Request No.9.</u></b> All the procedures for training of monitoring personnel should be submitted to the validator or a confirmation about the intention on create these procedures (aspect such as intended trainings, procedures for emergency cases, calibration issues, monitoring details should at least be mentioned in the PDD).	B.7.2.2.	These provisions have been mentioned in section D.4 and D.5 of the PDD. Moreover, a quality manual will be submitted to TÜV by Cafis Inc. on behalf of Pig City Inc.	Training of personal are defined by the project developer. CAR solved. <input checked="" type="checkbox"/>
<b><u>Corrective Action Request No.10.</u></b> Please change the date to dd/mm/yyyy format.	B.8.1.2.	Ok	CAR solved. <input checked="" type="checkbox"/>
<b><u>Corrective Action Request No.11.</u></b> Documentation/concrete information (source, law) to confirm that the EIA is not required for this type of project should be submitted to the validator.	D.2.1.	PD 1586 has been downloaed for the reference of TÜV. This document clarifies that only projects within critical areas identified by the government need to produce a Environmental Impact Statement. In the case of Pig City, the facility is not located in a critical area identified by the government and therefore an EIS is not required.	<input checked="" type="checkbox"/> An EIA is not required for the project activity as by the local regulations.
CRs			
<b><u>Clarification Request No. 1.</u></b> The electricity generation is only vague described. Some (more detailed) characteristics of the equipment should be included in the PDD (generator capacity etc.).	A.2.6.	The statement has been erased from the PDD. More detailed characteristics of the engine to be used has been added to sec. A.4 of the PDD including the brand, model and capacity of the engine.	<input checked="" type="checkbox"/> The electricity produced by the project activity will be used for internal consumption. Information on electricity generation is included.

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<p><b><u>Clarification Request No. 2.</u></b></p> <p>The PDD should have a date and a version, to allow a clear reference. Furthermore the date for the baseline development should be changed every time the baseline is recalculated.</p>	A.2.6.	<p>A date and version has been added/updated in section B.5 of the PDD</p> <p><b><u>TÜV SÜD</u></b></p> <p>A date and version in A.1 of the PDD would be optimal as a reference.</p> <p><b><u>PP:</u></b></p> <p>The version number of the PDD has been changed to 5.4 and the date of the completion of the version is Sept 25 2007. Date of latest update for the baseline calculations is indicated in B.4</p>	<p>Clear reference of actual version number is included in the PDD. CR solved.</p> <p>☑</p>
<p><b><u>Clarification Request No. 3.</u></b></p> <p>The MCF used for the baseline calculation refers to: "Cattle/swine dung and urine are excreted on stall floor. The accumulated waste is removed after a long time &lt;1 month". This is not applicable according to the definition of the actual situation and has to be corrected.</p>	A.2.6.	<p>Now a correct value of MCF is used.</p>	<p>MCF value is in-line with the requirements of the methodology. CAR solved.</p> <p>☑</p>
<p><b><u>Clarification Request No. 4.</u></b></p> <p>The LoA of Philippines should be submitted to the DOE..</p>	A.3.2.	<p>Please refer to the attached LoA</p>	<p>LoA submitted. CR solved.</p> <p>☑</p>
<p><b><u>Clarification Request No. 5.</u></b></p> <p>The barns are included in the project boundaries but the emissions from the barns are not considered. This issue should be clearly explained in the PDD.</p>	B.6.1.3.	<p>The project boundaries are change. The barns are not anymore included inside the boundaries.</p>	<p>The correct definition of the project boundary is included in the revised PDD.</p> <p>☑</p>

Validation of the CDM Project:  
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## **Annex 2: Information Reference List**


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	Information Reference List		

Reference No.	Document or Type of Information
1.	<p><b>Interview</b> at TÜV Philippines Office date: 25<sup>st</sup> of October 2005</p> <p><b>Validation team on site:</b> Cristian Delamarian TÜV Philippines Inc. - TÜV SÜD Industrie Service GmbH</p> <p><b>Interviewed persons:</b> 1. Alan Silayan – consultant.</p>
2.	<p><b>On-site interview</b> at Cavite Pig City date: 26<sup>st</sup> of October 2005</p> <p><b>Validation team on site:</b> Cristian Delamarian TÜV Philippines Inc. - TÜV SÜD Industrie Service GmbH</p> <p><b>Interviewed persons:</b> 1. Alan Silayan – consultant; 2. Joven Ngo – General Manager Cavite Pig Farm 3. Mariano S. Venida Jr. – BEST, Technology Provider</p>

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Reference No.	Document or Type of Information
3.	First PDD, Submitted 16.01.2006 vers 3
4.	Final PDD, 11.02.2008 vers 7-3
5.	AD 01 – Business/financial scheme
6.	AD 02 – Copy of the record of farm operation for the last 3 year
7.	AD 03 – A short description of the pigs
8.	AD 04 – Environmental Compliance Certificate
9.	AD 05 – 2005 Barangay Business Clearance
10.	AD 06 – 2005 Mayor's Permit
11.	AD 07 – Department administrative Order No. 35
12.	AD 08 – Sanitary Permit
13.	AD 09 – Signed Barangay Manifesto of No-objection
14.	AD 10 – Permit to Operate
15.	AD 11 – Decision on Zoning
16.	AD 12 – DENR Certificate of Accreditation of Mr. Joven Ngo as Pollution Control Officer



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Reference No.	Document or Type of Information
17.	AD 13 – Energy Spectrum March 1991, PNOC
18.	AD 14 – Chapter 4 of the IPCC Good Practice Guidance and Uncertainness Measurement in National Greenhouse Gas Inventories
19.	AD 15 – Sustainable Development Benefits Description
20.	AD 16 – Copy of the Minutes of the Stakeholder Meeting
21.	AD 17 – CDM Baseline Construction for the Electricity Grids in the Philippines, klima Climate Change, Manila, 2006
22.	AD 18 – Backyard and commercial piggeries in the Philippines: environmental consequences and pollution control options.
23.	PDD Pig City confined swine feeding operations methane capture and combustion from improved animal waste management system, version 7-4, dated 14.03.2008