VALIDATION REPORT

Hacienda Bio-Energy Corporation

ANAEROBIC DIGESTION SWINE WASTEWATER TREATMENT WITH ON-SITE POWER PROJECT (ADSW RP2002)

SGS Climate Change Programme
SGS United Kingdom Ltd
SGS House
217-221 London Road
Camberley Surrey
GU15 3EY
United Kingdom

Date of Issue:	**Project Number:**
08-09-2008	CDM.VAL1367-2
Project Title:	
Anaerobic Digestion Swine Wastewater Treatment With On-Site Power Project (ADSW RP2002)	
Organisation:	**Client:**
SGS United Kingdom Limited	Hacienda Bio-Energy Corporation
Publication of PDD for Stakeholders Consultation	
Commenting Period:	10-11-2007 until 09-12-2007
First PDD Version and Date:	Version 1, 21/09/2007
Final PDD Version and Date:	Version 4 , 08/09/2008

Summary:

Hacienda Bio-Energy Corporation has commissioned SGS to perform the validation of the project: Anaerobic Digestion Swine Wastewater Treatment With On-Site Power Project (ADSW RP2002).

Methodology used: AMS I.D./Version 12, EB33; AMS III.D./Version 13, EB33.

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

The report is based on the findings of document reviews, the stakeholder consultation process and responses from the project participants to the findings raised in this report.

The report and the annexed validation describes a total of 16 findings which include:

- 8 Corrective Action Requests; and
- 7 New Information Requests;

All of the above CARs and NIRs were successfully closed out and the project will be recommended to the CDM Executive Board with a request for registration.

Subject:			
CDM Validation			
Validation Team:			
Elton Chen Wu – Lead Assessor Qi Yang – Assessor Rubylene Lasmarias-Osila – Local Assessor			☒ No Distribution (without permission from the Client or responsible organisational unit)
Technical Review:	**Trainee Technical Reviewer:**		
Date: 14-04-2008 / 19-05-2008 Name: Irma Lubrecht	Name: N/A		☐ Limited Distribution
Authorised Signatory:			
Name: Siddharth Yadav Date: 9th September 2008			☐ Unrestricted Distribution
Revision Number:	**Date:**	**Number of Pages:**	
0	19-05-2008	45	
1	08-09-2008	45	
2	-	-	

Abbreviations

BOD	Biochemical Oxygen Demand
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CIGAR	Covered In-Ground Anaerobic Reactor
COD	Chemical Oxygen Demand
COP/MOP	Conference of Parties / Meeting of Parties
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board of the clean development mechanism
EIA	Environmental Impact Assessment
EPA	Environmental Protection Authority
GHG	Greenhouse gas
GS	Gold Standard
HDPE	High Density Polyethylene
IETA	International Emission Trading Association
IPCC	Intergovernmental Panel on Climate Change
LoA	Letter of Approval
MP	Monitoring Plan
MSW	Municipal Solid Wastes
NIR	New Information Request
UNFCCC	United Nations Framework Convention on Climate Change

Table of Content

1. Validation Opinion 5

2. Introduction 6
2.1 Objective 6
2.2 Scope 6
2.3 GHG Project Description 6
2.4 Names and Roles of the Validation Team Members 6

3. Methodology 7
3.1 Review of CDM-PDD and Additional Documentation 7
3.2 Use of the Validation Protocol 7
3.3 Findings 7
3.4 Internal Quality Control 8

4. Validation Findings 9
4.1 Participation Requirements 9
4.2 Project Design 9
4.3 Eligibility as a Small Scale Project 9
4.4 Baseline Selection and Additionality 10
4.5 Application of Baseline Methodology and Calculation of Emission Factors 11
4.6 Application of Monitoring Methodology and Monitoring Plan 11
4.7 Choice of the Crediting Period 12
4.8 Environmental Impacts 12
4.9 Local Stakeholder Comments 12

5. Comments by Parties, Stakeholders and NGOs 13
5.1 Description of How and When the PDD was Made Publicly Available 13
5.2 Compilation of all Comments Received 13
5.3 Explanation of How Comments Have Been Taken into Account 13

6. List of Persons Interviewed 14

7. Document References 15

Annexes:

A.1 Annex 1: Local Assessment 17

A.2 Annex 2: Validation Protocol 20

A.3 Annex 3: Overview of Findings 36

A.4 Annex 4: Team Members Statements of Competency 43

1. Validation Opinion

SGS United Kingdom Ltd has been contracted by Hacienda Bio-Energy Corporation to perform a validation of the project: Anaerobic Digestion Swine Wastewater Treatment With On-Site Power Project (ADSW RP2002) in the Philippines.

The Validation was performed in accordance with the UNFCCC criteria for the Clean Development Mechanism (CDM) and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

SGS reviewed of the project design documentation, using a risk based approach and conducted follow-up interviews.

By constructing and operating an anaerobic digestion swine wastewater treatment with on-site power system, the project activity will result in reductions of greenhouse gas emissions that are real, measurable and give long-term benefits to the mitigation of climate change.

In our opinion, the project meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria. The project correctly applies methodology AMS I.D./Version 12 and AMS III.D./Version 13. It is demonstrated that the project is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity.

The total emission reductions from the project are estimated to be 40530 tCO2e over a 7-year crediting period, averaging to 5790 tCO2e annually. The emission reduction forecast has been checked and it is deemed likely that the stated amount is achieved given the underlying assumptions do not change.

The project will hence be recommended by SGS for registration with the UNFCCC.

Signed on Behalf of the Validation Body by Authorized Signatory

Signature: 

Name: Siddharth Yadav

Date: 9th September 2008

2. Introduction

2.1 Objective

Hacienda Bio-Energy Corporation has commissioned SGS to perform the validation of the project: Anaerobic Digestion Swine Wastewater Treatment With On-Site Power Project (ADSW RP2002) with regard to the relevant requirements for CDM project activities. The purpose of a validation is to have an independent third party assess the project design. In particular, the project's baseline, the monitoring plan (MP) and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of Certified Emission Reduction (CER). UNFCCC criteria refer to the Kyoto Protocol criteria and the CDM rules and modalities and related decisions by the COP/MOP and the CDM Executive Board.

2.2 Scope

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

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

2.3 GHG Project Description

The proposed Anaerobic Digestion Swine Wastewater Treatment With On-Site Power Project (ADSW RP2002) project is being developed by Hacienda Bio-Energy. The project is located at Empire Farm at Barangay Pilpila at the municipality of Sta. Ignacia, Tarlac, Region III, Philippines. The project consists of a covered in-ground anaerobic reactor (CIGAR®) that will utilize organic materials, which is currently treated in open lagoons, to produce biogas. The biogas produced in the project's anaerobic digesters will be used to generate electricity for use on-site. Currently the farm relies on electricity from the grid. The project will reduce greenhouse gas emissions through avoidance of release of methane from the open lagoons and by displacing fossil fuel-based electricity generation of the regional Luzon Grid.

2.4 Names and Roles of the Validation Team Members

Name	Role	Affiliate
Elton Chen Wu	Lead Assessor	SGS China
Qi Yang	Assessor	SGS China
Rubylene Lasmarias-Osila	Local Assessor	SGS Philippines

3. Methodology

3.1 Review of CDM-PDD and Additional Documentation

The validation is performed primarily as a document review of the publicly available project documents. The assessment is performed by trained assessors using a validation protocol.

A site visit is usually required to verify assumptions in the baseline.

A site visit was performed and where the results are summarized in checklists as Annex 1 and Annex 2.

Local staff was also involved to confirm other statements in the PDD through review of documents direct contacts with key stakeholders (including the project developers and Government and NGO representatives in the host country).

3.2 Use of the Validation Protocol

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

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

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

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

The completed validation protocol for this project is attached as Annex A.1 to this report

3.3 Findings

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

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

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

is issued, where:

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

II. validation protocol requirements have not been met; or

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

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

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

Corrective Action Requests and New Information Requests are raised in the draft validation protocol and detailed in a separate form (Annex A.2). In this form, the Project Developer is given the opportunity to "close" outstanding CARs and respond to NIRs and Observations.

3.4 Internal Quality Control

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

4. Validation Findings

4.1 Participation Requirements

The host Party for this project is the Philippines. The Philippines ratified the Kyoto protocol on 20th November 2003 and has appointed a DNA. No Letter of Approval was provided and CAR (02) was raised at the beginning of the validation assessment. The LoA (No. LOA-2007-031-WM024, reference /3/) was provided afterwards, CAR (02) was closed out.

Trading Emissions PLC of the United Kingdom is identified as project participant of Annex I Party. The United Kingdom ratified the Kyoto Protocol on 31st May 2002 and has appointed a DNA. Initially, no Letter of Approval was provided and CAR (01) was raised. The Letter of Approval from UK DNA (No. TradEmPLC/04/2008, reference /2/) was provided afterwards, CAR (01) was closed out.

4.2 Project Design

The proposed project activity will employ manure treatment technology known as 'Covered In-Ground Anaerobic Reactor' (CIGAR®), which will break down organic substances through a multi-step biological treatment of the wastewater in the absence of oxygen. High density polyethylene (HDPE) liner and cover are used to provide for an 'air tight' system and to prevent leachate from percolating through the ground and polluting local ground water aquifer resources. The biogas produced in this anaerobic digester system will be used to generate electricity for use on-site. A biogas-fuelled 200 KW generator will be installed to provide the farm's power needs.

The project design engineering is considered to reflect current good practice in the Philippines. The proposed project activity is superior to the current practice as open lagoon-based treatment which is also the current standard practice in the Philippines, where methane generated from the lagoons is emitted directly to the atmosphere. The designed lifetime of project is estimated to be 21 years provided proper maintenance, which is deemed reasonable.

A NIR (07) was raised asking more information on safety measures and procedures in biogas utilization project to be in compliance with relevant safety regulation if any. NIR (07) was closed out after the following documentation was provided and reviewed:

1. Operation manual of Biogas Engine
2. Clarification on the safety features of biogas generator set by PhilBio
3. Confirmation on no local safety regulation for biogas utilization in the Philippines provided by SGS local assessor.

4.3 Eligibility as a Small Scale Project

The project is not a debundled component of a larger project activity. Because there is no a registered small-scale CDM project activity or an application to register another small-scale CDM project activity:

1. With the same project participants,

2. In the same project category and technology/measure,

3. Registered within the previous two years, and

4. That has a project boundary within 1 km of the project boundary of the proposed SSC project activity.

The capacity of electricity generation will not exceed 15 MW for the part of Type I (0.2MW in the case of proposed project), and for the Type III, the estimated emission reductions of the project activity will not exceed 60 ktCO2e in any year of the crediting period (4.936ktCO2/year in the case of proposed project activity).

Therefore, the project activity qualifies as a small scale project.

4.4 Baseline Selection and Additionality

The project applies the approved simplified baseline methodologies AMS-I.D "Grid connected renewable electricity generation" version 12, and AMS-III.D "Methane recovery in agricultural and agro industrial activities" version 13. The baseline is identified to be importation of electricity from the Luzon grid based on paragraph 9a of AMS I.D., and methane generated in the open lagoon is directly emitted to the atmosphere based on the paragraph 7&8 of AMS III.D.

NIR (01) was raised because the information source for the annual average temperature, how the sludge would be handled and what kind of flare (open/enclosed) would be installed in the project activity were not clear in version 1 of the PDD. In the revised PDD, the URL of website of Philippine Atmospheric, Geophysical & Astronomical Services Administration showing the temperature, and clarifications about treatment of sludge and installation of flare were added and verified by SGS assessor, NIR(01) closed out.

CAR (05) was raised asking for elaboration and evidence for the early consideration of the CDM. In response to this CAR, PPs provided the copy of request for board approval of the investment, namely "EEA brief Overview of HBC (dated December 2, 2006, Reference /14/), showing that CDM has been the major interest of the UK investor. In addition, a copy of UNDP study report on CDM capacity building in the Philippines was submitted, it referred to PhilBio's initial CDM project development in 1999. Hence, the CAR (05) was closed out.

In version 1 of the PDD, it was noted that barrier of access-to-finance was discussed under investment barrier, CAR (06) was raised to request evidences/further discussions for: 1) Submission of evidence that the CDM credits help to get access to finance. 2) Current lagoon-based treatment methods were standard operating practice. PPs submitted a loan rejection letter from a local bank which declined to finance such kind of project without CDM credits (dated 22 August 2007, Reference/15/), and publications indicating the wide use of lagoon-based treatment in the hog industry, namely: "The Philippines Recommends for Pork Production" by the Philippines Council for Agriculture, Forestry and Natural Resources Research and Development, and "Backyard and Commercial Piggeries in the Philippines: Environmental Consequences and Pollution Control Options" by Catelo et al (Reference /20/). The standard method of lagoon-based treatment is also confirmed through the on-site visit and by the local assessor with ISO14001 audit experience in the host country. Therefore, the argument in the PDD can be verified, hence CAR (06) was closed out.

Therefore, the baseline of this project activity is validated as lagoon-based treatment methods which are standard operating practice in piggery farms of the host country.

The additionality of the project is demonstrated and accepted through the existence of a) Access-to-finance Barrier, b) Technology Barrier and c) Common Practice.

a) Access-to-finance Barrier:

For the farm owners, the biogas wastewater management project is not financially attractive compared to the pond system treatment method (business-as-usual scenario) and their core business of hog production. The technology provider and developer, PhilBIO and subsequently HBC, has sought financing from local lending institutions but the process of securing bank loans has been unsuccessful (reference/15/).

Electricity sales would not help to overcome the 'access-to-finance' barrier in the Philippines small private power producers are restricted from export to the grid due to the lack of establishment of open access under the Electric Power Industry Reform Act (EPIRA). As a result, the installation of 200 kW is designed to match with the demand of the farm only. There is potential to utilize surplus biogas to generate additional electricity, but sales outside of the farm cannot be realized at this time. Electricity sales of only 200 kW does not provide sufficient incentive to attract investment in power production in this sector, the inclusion of CER revenues has therefore become an integral aspect of the Project Developer's implementation and financing strategy. The project is entirely financed by Trading Emissions PLC (TEP) as a result of its core interest in the CERs.

b) Technology Barrier:

Biological treatment of wastewater to produce biogas is a new and relatively unknown technology in the Philippines. Most swine farm owners regard this technology as risky and prefer to maintain their farms in the traditional fashion as the project scenario involves higher perceived risks due to the performance uncertainty and a low market share of the new technology.

c) Common Practice:

At present, lagoon based treatment is standard practice in the Philippines (Reference /20/). The highest priority for most owners in the sector is management of their waste discharges to simply maintain in compliance with local regulations. Relevant permit to discharge of this farm has been provided for

Verification (Reference /31/), this permit to discharge proved that the prevailing practice (wastewater discharged to the receiving water body) complies with applicable law Clean Water Act (2003).

PhilBIO developed its very first Philippines pig wastewater project in 1999. This particular project has been used as one of the case studies for CDM capacity building in the Philippines. In the following 5 years PhilBIO developed over 20 turnkey projects with the assistance of CDM financing, among which 14 projects have been successfully registered as of April 2008 (e.g UNFCCC 0605, 0607, 0609, 0611, 0612, 1205, 1206, 1207, 1208, 1325).

4.5 Application of Baseline Methodology and Calculation of Emission Factors

The project applies the approved simplified baseline methodologies AMS-I.D "Grid connected renewable electricity generation" version 12, and AMS-III.D "Methane recovery in agricultural and agro industrial activities" version 13.

Country specific values instead of IPCC default values are used when calculating Emission Factor (EF) per head per year in the farm, NIR (02) was raised to clarify how it was calculated to be 23.51 where the IPCC default is 23. PPs clarified that the calculation has been conducted based on IPCC Tier 2 approach, equation 10.23 and 10.24 with the relevant default factors as specified in section B.6.2 and B.6.3 of the PDD, data sources of the country-specific "feed mass per day" and "Metabolisable energy per mass" were derived from Department of Agriculture (Zamboanga Region, Philippines) and The Philippines Recommends for Livestock Feed Formulation of Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (Reference /29/,/30/), the data sources and recommended feed formulation farm were verified, the EF value was recalculated based on the equations provided in IPCC Tier 2 approach by SGS assessor and the result was the same, hence NIR (02) was closed out.

The grid emission factor was calculated in a baseline calculation spreadsheet as described under Parameter CEF_{grid} in PDD Section B.6.2 following the steps prescribed in ACM0002 Version 6 based on the most recent available data published in the Philippine Department of Energy's website. During validation process, the spreadsheet was provided and SGS assessors have checked the determination approaches and the appropriateness of the data source as follows:

According to AMS I.D Version12, the baseline emission coefficient can be calculated as a Combined Margin (CM) according to the steps prescribed in ACM0002 version 6. At the time of validation, 2005 power statistics is the most recent available data published in the Philippine Department of Energy's website. Simple OM method was used for the Luzon grid, given the fact that the low-cost/must run resources constitute less than 50% of the total grid generation in average of the five most recent years. OM is then calculated based on the 3-year average (2003-2005) data and giving a result of 0.653 tCO2e/MWh. The Build Margin emission factor was calculated based on the data of the five power plants that have been built most recently and giving a result of 0.460 tCO2e/MWh. Then the baseline emission factor (CEF_{grid}) is calculated as a combined margin consisting of the combination of operating margin and build margin with default weights of 50%, giving a result of 0.557 tCO2e/MWh.

CAR (07) was raised to ask client to revise the estimated CERs in 2007 in initial PDD as the project was not likely to be registered in 2007. CAR (07) was closed out after the estimated registration date was changed to June 2008 and CERs were recalculated taking into account the new start date of the crediting period.

4.6 Application of Monitoring Methodology and Monitoring Plan

CAR (08) was raised to ask elaboration in PDD for monitoring electricity and flare efficiency, it was clarified and verified through site visit that the project activity is not likely to import electricity, and the flare efficiency will be determined strictly according to the "Tool to determine emissions from flaring gases containing methane" in case flare was required for surplus gas destruction, PDD was revised accordingly so CAR (08) was closed out.

NIR (03) was raised to clarify how the 95% confidence level could be assured through the use of a gas analyzer quarterly. In response to NIR (03) it was clarified that in the event that the methane content of the samples vary significantly, the samples would be taken on a more frequent basis. NIR(03) was closed out.

NIR (04) was raised to to request clarification if the maintenance and testing regime described in the PDD was in compliance with industrial practice and local regulation. In response to NIR (04) a clarification from the meter manufacturer, Schneider Electric, was submitted. It confirmed that under IEEE standard, all digital meters do not need to be calibrated. The revised PDD describes that the calibration will be based on local regulation. NIR (04) was closed out.

NIR (05) was raised to ask procedures identified for internal audits of GHG project compliance with operational requirements and project performance reviews before data is submitted for verification. NIR (05) was closed out after relevant procedures were provided in revised PDD.

4.7 Choice of the Crediting Period

Renewable crediting period of seven years is selected, starting date of crediting period is 01/06/2008 or the date of CDM registration, whichever is later.

4.8 Environmental Impacts

The Project includes installation of a covered in-ground anaerobic reactor (CIGAR®) that will utilize organic materials to produce biogas. The biogas produced in the project's anaerobic digesters will be used to generate electricity for use on-site by the coupled generator. Negative environmental impacts are therefore expected to be minimal.

It was confirmed by local assessment that the host country does not require an analysis of the environmental impacts of the project activities. The farm owner obtained relevant permits from local EPA for operating piggery farm.

4.9 Local Stakeholder Comments

PPs in cooperation with Empire Farms, Inc., conducted a CDM stakeholders consultation for the CDM project. The stakeholders' meeting was conducted April 2, 2007 (9am -11am) at the Barangay Hall of Pillpila, Sta Ignacia Tarlac.

NIR (06) was raised to ask elaboration in the PDD about the media used to invite comments of local stakeholders, it was clarified in revised PDD that besides announcements made through the local government unit's bulletin boards, emails for the NGOs, and PhilBIO's website, invitations were also sent out to the stakeholders concerned through phone calls and letters personally sent by farm personnel. No comments opposing the projects were received. Relevant records were presented to SGS assessor for verification, the media used is considered appropriate, NIR 06) was closed out after related description was added in the PDD.

5. Comments by Parties, Stakeholders and NGOs

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

5.1 Description of How and When the PDD was Made Publicly Available

The Project Design Document for this project was made available on the SGS website www.sgsqualitynetwork.com/tradeassurance/ccp/projects/project.php?id=376 and was open for comments from 10-11-2007 until 09-12-2007. Comments were invited through the UNFCCC CDM homepage

5.2 Compilation of all Comments Received

No comments received during above mentioned periods.

5.3 Explanation of How Comments Have Been Taken into Account

No comments received during above mentioned periods.

6. List of Persons Interviewed

Date	Name	Position	Short Description of Subject Discussed
10/12/2007	Mr. Abet Pascua	Chief Operating Officer, of PhilBio Inc	Baseline, Additionality
10/12/2007	Mr. Chris Riofrir	Operations and Maintenance Coordinator of PhilBio	Technology, Training
10/12/2007	Mr. Anthony Laroza	Operations and Maintenance Manager of PhilBio	Technology, Implementation
11/12/2007	Raquel G.Telenada	Secretary of Empire Farm	Animal population, baseline, EIA
11/12/2007	Lino Sili	Operator of Empire Farm	Operation, Monitoring, Data transcription
11/12/2007	Manipol	Operator of Empire Farm	Operation, Monitoring, Data transcription
11/12/2007	Rodel Taquines	Operator of Empire Farm	Operation, Monitoring, Data transcription

7. Document References

Category 1 Documents:

/1/ PDD Version 1, 21/09/2007published for the international stakeholder consultation
PDD Version 3, 28/01/2008
PDD Version 4, 08/09/2008 for request for registration.
/2/ UK LoA (No. TradEmPLC/04/2008)
/3/ PH LoA (No. LOA-2007-031-WM024)
/4/ MoC (Dated 15 Jan 2008)

Category 2 Documents:

/5/ AMS I.D. Version 12

/6/ AMS I.D. Version 13

/7/ Annex 27 to EB36/Compendium of guidance on the debundling for SSC project activities

/8/ ANNEX II Simplified modalities and procedures for small–scale clean development mechanism project activities

/9/ Environmental Compliance Certificate (ECC) O.R No.0128043 B.

/10/ 2006 IPCC Guidelines for National Greenhouse Gas Inventories--Emissions from Livestock and Manure Management

/11/ Grid Data published by Philippine Department of Energy (PDOE) (http://www.doe.gov.ph/EP/Powerstat.htm)

/12/ Spreadsheet of grid's CEF calculation

/13/ The Gold Standard Validation & Verification Manual for CDM Projects

/14/ Earlier consideration of CDM: 1) CDM Capacity Building Report of the Philippines (1999) by UNDP 1999. 2) EEA brief Overview of HBC dated Dec 2 2006

/15/ Letter from the Bank of The Philippine Islands declining to finance such kind of project without CDM credits (22 Aug 2007)

/16/ Implementation plan of HBC biogas projects

/17/ Technical description and Operation Manual of GenSet system

/18/ Statistics of Animal population (2005, 2006, 2007)

/19/ Philippine Atmospheric, Geophysical & Astronomical Services Administration http://www.pagasa.dost.gov.ph/cab/climate.htm

/20/ *The Philippines Recommends for Pork Production*; And

Catelo et al. *Backyard and Commercial Piggeries in the Philippines: Environmental Consequences and Pollution Control Options* (The Philippines Council for Agriculture, Forestry and Natural Resources Research and Development)

/21/ Invitation letters to local stakeholders for Gold Stand consultation

/22/ Reports of Stakeholders consultation as per GS requirement.

/23/ Contact list of consulted stakeholders.

/24/ Spreadsheet used for calculating EF according to IPCC tire 2 approach

/25/ Accuracy certificate and clarification on calibration submitted by meter manufacturer Schneider Electric

/26/ Clarification on the safety features of biogas generator set by PhilBio

/27/ EEA brief overview of HBC

/28/ http://www.geocities.com/zambo_da9/tip_swine_raising.html, *Department of Agriculture (Zamboanga Region, Philippines)*

/29/ *Page 44, The Philippines Recommends for Livestock Feed Formulation,* Philippine Council for Agriculture, Forestry and Natural Resources Research and Development

/30/ Chapter 10 'Emissions from Livestock and Manure Management' under the volume 4 'Agriculture, Forestry and other Land use' of the 2006 IPCC Guidelines for National Greenhouse Gas Inventories

/31/ Discharge Permit (Dated 06/04/2006 valid for 5 years)

A.1 Annex 1: Local Assessment

This checklist is designed to provide confirmation of in-country data and information provided in the Project Design Document for ADSWRP2002.

It serves as a "**reality check**" on the project that is completed with assistance of the local assessor from SGS Philippines Inc.

Issue	**Findings**	**Source/Means of Verification**	**Further Action / Clarification / Information Required?**
1. Can you elaborate on the common practice for manure treatment of piggery farms in Philippines?	Common practice is merely drying the manure and using it as fertilizer. Wastewater is usually treated via aerobic lagoons.	Common knowledge of the local EMS ISO14001 auditor.	Accepted.

Issue	Findings	Source/Means of Verification	Further Action / Clarification / Information Required?
2. Can you confirm that the legal situation for animal waste management in Philippines as described in section B.5(*National Policies*) is correct especially: - The primary environmental laws applicable to the project are the Clean Water Act (2003) and the Clean Air Act (1999). - There are no national or local regulations requiring the collection of methane from manure treatment or any would be introduced in the foreseeable future. - What is the percentage of piggery farms which utilizes methane in Philippines?	- Additional applicable law is the RA 9003 or DAO 2001-34 (Ecological Solid Waste Management) because manure is an organic solid waste - No, there is no Philippine regulation requiring the collection of methane. - only about 20% of piggery farms in the Phil. Utilize methane	Regulation itself and common knowledge of a EMS ISO14001 auditor.	PDD needs to include and discuss RA9003/DAO 2001-34.
3. Can you confirm that the project is meeting all other environmental legislation in Philippines and, is there any safety regulation for biogas utilization in Philippines?	Yes, the project is compliant with environmental legislations. There is no safety regulation for biogas utilization in the Phil.	Regulations.	Accepted.

Issue	Findings	Source/Means of Verification	Further Action / Clarification / Information Required?
4. Does the technology employed by the project result in a significantly better performance than any commonly used technologies in Philippines?	Yes, because the project leads to zero waste and reduction of nuisance on odor compared with similar farms.	Based on PDD and knowledge on the industry.	Accepted.
5. Can you please confirm if the grid mentioned in PDD section B.6.2 is the national grid which the proposed project connected with?	Yes	Mr. Denel Mateo-Plant Manager of a Phil. power plant-has knowledge on power grid connections.	Accepted.
6. Can you check that the Environmental Impact Assessment is not required for this proposed project according to Philippine regulations, and a stakeholder consultation process is also not required by regulations/laws in Philippines?	EIA is required for all projects for foreseen environmental impacts, a stakeholder consultation is usually part of the EIA process. In case an Environmental Complance Certificate (ECC) has been issued by EPA, it means this project has obtained the approval from EPA.	Regulation.	ECC has been verified during onsite visit.
7. Do the project participants possess ownership or licenses which will allow the implementation of the project at that site / those sites?	Yes	Based on PDD and other corporate documents presented during site visit.	Accepted

A.2 Annex 2: Validation Protocol

Table 1 Participation Requirements for Clean Development Mechanism (CDM) Project Activities (Ref PDD, Letters of Approval and UNFCCC website)

Requirement	Reference	Comments	Conclusion
1. All Parties (listed in Section A3 of the PDD) have ratified the Kyoto protocol and are allowed to participate in CDM projects	Marrakech Accords, CDM Modalities §30	The host Party Philippines has ratified the Kyoto Protocol on 20 November 2003 and has appointed a DNA. UK is identified as annex I Party in the PDD, UK has ratified the Kyoto Protocol on 31 May 2002 and has appointed a DNA. Refer to http://unfccc.int/files/essential_background/kyoto_protocol/status_of_ratification/application/pdf/kpstats.pdf	OK
2. The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3 and be entered into voluntarily.	Marrakech Accords, CDM Modalities §29 and §30	No letter of Approval from UK DNA has been provided yet.	~~CAR1~~ OK. UK LoA has been received.
3. The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof, and be entered into voluntarily	Marrakech Accords, CDM Modalities §29 and §30 Kyoto Protocol Art. 12.2, Marrakech Accords, CDM Modalities §40a	No letter of Approval from Philippine DNA has been provided yet.	~~CAR2~~ OK. PH LoA has been received.

Requirement	Reference	Comments	Conclusion
4. Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days, and the project design document and comments have been made publicly available	Marrakech Accords, CDM Modalities, §40	PDD has been made publicly available from 10-11-2007 until 09-12-2007 and comments were invited through the UNFCC website. No comments received during above mentioned period. www.sgsqualitynetwork.com/tradeassurance/ccp/projects/project.php?id=376	OK
5. The project design document shall be in conformance with the UNFCCC SSC PDD format		The most recent PDD format Version 3 is correctly applied. But some data available at validation, such like MCF, Bo is not included in PDD section B.6.4	~~CAR3~~ OK Available data have been included in the revised PDD.
6. The project participants shall submit a letter on the modalities of communication (MoC) before submitting a request for registration	EB-09 F_CDM_REG form	Not yet.	~~CAR4~~ OK MoC has been received.
7. For AR projects, the host country shall have issued a communication providing a single definition of minimum tree cover, minimum land area value and minimum tree height. Has such a letter been issued and are the definitions consistently applied throughout the PDD?		N/A	

Table 2 PDD

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
A. General Description of Project Activity					
A.1. Project Title					
A.1.1. Does the used project title clearly enable to identify the unique CDM activity?	1	DR	A reference number is used to distinguish it from other similar projects.	OK	OK
A.1.2. Are there an indication of a revision number and the date of the revision?	1	DR	Yes, mentioned in A.1.	OK	OK
A.1.3. Is this in consistency with the time line of the project's history?	1	DR	Yes, it is.	OK	OK
A.2. Description of the Project Activity					
A.2.1. Is the description delivering a transparent overview of the project activities?	1	DR	Yes, the information on the purpose of the project activity, type of technology used and the contribution of the project to sustainable development has been provided in PDD section A.2.	OK	OK
A.2.2. Is all information provided in compliance with actual situation or planning?	1	DR SV I	To be confirmed during on-site visit.	Pending	OK Confirmed through site visit and interview with project developer.
A.2.3. Is all information provided consistent with details provided in further chapters of the PDD?	1	DR	See above.	Pending	OK
A.3. Project Participants					
A.3.1. Is the table required for the indication of project participants correctly applied?	1	DR	Yes, the table under section A.3 is correctly applied.	OK	OK
A.3.2. Is all information provided in consistency with	1	DR	Yes, the information is in consistency	OK	OK

	details provided by further chapters of the PDD (in particular annex 1)?			throughout the PDD.		
A.4. Technical Description of the Project Activity						
A.4.1.	Does the information provided on the location of the project activity allow for a clear identification of the site(s)?	1	DR SV I	Yes, details of physical location with GPS coordinates have been provided in the PDD Section A.4.1.4.	OK	OK
A.4.2.	Do the project participants possess ownership or licenses which will allow the implementation of the project at that site / those sites?	1	DR SV I	To be confirmed by local assessor. Confirmed through interview of HBC and farm managers.	Pending local assessment.	OK
A.4.3.	Does the description of the technology to be applied provide sufficient and transparent input to evaluate its impact on the greenhouse gas balance and is the explanation how the project will reduce greenhouse gas emission transparent and suitable?	1	DR SV	Yes, it is demonstrated in the PDD that the anaerobic digestion swine wastewater treatment project coupled with on-site power generator will reduce greenhouse gas emissions.	OK	OK
A.4.4.	Does the project design engineering reflect current good practices?	1	DR SV I	The project design engineering reflects current good practice. The project captures and combusts methane from the manure treatment facility. This practice is superior to the current treatment system where methane from the treatment process is emitted directly to the atmosphere.	OK	OK
A.4.5.	Is all information provided in compliance with actual situation or planning as available by the project participants?	1 15	DR SV I	To be confirmed during site visit. Confirmed all information is in compliance with actual situation.	Pending	OK
A.4.6.	Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	1 16	DR SV I	To be confirmed by local assessor/expert/on-site visit. Confirmed during site visit, see Annex 1 Local Assessment.	Pending	OK

A.4.7.	Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1 16	DR SV I	Not likely provided proper maintenance.	OK	OK
A.4.8.	Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	1 16	DR SV I	Extensive initial training and maintenance efforts are needed as new and higher tech components compared with baseline scenario will be operated in the project, data recording, reporting will be needed also for CDM activity. Safety regulation for utilization of biogas in Philippines needs to be clarified.	NIR7	OK
A.4.9.	Does the project make provisions for meeting training and maintenance needs?	1 16	DR	Through interview of the HR and ADM manager of HBC, it was demonstrated that training has been and would be further provided by the project developer to the farm and local staff on the operation and maintenance of the system.	OK	OK
A.4.10.	Is a schedule available on the implementation of the project and are there any risks for delays?	1 16	DR SV I	To be confirmed by local assessor/expert/on-site visit. It is verified through site visit that the implementation of construction is according to the plan, the possible delay is due to the development of the CDM PDD and validation/registration process.	Pending	OK
A.4.11.	Is the table required for the indication of projected emission reductions correctly applied?	1 12	DR	Yes, annual emission reductions are provided in PDD A.4.3, the expected annual amount is 5790tCO2.	OK	OK
A.5. Public Funding						
A.5.1.	Does the information on public funding provided conform to the actual situation or planning as presented by the project participants?	1	DR I SV	No indication that any public funding is involved. A letter from local bank (BPI) showing that the financing request was declined due to financial risk.	OK	OK

A.5.2.	Is all information provided consistent with details provided by further chapters of the PDD (in particular annex 2)?	1	DR I SV	Yes, see above.	See above	OK
A.5.3.	In case of public funding from Annex I Parties is it confirmed that such funding does not result in a diversion of official development assistance	1	DR I SV	Yes, see above.	See above	OK
A.6. Debundling						
A.6.1.	Is the small-scale project activity a debundled component of a large scale project activity	1	DR UNFCCC website SV I	The project is not a debundled component of a larger project activity. Because there is no a registered small-scale CDM project activity or an application to register another small-scale CDM project activity: 1. With the same project participants, 2. In the same project category and technology/measure, 3. Registered within the previous two years and 4. That has a project boundary within 1 km of the project boundary of the proposed SSC project activity.	OK	OK
A.6.2.	If the project is a debundled component of a larger project, does the larger project fall within the limits for small-scale CDM project activities	1		The project is not a debundled component of a larger project activity.	OK	OK
B. Baseline and Monitoring Methodology						
B.1. Choice and Applicability						
B.1.1.	Is the project using an approved simplified methodology?	5 6	DR UNFC	Yes, the project is using AMS I.D. Version 12 and type AMS III.D. Version 13.	OK	OK

		CC website			
B.1.2. Does the project activity qualify as small scale project?	5 6	DR SV	Yes, the capacity of electricity generation will not exceed 15 MW for the part of Type I(0.2MW in the case of proposed project) , and for the Type III, the estimated emission reductions of the project activity will not exceed 60 ktCO2e in any year of the crediting period (4.936ktCO2/year in the case of proposed project activity).	OK	OK
B.1.3. Is the category(ies) of the project activity correctly identified in accordance with Appendix B to the simplified modalities and procedures for small-scale CDM project activities?	5 6	DR	Yes, the Type I and Type III is correctly identified in accordance with Appendix B to the simplified modalities and procedures for small scale CDM project activities.	OK	OK
B.1.4. Is the project activity a bundle of several small scale activities and if so does it contain any sub-bundles	1 7 8	DR	The proposed project is not a bundle of several small scale activities.	OK	OK
B.1.5. If the project activity is a bundle of several small scale activities, does the sum of the total bundle (including any subbundles) fall within the limits for small scale projects	1 7 8		Not applicable as the proposed project is not a bundle of several small scale activities.	N/A	
B.1.6. If the project activity is a bundle of several small scale activities, has the form with information related to the bundle been submitted and is it correctly used	1 7 8		Not applicable as the proposed project is not a bundle of several small scale activities.	N/A	
B.2. Project Boundary					
B.2.1. Has the project boundary of the project activity been based on the guidance of the applicable project category?	1 5 6	DR SV	Yes, the project boundary has been based on the guidance of AMS I.D. and AMS III.D.	OK	OK
B.2.2. In case of grid connected electricity projects: Is the relevant grid correctly identified in	1	DR	Pending on local assessment.	Pending	OK

	accordance with EB guidance and the underlying methodology?			Regional grid has been selected.		
B.2.3.	Are the project's spatial boundaries (geographical) and the project's system boundaries (components and facilities used to mitigate GHGs) clearly defined?	1 5 6	DR	Yes, the project's spatial boundaries and the project's system boundaries are clearly defined as per methodologies.	OK	OK
B.3. Identification of the Baseline						
B.3.1.	Does the PDD discuss the identification of the most likely baseline?	1 5 6	DR	Yes, the baseline is identified as per paragraph 9a of AMS I.D. and paragraph 7&8 of AMS III.D. See also section B.4. Additionality below.	OK	OK
B.3.2.	Is the discussion and determination of the chosen baseline transparent and supported by the available data?	1 5 6	DR	The baseline is identified as per paragraph 9a of AMS I.D. and paragraph 7&8 of AMS III.D. See also section B.4. Additionality below. NIR1: The annual average temperature, how the sludge will be handled and what kind of flare (open/enclosed) will be installed in the project activity are not clear. Climate data are from Philippine Atmospheric, Geophysical & Astronomical Services Administration. No sludge needs to be removed; flare is not used in this project. These have been clarified in the revised PDD.	NIR1	OK
B.3.3.	Is conservativeness addressed in the way of identifying the baseline?	1	DR	Yes. The continued wastewater treatment through the existing lagoon system is seen as the business as usual scenario representing what would have occurred in the absence of the project.	OK	OK
B.4. Additionality						
B.4.1.	Is the discussion on additionality and the evidence provided consistent with the starting date of the project	1 14 15	DR	It is not clear if CDM was taken into account in the decision to go ahead with the project activity Discussion on additionality and evidence needs to be provided.	CAR5	OK

B.4.2. Is the discussion on additionality based on a comparison with realistic and credible alternatives?	1	DR	Yes. The continued wastewater treatment through the existing lagoon system is seen as the business as usual scenario representing what would have occurred in the absence of the project.	OK	OK
B.4.3. Does the discussion on additionality take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations??	1	DR SV I	Two laws are identified as primary environmental law in Philippines, Clean Water Act (2003) and the Clean Air Act (1999), to be confirmed by local assessor.	Pending See Annex 1 Local Assessment	OK
B.4.4. Has it been shown that the proposed project activity faces barriers that prevent the implementation of this type of proposed project activity but would not have prevented the implementation of at least one of the alternatives?	1 14 15 20	DR SV I	In current PDD, it is noted that barrier of access-to-finance is discussed under Investment Barrier, evidences/further discussions are required for: 1) Investment Barrier/Access-to-finance barrier: Pls submit evidence that the CDM credits help to get access of finance. *2)* Evidence that current lagoon-based treatment methods are considered standard operating practice.	CAR6	OK
B.4.5. Is it demonstrated/justified that the project activity itself is not a likely baseline scenario	1	DR	Pending close out of CAR6	Pending	OK
B.5. Application of the Simplified Methodology					
B.5.1. Has the simplified methodology been applied correctly for determining **baseline emissions**?	1,5,6	DR	Yes, the baseline emissions are determined as per paragraph 9a of AMS I.D. and paragraph 7&8 of AMS III.D.	OK	OK
B.5.2. Has the simplified methodology been applied correctly for determining **project emissions**?	1 5 6	DR SV I	Yes, no fossil fuel will be used in this project. Project emissions are considered to be zero.	OK	OK
B.5.3. Has the simplified methodology been applied	1	DR	Yes, no equipment will be transferred to or	OK	OK

	correctly for determining **leakage**?		SV	from another activity.		
B.5.4.	Have all the methodological choices been explained, have they been properly justified and are they correct	1 5 6 12	DR	Combined margin of grid emission factor under AMS I.D and IPCC tier 2 approach under AMS III.D is applied. NIR2: Country specific values instead of IPCC default values are used when calculating EF, can you please clarify and provide proof for the difference (23.51 vs 23)? .	NIR2	OK
B.5.5.	Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	1 12	DR	Yes, conservative approach of calculating baseline emissions and efficiency of methane combustion is selected.	OK	OK
B.6. Ex-ante Data and Parameters Used						
B.6.1.	Are the data provided in compliance with the simplified methodology?	1,5,6 10 12	DR	Yes, data form Philippine Department of Energy (http://www.doe.gov.ph/EP/Powerstat.htm) and 2006 IPCC Guidelines for National Greenhouse Gas Inventories are correctly used as per AMS I.D and AMS III.D. The spreadsheet used for calculating the CEF of the grid is verified.	OK	OK
B.6.2.	Is all the data derived from official data sources or replicable records and have these been correctly quoted?	1 10 11 12	DR SV I	Yes, data of emission coefficient of the electricity distribution system is derived from Philippine Department of Energy (http://www.doe.gov.ph/EP/Powerstat.htm) , and 2006 IPCC default values are used in IPCC tier 2 approach.	OK	OK
B.6.3.	Is the vintage of the baseline data correct?	11 12		Pending on local assessment. At time of starting the validation, the lasted data of grid is 2005 according to the website of Philippine Department of Energy.	Pending	OK

B.7. Calculation of Emissions Reductions					
B.7.1. Has the approved methodology been applied correctly for determining **emission reductions**?	1,5,6 12	DR	Yes, the emission reductions are correctly calculated according to AMS I.D. and AMS III.D..	OK	OK
B.7.2. Are the emission reduction calculations documented in a complete and transparent manner?	1	DR	Yes, relevant equations and explanations are provided in the PDD.	OK	OK
B.7.3. Have conservative assumptions been used to calculate emission reductions?	1	DR	Yes, when there is any uncertainty, conservative value is being used.	OK	OK
B.7.4. Is the projection based on provable input parameter?	1	DR	Yes, all parameter are derived from official source.	OK	OK
B.7.5. Is the projection based on same procedures as used for later monitoring or acceptable alternative models?	1	DR	IPCC Tier 2 is used as per AMS III.D, while the actual emission reductions will be monitored.	OK	OK
B.7.6. Is the calculation of the emission reduction correct?	1,5,6	DR	Yes, the emission reductions are correctly calculated according to AMS I.D. and AMS III.D.	OK	OK
B.8. Emission Reductions					
B.8.1. Will the project result in fewer GHG emissions than the baseline scenario?	1 12	DR	Yes. The expected annual emission reductions are 5790tCO2.	OK	OK
B.8.2. Is the form/table required for the indication of projected emission reductions correctly applied?	1	DR	Yes, the table is filled out according to the PDD guidelines.	OK	OK
B.8.3. Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period?	1	DR	The project is not likely to be registered in 2007, so the estimated ER in 2007 should be removed.	CAR7	OK
B.9. Monitoring Methodology					
B.9.1. Does the monitoring methodology provide a consistent approach in the context of all parameter to be monitored and further	1,5,6	DR	Yes, monitoring parameters requested by AMS I.D. and AMS III.D are consistent with those in PDD.	OK	OK

	information provided by the PDD?					
B.9.2.	Does the monitoring methodology consistently apply the choice of the option selected for monitoring both of project and baseline emissions?	1,5,6	DR	Yes, monitoring parameters requested by AMS I.D. and AMS III.D are consistent with those in PDD	OK	OK
B.10.	**Data and Parameters Monitored**					
B.10.1.	Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the emission reductions within the project boundary during the crediting period?	1,5,6	DR SV I	Monitoring and collecting data for below parameters mentioned in PDD section B.7.1 are not totally clear: 1. Electricity: Net electricity generated shall be used to calculate the emission reductions in case project imports electricity occasionally. 2. The model of flare(enclosed or open) needs to be identified when defining the flare efficiency.	CAR8	OK
B.10.2.	Are the choices of project GHG indicators reasonable and in conformance with the requirements set by the simplified methodology applied?	1,5,6	DR	Yes, those GHG indicators are reasonable and in conformance with the requirements set by I.D and III D.	OK	OK
B.10.3.	Will it be possible to determine the specified project GHG indicators?	1,5,6	DR	Yes, it will be possible to determine the proposed project GHG indicators.	OK	OK
B.10.4.	Will the indicators enable comparison of project data and performance over time?	1,5,6	DR	Yes, it will.	OK	OK
B.10.5.	Is the information given for each monitoring variable by the presented table sufficient to ensure the verification of a proper implementation of the monitoring plan?	1,5,6	DR I	Current PDD says that Methane content of biogas will be monitored through the use of a gas analyser quarterly, it is not clear how the 95% confidence level can be assured.	NIR3	OK
B.10.6.	Is the information given for each monitoring variable by the presented table sufficient to ensure the delivery of high quality data free of potential for biases or intended or unintended changes in data records?	1,5,6	DR SV I	PDD says that electricity/flow meter will be used and subject to regular maintenance and testing regime to ensure accuracy once a year, it is not clear if this is in compliance with industrial practice and local regulation.	NIR4	OK

B.10.7. Is the monitoring approach in line with current good practice, i.e. will it deliver data in a reliable and reasonably acceptable accuracy?	1,5,6	DR	See above	Pending close out NIR3 and NIR4	OK
B.10.8. Are all formulae used to determine project emission clearly indicated and in compliance with the monitoring methodology.	1,5,6	DR	See comments in B.5.2 and B.10.1.	Pending close out CAR8	OK
B.11. Quality Control (QC) and Quality Assurance (QA) Procedures					
B.11.1. Is the selection of data undergoing quality control and quality assurance procedures complete?	1,	DR	Yes, the QC and QA procedures are completed.	OK	OK
B.11.2. Is the belonging determination of uncertainty levels done correctly for each ID in a correct and reliable manner?	1 17	DR SV I	Yes, the uncertainty level of the meter is to be determined through regular calibration/maintenance.	OK	OK
B.11.3. Are quality control procedures and quality assurance procedures sufficiently described to ensure the delivery of high quality data?	1	DR	Yes, the QC and QA procedures are sufficiently described to ensure the delivery of high quality data.	OK	OK
B.11.4. Is it ensured that data will be bound to national or internal reference standards?	1	DR	See NIRs in section B.10.5 and B.10.6	Pending close out NIR3, NIR4.	OK
B.11.5. Is it ensured that data provisions will be free of potential conflicts of interests resulting in a tendency of overestimating emission reductions?	1	DR	See NIRs in section B.10.5 and B.10.6	Pending close out NIR3, NIR4.	OK
B.12. Operational and Management Structure					
B.12.1. Is the authority and responsibility of project management clearly described?	1	DR I	Yes, the responsibility of the project management is described in the farm context.	OK	OK
B.12.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	1	DR SV I	Yes, the farm owner is responsible for the monitoring, measurement and reporting.	OK	OK

B.12.3. Are procedures identified for training of monitoring personnel?	1	DR I	Yes, the PhilBIO has developed a monitoring workbook, the operator personnel will be trained in equipment operation, data recording, reporting, and operation, maintenance, and emergency procedures.	OK	OK
B.13. Monitoring Plan (Annex 4)					
B.13.1. Is the monitoring plan developed in a project specific manner clearly addressing the unique features of the CDM activity?	1	DR	Yes, it has been incorporated into Section B.7.	OK	OK
B.13.2. Does the monitoring plan completely describes all measures to be implemented for monitoring all parameter required, including measures to be implemented for ensuring data quality?	1	DR	Yes, it has been incorporated into Section B.7.	OK	OK
B.13.3. Does the monitoring plan provide information on monitoring equipment and respective positioning in order to safeguard a proper installation?	1 17	DR SV	CIGAR system® will be adopted.	OK	OK
B.13.4. Are procedures identified for calibration of monitoring equipment?	1	DR	See NIRs in section B.10.5 and B.10.6	Pending close out NIR3, NIR4.	OK
B.13.5. Are procedures identified for maintenance of monitoring equipment and installations?	1	DR	See NIRs in section B.10.5 and B.10.6	Pending close out NIR3, NIR4.	OK
B.13.6. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	1	DR	See NIRs in section B.10.5 and B.10.6	Pending close out NIR3, NIR4.	OK
B.13.7. Are procedures identified for dealing with possible monitoring data adjustments and missing data allowing redundant reconstruction of data in case of monitoring problems??	1	DR	See NIRs in section B.10.5 and B.10.6	Pending close out NIR3, NIR4.	OK
B.13.8. Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	1	DR	Not yet at time of reviewing the initial PDD.	NIR5	OK

B.13.9.	Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?	1	DR	Not yet at time of reviewing the initial PDD. See above section.	NIR5	OK
B.14.	**Baseline Details**					
B.14.1.	Is there any indication of a date when determine the baseline?	1	DR	Yes, 28/09/2007 is indicated.	OK	OK
B.14.2.	Is this in consistency with the time line of the PDD history?	1	DR	Yes, PDD is completed at the same time.	OK	OK
B.14.3.	Is all data required provided in a complete manner by annex 3 of the PDD?	1	DR	All data are in B.4 and B.6. No separate information provided in Annex 3.	OK	OK
C.	**Duration of the Project / Crediting Period**					
C.1.1.	Are the project's starting date and operational lifetime clearly defined and reasonable?	1	DR SV I	Starting date of the project was 03 Mar 2007. The operational lifetime of the project is estimated to be 21 years provided proper maintenance.	OK	OK
C.1.2.	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)?	1	DR SV	A renewable crediting period of 7 years starting on 01/01/2008 is selected. As the project is not likely to be registered in the end of 2007, so this date needs to be revised. See comments in B.8.3	Pending close out CAR7	OK
C.1.3.	Does the project's operational lifetime exceed the crediting period	16	DR I	The life time exceeds the first crediting period.	OK	OK
D.	**Environmental Impacts**					
D.1.1.	Does the project comply with environmental legislation in the host country?	1	DR	To be confirmed by local assessor. See Annex 1 Local Assessment	Pending	OK
D.1.2.	Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	1	DR	It is declared that EIA for the proposed project is not required by relevant authority in Philippines, needs to be confirmed by local assessor.	Pending	OK

			See Annex 1 Local Assessment .		
E. Stakeholder Comments					
E.1.1. Have relevant stakeholders been consulted?	1 21 22 23	DR SV I	Yes, PhilBIO, in cooperation with Empire Farm, conducted a Stakeholders' Consultation on 2 April 2007.	OK	OK
E.1.2. Have appropriate media been used to invite comments by local stakeholders?	1 21	DR I	Media used to invite comments is not described in PDD.	NIR6	OK
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 regulations/laws?	1	DR I	It is declared that the consultation is not required by regulations/laws in Philippines. Needs to be confirmed by local assessor.	Pending	OK
E.1.4. Is the undertaken stakeholder process described in a complete and transparent manner?	1 23	DR I	Yes, the process is described completely and transparently in the PDD section E.	OK	OK
E.1.5. Is a summary of the stakeholder comments received provided?	1 23	DR	Yes, the comments received and responses were summarized in the PDD.	OK	OK
E.1.6. Has due account been taken of any stakeholder comments received?	1 23	DR	Yes, comments have been responded and not significant negative comments were received.	OK	OK

A.3 Annex 3: Overview of Findings

Please Note: This is an open list and more findings may be added as validation progresses.

Date:	3/12/2007			Raised by:	Elton Chen Wu		
No.:	1	Type:	CAR1	Issue:	LoA from UK DNA	Ref.:	Table 1.2
Lead Assessor Comment					Date: 3/12/2007		
LoA from UK DNA has not been provided yet.							
Project Participant Response:					Date: 27/02/2008		
The UK LOA is attached.							
Acceptance and Close out by Lead Assessor:					Date: 25/02/2008		
Information Provided: LoA of UK DNA. Information Verified: Project title and contents have been verified.					Verified Document Reference: 22		
Reasoning for not acceptance or acceptance and close out: CAR1 was closed out based on the above evidences.							

Date:	3/12/2007			Raised by:	Elton Chen Wu		
No.:	2	Type:	CAR2	Issue:	LoA from PH DNA	Ref.:	Table 1.3
Lead Assessor Comment					Date: 3/12/2007		
LoA from PH DNA has not been provided yet.							
Project Participant Response:					Date: 27/02/2008		
The Philippine LOA is attached.							
Acceptance and Close out by Lead Assessor:					Date: 25/02/2008		
Information Provided: LoA from PH DNA. Information Verified: Project title and contents have been verified.					Verified Document Reference: 23		
Reasoning for not acceptance or acceptance and close out: CAR1 was closed out based on the above evidences.							

Date:	3/12/2007			Raised by:	Elton Chen Wu		
No.:	*3*	Type:	CAR3	Issue:	Some available data are not included in PDD section B.6.2	Ref.:	Table 1.5
Lead Assessor Comment					Date: 3/12/2007		
Such like MCF, Bo… which is available at time of validation.							
Project Participant Response:					Date: 15/12/2007		
Section B.6.2 of the PDD has been edited to include the available data.							
Acceptance and Close out by Lead Assessor:					Date: 25/02/2008		
Information Provided: Revised PDD. Information Verified: Section B.6.2 of revised PDD.					Verified Document Reference: 1		
Reasoning for not acceptance or acceptance and close out: CAR3 was closed out based on the revised PDD.							

Date:	3/12/2007			Raised by:	Elton Chen Wu		
No.:	4	Type:	CAR4	Issue:	MoC	Ref.:	Table 1.6
Lead Assessor Comment					Date: 3/12/2007		
The letter on the modalities of communication (MoC) is yet to be provided.							
Project Participant Response:					Date: 27/02/2008		
The MoC is attached.							
Acceptance and Close out by Lead Assessor:					Date: 25/02/2008		

Information Provided: MoC. Information Verified: Content has been checked against PDD and relevant requirement of EB.	Verified Document Reference: 4
Reasoning for not acceptance or acceptance and close out: CAR4 was closed out based on the received MoC.	

Date:	3/12/2007			Raised by:	Elton Chen Wu		
No.:	5	Type:	NIR1	Issue:	The annual average temperature, how the sludge will be handled and what kind of flare (open/enclosed) will be installed in the project activity are not clear.	Ref.:	B.3.2
Lead Assessor Comment					Date: 3/12/2007		
Please consider providing more information in PDD.							
Project Participant Response:					Date: 14/12/2007		
Temperature: The annual average temperature in the Philippines is 27 ^{o}C. This is specified in section B.6.2. Sludge: The Covered-in-Ground Anaerobic Reactor (the 'CIGAR') process breaks down organic pollutants in a complex biological treatment process where effluent is treated by microorganisms in the absence of oxygen. The anaerobic bacteria present inside the CIGAR digests the organic content, specifically the total solids of the wastewater. This effectively minimizes the amount of sludge left inside the system. With proven experience, desludging is hardly required for the system. If the need arises, the sludge will be bagged, weighed, and properly disposed of through composting. The description in section A.4 is elaborated. Flare: The CIGAR has been designed with gas storage capacity. Any surplus biogas, where produced, will be kept inside the CIGAR. In any case the storage limit might be reached, a methane destruction system will be installed, for example a flare or an additional generator set when structural barriers are removed to allow the export of surplus electrical energy to the local distribution grid. The relevant monitoring procedures of the choice of the destruction system will be implemented. Section A.2 has been revised.							
Acceptance and Close out by Lead Assessor:					Date: *25/02/2008*		
Information Provided: The URL of Official website showing the average temp in the Philippines, and clarifications about treatment of sludge and installation of flare were added in the revised PDD. Information Verified: Average temperature indicated on the official website is 26.6^{o}C which is in the range of the one used in the PDD. Issues about sludge and flare were clarified through interview and site visits.					Verified Document Reference: 1, 19		
Reasoning for not acceptance or acceptance and close out: NIR1 was closed out based on the above evidence and information.							

Date:	3/12/2007			Raised by:	Elton Chen Wu		
No.:	6	Type:	CAR5	Issue:	Earlier consideration of CDM credits	Ref.:	B.4.1
Lead Assessor Comment					Date: 3/12/2007		
It is not clear if CDM was taken into account in the decision to go ahead with the project activity. Discussion on additionality and evidence needs to be provided.							
Project Participant Response:					Date: 20/12/2007		

The project has been developed by Philippine Bio-Sciences Inc. (PhilBio) and financed by a UK carbon fund via the investor's special purpose vehicle (SPV). CDM has been the major interest of the UK investor. This can be demonstrated by the request for board approval of the investment dated 2 December 2006. Additionally, PhilBio has been a leading anaerobic digestion project developer in the Philippines. Since its first implementation of the covered-in ground-anaerobic reactor (the CIGAR) in a piggery farm, CDM has been one of the major driving forces for business development in the country. A UNDP study report on CDM capacity building in the Philippines has referred to PhilBio's initial CDM project development in 1999. The said report has been submitted for review. Elaboration has been added in section 5 in the PDD.	
Acceptance and Close out by Lead Assessor:	Date: 24/12/2007
Information Provided: The UNDP study report(1999) and EEA brief Overview of HBC dated Dec 2 2006 Information Verified: The copy of UNDP study of PhilBio's initial CDM project development, and the assessment overview of PhilBio projects made by EEA.	Verified Document Reference: 14
Reasoning for not acceptance or acceptance and close out: CAR5 closed out based on above evidences and elaboration added in the revised PDD.	

Date:	3/12/2007			Raised by:	Elton Chen Wu		
No.:	7	Type:	CAR6	Issue:	Evidence for barrier of access-to-finance, and current lagoon-based treatment methods.	Ref.:	B.4.4
Lead Assessor Comment					Date: 3/12/2007		
In current PDD, it is noted that barrier of access-to-finance is discussed under Investment Barrier, evidences/further discussions are required for: 1) Investment Barrier/Access-to-finance barrier: Pls submit evidence that the CDM credits help to get access of finance. 2) Evidence that current lagoon-based treatment methods are considered standard operating practice.							
Project Participant Response:					Date: 14/12/2007		
1) A loan rejection letter from a local bank has been submitted as evidence that the developer has difficulty securing financing from a local source. (Attached) 2) First of all, the DOE has verified the statement via the onsite visits to a significant number of piggery farms in the Philippines. Secondly publications that have indicated the wide use of lagoon-based treatment in the hog industry can be referred to include the followings: The Philippines Council for Agriculture, Forestry and Natural Resources Research and Development, *The Philippines Recommends for Pork Production [Attachment 2]*; and Catelo et al. *Backyard and Commercial Piggeries in the Philippines: Environmental Consequences and Pollution Control Options [Attachment 3]* Inc: Attachment 1 – Local bank letter.							
Acceptance and Close out by Lead Assessor:					Date: 25/02/2008		
Information Provided: 1)Letter from the Bank of The Philippine Islands declining to finance such kind of project without CDM credits (22 Aug 2007) [15] 2) The Philippines Council for Agriculture, Forestry and Natural Resources Research and Development, *The Philippines Recommends for Pork Production* [20.1]; and 3) Catelo et al. *Backyard and Commercial Piggeries in the Philippines: Environmental Consequences and Pollution Control Options* [20.2] Information Verified: Above evidences were provided and verified.						Verified Document Reference: 15;20	
Reasoning for not acceptance or acceptance and close out: CAR6 was closed out based on above evidences.							

Date:	3/12/2007			Raised by:	Elton Chen Wu		
No.:	8	Type:	NIR2	Issue:	Determination of Annual Emission Factor (kg), EF according to most recent IPCC tier 2 approach.	Ref.:	B.5.4
Lead Assessor Comment					Date: 3/12/2007		
When using IPCC tier 2 approach to calculate the baseline emissions, can you please elaborate how EF is calculated to be 23.51 where the IPCC default value is 23?							
Project Participant Response:					Date: 14/12/2007		
The calculation has been conducted based on IPCC Tier 2 approach, equation 10.23 and 10.24 with the relevant default factors as specified in section B.6.2 and B.6.3 of the PDD. When a country specific value is available, it is used instead of the IPCC value.							
Acceptance and Close out by Lead Assessor:					Date: 24/12/2007		
Information Provided: Spreadsheet used for calculation of baseline emission factors according to AMS-III D and IPCC guidelines. Information Verified: 1.Data, formulas used and calculation in the spreadsheet based on Chapter 'Emissions from Livestock and Manure Management' under the volume 'Agriculture, Forestry and other Land use' of the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. 2. Department of Agriculture (Zamboanga Region, Philippines), http://www.geocities.com/zambo_da9/tip_swine_raising.html 3. Page44, The Philippines Recommends for Livestock Feed Formulation, Philippine Council for Agriculture, Forestry and Natural Resource Research and Development						Verified Document Reference: 10, 18, 24, 28,29	
Reasoning for not acceptance or acceptance and close out: Country specific value is used in the calculating baseline EF value of this project, data source and calculation process has been verified. NIR2 closed out.							

Date:	3/12/2007			Raised by:	Elton Chen Wu		
No.:	9	Type:	CAR7	Issue:	Estimated ER in 2007	Ref.:	B.8.3
Lead Assessor Comment					Date: 3/12/2007		
The project is not likely to be registered in 2007, so the estimated ER in 2007 should be removed.							
Project Participant Response:					Date: 14/12/2007		
Relevant changes have been made in the PDD.							
Acceptance and Close out by Lead Assessor:					Date: 25/02/2008		
Information Provided: Revised PDD. Information Verified: ERs table in PDD A.4.3 and B.6.4						Verified Document Reference:1	
Reasoning for not acceptance or acceptance and close out: The estimation has been revised according to current progress of the CDM process. CAR7 was closed out.							

Date:	3/12/2007			Raised by:	Elton Chen Wu		
No.:	10	Type:	CAR8	Issue:	Monitoring electricity supplied and flare efficiency in case flare is used.	Ref.:	B.10.1
Lead Assessor Comment					Date: 3/12/2007		
Net electricity shall be used when calculating the emission reductions in case project imports electricity from grid occasionally, and type of flare needs to be specified when defining its efficiency.							
Project Participant Response:					Date: 14/12/2008		

The electricity used for calculating the emission reductions is considered net generation. Possible emission caused by electricity consumption of the project activity has been taken into consideration as discussed in section B.6.3 in the PDD. The only electric appliance installed in the project is a blower that approximately accounts for 3.2 MWh per annum consumption. Under normal circumstances the blower is powered by the biogas generator set. This is considered negligible. The project developer has demonstrated to the DOE during site visit that the start-up the biogas generator set is conducted prior to the use of the blower. No fossil fuels or electricity is required for the start-up operations, since the biogas available in the gas pipeline would be taken in by the negative internal pressure of the generator set during the initial turn on. In any case a flare is required for surplus gas destruction, the flare efficiency will be determined strictly according to the Tool to determine emissions from flaring gases containing methane.

Acceptance and Close out by Lead Assessor:	Date: 24/12/2007
Information Provided: Revised PDD Information Verified: Revised PDD and confirmed through on-site visit.	Verified Document Reference: 1
Reasoning for not acceptance or acceptance and close out: CAR8 was closed out after PDD was revised and on-site visit of project construction.	

Date:	3/12/2007			Raised by:	Elton Chen Wu		
No.:	11	Type:	NIR3	Issue:	Monitoring of methane content of biogas.	Ref.:	B.10.5
Lead Assessor Comment					Date: 3/12/2007		
Current PDD says that Methane content of biogas will be monitored through the use of a gas analyzer quarterly, it is not clear how the 95% confidence level can be assured.							
Project Participant Response:					Date: 14/12/2007		
This will be monitored through the use of a gas analyser at the farm. In the event that the methane content of the samples varies significantly, the samples will be taken on a more frequent basis. The project participant will conduct frequent methane test at the initial operational stage of the project to assure 95% confidence level of the monitoring. In the case 95% confidence level cannot be achieved during the initial stage, the project participant will adjust the monitoring frequency throughout the crediting period. This is clarified in section B.7.1 of the PDD.							
Acceptance and Close out by Lead Assessor:					Date: 25/02/2008		
Information Provided: Detailed procedure in revised PDD. Information Verified: Revised PDD.						Verified Document Reference: 1	
Reasoning for not acceptance or acceptance and close out: NIR3 was closed out after reviewing the detailed procedure in the revised PDD.							

Date:	3/12/2007			Raised by:	Elton Chen Wu		
No.:	12	Type:	NIR4	Issue:	Testing standard and data transcription.	Ref.:	B.10.6
Lead Assessor Comment					Date: 3/12/2007		
PDD says that electricity/flow meter will be used and subject to regular maintenance and testing regime to ensure accuracy once a year, it is not clear if this is in compliance with industrial practice and local regulation in the Philippines.							
Project Participant Response:					Date: 20/12/2007		
The project participant will conduct maintenance and calibration based on the specification of the supplier as well as the local government standard. The confirmation on the calibration requirements by the supplier is attached as Attachment 2. The project participant is in the process consulting with the relevant governmental department regarding the local standard. Once the information is obtained, it shall be integrated with the current monitoring plan and documentation will be submitted to the DOE. Inc: Attachment 2 – Power meter information.							
Acceptance and Close out by Lead Assessor:					Date: 25/02/2008		
Information Provided: Accuracy Certificate of Meter, Clarification of the calibration issue provided by meter manufacturer Schneider Electric. Information Verified: Above documents and revised PDD.						Verified Document Reference: 1, 25	

Reasoning for not acceptance or acceptance and close out: Data transcription was included in the revised PDD. No further calibration is required according to the meter manufacturer, and the revised PDD states that "The maintenance and calibration shall be conducted based on the supplier's specification and local government standards". NIR4 closed out.

Date:	3/12/2007			Raised by:	Elton Chen Wu		
No.:	13	Type:	NIR5	Issue:	Quality assurance of the monitoring plan	Ref.:	B.13.8; B.13.9
Lead Assessor Comment					Date: 3/12/2007		
Can you please elaborate in the PDD about the procedures identified for aspects: 1. Internal audits of GHG project compliance with operational requirements and, 2. Project performance reviews before data is submitted for verification?							
Project Participant Response:					Date: 14/12/2007		
1. The CDM Manager and the Chief Technology Officer conduct the internally audits of the GHG project compliance and operational performance respectively. 2. The monitoring reports will be prepared by the project coordinator, reviewed by the CDM Manager prior to the verification. A management chart is attached for review. Please refer to section B.7.2 of the PDD for further elaboration. Inc: Attachment 3 – Management Chart.							
Acceptance and Close out by Lead Assessor:					Date: 28/12/2007		
Information Provided: More detailed information are available in the revised PDD. Information Verified: Section B.7.2 of the revised PDD.						Verified Document Reference:1	
Reasoning for not acceptance or acceptance and close out: More details are available in revised PDD, a separate management chart is also provided for verification. NIR5 closed out.							

Date:	3/12/2007			Raised by:	Elton Chen Wu		
No.:	14	Type:	NIR6	Issue:	Media used to invite comments of local stakeholders.	Ref.:	E. 1.2
Lead Assessor Comment					Date: 3/12/2007		
Can you please elaborate in the PDD what media was used to invite comments of local stakeholders?							
Project Participant Response:					Date: 14/12/2007		
Invitations were sent out to the stakeholders' concerned through phone calls and letters personally sent by the farm personnel. The consultation was also announced through the local government unit's bulletin boards, emails for the NGOs, and PhilBIO's website to give an opportunity for other stakeholders' to give their comments on the project. Elaboration has been added to section E.1 accordingly.							
Acceptance and Close out by Lead Assessor:					Date: 28/12/2007		
Information Provided: 1) Invitation letters to local stakeholders for Gold Stand consultation.2) Reports of Stakeholders consultation as per GS requirement.3) Contact list of consulted stakeholders. Information Verified: As above.						Verified Document Reference:21, 22,23	
Reasoning for not acceptance or acceptance and close out: The media used is deemed appropriate, which is also supported by above evidences, NIR6 was closed out after relevant information was added in the revised PDD.							

Date:	15/12/2007			Raised by:	Elton Chen Wu		
No.:	15	Type:	NIR7	Issue:	Safety regulation for utilization of biogas in Philippines	Ref.:	A.4.8
Lead Assessor Comment					Date: 15/12/2007		
Can you please elaborate the safety measures and procedures adopted in this biogas utilization project?							
Project Participant Response:					Date: 23/01/2008		

<table>
<tr><td colspan="2">There are no safety regulations in the Philippines regarding the use of biogas. However, the operation safety has been taken account during the development of operation manual and its implementation. The operators see to it that the perimeter is kept free of fire hazards. The biogas generator set employed has a fail-safe mechanism, which allows for automatic shutdown in cases of low biogas flow or low methane content. Furthermore, daily checklists are provided for the operators for the proper maintenance of the generator set. The system is designed to ensure 100% containment of wastes and biogas. The system's inflatable cover is designed for gas storage. The pressure inside the digester does not build up.
This is described in Section D.1 of the PDD. A biogas engine operation manual is attached for review.
Inc: Attachment 4 – Biogas Engine Operation Manual.</td></tr>
<tr><td>Acceptance and Close out by Lead Assessor:</td><td>Date: 30/01/2008</td></tr>
<tr><td>Information Provided: 1) Operation manual of Biogas Engine. 2) Clarification on the safety features of biogas generator set by PhilBio. 3) Confirmation on no local safety regulation for biogas utilization in the Philippines provided by SGS local assessor. 4) Revised PDD.
Information Verified: As above.</td><td>Verified Document Reference: 1, 17, 26</td></tr>
<tr><td colspan="2">Reasoning for not acceptance or acceptance and close out: Above evidences showed that the safety issue has been taken into account to the knowledge of project developer and met with applicable regulation of Philippines, NIR7 was closed out</td></tr>
</table>

A.4 Annex 4: Team Members Statements of Competency

Statement of Competence

Name: Elton Chen Wu SGS Affiliate: SGS China

Status

- Product Co-ordinator ☒
- Operations Co-ordinator ☐
- Technical Reviewer ☒
- Expert ☐

	Validation	Verification
- Local Assessor	☐	☐
- Lead Assessor	☒	☒
- Assessor / Trainee Lead Assessor	☐	☐

Scopes of Expertise

1. Energy Industries (renewable / non-renewable) ☒
2. Energy Distribution ☐
3. Energy Demand ☒
4. Manufacturing ☐
5. Chemical Industry ☒
6. Construction ☐
7. Transport ☐
8. Mining/Mineral Production ☐
9. Metal Production ☐
10. Fugitive Emissions from Fuels (solid,oil and gas) ☐
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride ☒
12. Solvent Use ☐
13. Waste Handling and Disposal ☒
14. Afforestation and Reforestation ☐
15. Agriculture ☐

Approved Member of Staff by: Siddharth Yadav Date: 10/06/2007

Statement of Competence

Name: Qi Yang SGS Affiliate: China

Status

- Product Co-ordinator ☐
- Operations Co-ordinator ☒
- Technical Reviewer ☐
- Expert ☒

	Validation	Verification
- Local Assessor	☒	☒
- Lead Assessor	☒	☒
- Assessor / Trainee Lead Assessor	☒	☒

Scopes of Expertise

1. Energy Industries (renewable / non-renewable) ☐
2. Energy Distribution ☐
3. Energy Demand ☐
4. Manufacturing ☐
5. Chemical Industry ☒
6. Construction ☐
7. Transport ☐
8. Mining/Mineral Production ☐
9. Metal Production ☐
10. Fugitive Emissions from Fuels (solid,oil and gas) ☐
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride ☒
12. Solvent Use ☐
13. Waste Handling and Disposal ☒
14. Afforestation and Reforestation ☐
15. Agriculture ☐

Approved Member of Staff by: Elton Chen Wu Date: 23/06/2007

Statement of Competence

Name: Rubylene Osila SGS Affiliate:Philippines

Status

- Product Co-ordinator ☐
- Operations Co-ordinator ☐
- Technical Reviewer ☐
- Expert ☐

	Validation	Verification
- Local Assessor	☒	☒
- Lead Assessor	☐	☐
- Assessor / Trainee Lead Assessor	☐	☐

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)	☒
2. Energy Distribution	☐
3. Energy Demand	☐
4. Manufacturing	☒
5. Chemical Industry	☒
6. Construction	☐
7. Transport	☒
8. Mining/Mineral Production	☐
9. Metal Production	☐
10. Fugitive Emissions from Fuels (solid,oil and gas)	☐
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	☐
12. Solvent Use	☐
13. Waste Handling and Disposal	☐
14. Afforestation and Reforestation	☐
15. Agriculture	☒

Approved Member of Staff by: Elton Chen Wu Date:14/12/2007

- o0o -