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# Validation Report

VALIDATION OF THE CDM-PROJECT:  
ANIMAL MANURE MANAGEMENT SYSTEM (AMMS)  
GHG MITIGATION PROJECT, SHANDONG MINHE  
LIVESTOCK CO. LTD., PENGLAI, SHANDONG  
PROVINCE, PR OF CHINA.

REPORT NO. 914065

**2009 April 15<sup>th</sup>**

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><br>TÜV SÜD Industrie Service GmbH<br>Certification Body "climate and energy"<br>Westendstr. 199 - 80686 Munich<br>Federal Republic of Germany   | <b>TÜV SÜD Contract Partner:</b><br>TÜV SÜD Industrie Service GmbH<br>Carbon Management Service<br>Westendstr. 199 - 80686 Munich<br>Federal Republic of Germany |
| <b>Client:</b><br>The World Bank<br>1818 H. Street N.W.<br>Washington, D.C: 20433<br>USA  | <b>Project Site(s):</b><br>Shandong Minhe Livestock Co. Ltd.,<br>Penglai, Shandong Province,<br>PR of China.   |
| <b>Project Title:</b> Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.   |  |
| <b>Applied Methodology / Version:</b> AM0010 version 02   | <b>Scope(s):</b> 13,15   |
| <b>First PDD Version:</b><br>Date of issuance: 2006-11-28<br>Version No.: 01<br>Starting Date of GSP 2006-11-30   | <b>Final PDD version:</b><br>Date of issuance: 2009-03-30<br>Version No.: 08   |
| <b>Estimated Annual Emission Reduction:</b> 66,393 tons CO <sub>2e</sub>  |  |
| <b>Assessment Team Leader:</b><br>Martin Schröder   | <b>Further Assessment Team Members:</b><br>Abhishek Goyal<br>Xiaoyan Liu<br>Ruifeng Li   |
| <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>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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## 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:

Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China

### 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 (for further information see <http://www.ietat.org/ietat/www/pages/download.php?docID=397>), 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 is written in bold letters):

| Name                   | Qualification | Coverage of technical scope         | Coverage of sectoral expertise      | Host country experience             |
|------------------------|---------------|-------------------------------------|-------------------------------------|-------------------------------------|
| <b>Martin Schröder</b> | <b>ATL</b>    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| Abhishek Goyal         | GHG-A         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| Xiaoyan Liu            | GHG-A         |                                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Ruifeng Li             | T             |                                     |                                     | <input checked="" type="checkbox"/> |

**Martin Schröder** is appointed as ATL by the certification body "climate and energy" of TÜV SÜD. He holds a masters degree in tropical forest science. Within TÜV SÜD he is responsible for the validation and verification of agricultural and forestry based greenhouse gas mitigation projects. He passed successfully internal training schemes in the field of auditing. Before entering the company, he worked on development projects and managed voluntary carbon offset projects.

**Abhishek Goyal** is an auditor and project manager for CDM projects and environment/energy expert at TÜV SÜD Industrie Service GmbH. Before joining the TÜV SÜD Industrie Service GmbH he has worked on development of PDDs and methodologies for several energy efficiency, renewable energy, and waste to energy projects. He has extensive experience in CDM.

**Xiaoyan Liu** is an auditor for environmental management systems (according to ISO 14001) at Jiangsu TUV Product Service Ltd. She is based in Beijing. In her position she is responsible for the implementation of validation, verification and certification audits for management systems. She has received training in the CDM validation process and participated already in several CDM project assessments.

**Li Ruifeng** is a trainee for environmental management systems (according to ISO 14001) at Jiangsu TUV Product Service Ltd. He is based in Beijing. In his position he is responsible for the implemen-



tation of validation, verification and certifications audits for management systems. He has received training in the CDM validation process and participated already in various CDM project assessments as a GHG auditor trainee.

## 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 December 15<sup>th</sup> and 16<sup>th</sup> 2006 and in a second occasion on August 28<sup>th</sup>, 2007, 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  |
|------------------|---|
| Mr. Qu Hongbo    | Shandong Minhe Livestock Co., Ltd   |
| Mr. Sun Ximing   | Shandong Minhe Livestock Co., Ltd   |
| Ms. Dong Taili   | Shandong Minhe Livestock Co., Ltd   |
| Ms. Dong Hongmin | Institute of Environment and Sustainable Development in Agriculture, Chinese Academy of Agricultural Sciences |
| Ms. Li Yue       | Institute of Environment and Sustainable Development in Agriculture, Chinese Academy of Agricultural Sciences |
| Ms. Chenzhuo     | Carbon Finance Unit, the World Bank   |

## **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 requesting registration by the EB or not.

### 3 SUMMARY OF FINDINGS

As informed above all findings are summarized in table 2 of the attached validation protocol. In total the assessment team expressed 42 Clarification Requests and 15 Corrective Action Requests.

The amount of requests is comparatively high. This is partly seen in relation to the fact that there is little experience with applying this comparatively new methodology.

The project implementing entity, Minhe Livestock Ltd., was found to be an established company focussing on the professional production of chicken (layers and broilers). The found production processes are similar to those in industrialised countries. The visited installations and their characteristics have been found to be consistent with the information included to the PDD.

Central part of the onsite audit has been the confirmation of the baseline conditions, especially the existence of the anaerobic lagoons and other key requirements sustaining the estimates on the baseline situation and the expected emission reductions. Among others the analysis of baseline estimates also included the review of documentation on Livestock population over several production cycles.

The farms and lagoons have been found to be in line with the information presented in the PDD. In order to make the information traceable also for verification, it was requested among others that sketches and geographic locations are included to the PDD.

The project, which intends to destroy methane by using the biogas for electricity generation, includes a flare only for safety reasons. Emission reductions from flaring will not be accounted for. Corresponding flare efficiency has been predefined with zero.

The remaining project design, including the biodigester and the generators as core technical elements, is included to the PDD and is considered feasible. The design is in line with the feasibility study required according to Chinese procedures.

A further detail of this project is the fact that initially 13 further farm houses were considered that are in physical distance of some few kilometres to the central biodigester. For the smaller two of the entire three so called compound areas, manure transport was going to be necessary. In the process of the validation, the necessity of a Request for deviation from ACM0010 was discussed on this matter. Among others due to reasons of timelines, the project participants decided to pursue registration with a project design that included only those farmhouses that did not include transport.

In line with the ACM0010 requirements, baseline and additionality are correctly discussed in the PDD. The methodology approach is followed. Several alternatives have been identified and discussed and narrowed down to those actually applicable to the project context. These are a) Uncovered Anaerobic Lagoon, b) Press Separation - Uncovered anaerobic lagoon, and c) Anaerobic Digester with Biogas Co-generation - Aerobic Storage Lagoon without CDM.

These were then considered for investment analysis for the timeframe of the crediting period. It was shown that these alternatives are not an attractive course of action. The project scenario (installation of a bio digester) without the CDM component has shown an IRR of 0.85%, considering the sale of electricity as income. The cost estimates for the main technical elements are in line with the indications included to the feasibility study and typical cost ranges for the applied equipment. On the income side the sale of electricity is considered to generate 0.6 RNB / kWh (confirmed by electricity company). The other baseline options (a) and b)) did not allow for the calculation of a positive IRR.

NPV for all scenarios, with exception to the project scenario including CDM, has shown negative values. For NPV calculations a 9% benchmark was used, which is considered applicable for the agricultural sector in China according to official sources.

The audit team confirmed that the continuation of the current situation is the most likely baseline scenario; among others because there are no legal constraints to the open lagoon practice as well as the fact that there are no other incentives to change the baseline setting other than the generation of electricity, which is not sufficiently attractive without the additional CDM component.

Thus, the activity is considered to comply with the CDM requirements on additionality.

In regard to the EF, the baseline calculation was based on the published OM/BM calculation process issued by the NDRC (China DNA). However, the results indicated in the PDD were slightly lower compared to the values published by the NDRC in August 2007. Since the lower OM/BM emission factors resulted in an overall lower combined margin emission factor (EFCM), the values indicated in the PDD can be considered as more conservative and were therefore accepted for the baseline calculation.

Further key findings in the PDD were related to the provision of information on the project design and 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.

The technical requirements on metering devices and calibration requirements have been included to the final PDD. The monitoring plan (section B.7.2 of the PDD) is considered to be in line with the methodology requirements. Further perfection of the internal operating procedures for monitoring is considered necessary once the project is fully installed.

In regard to the environmental aspects the project counts with the necessary Environmental Impact Assessment and it can be expected that the biodigester will produce a net benefit in reference to the baseline setting. It was clarified that the same areas as under baseline conditions are used for land application under the project setting.

It was furthermore credibly documented that a stakeholder process has been carried out in line with CDM requirements and guidance.

Posterior to the completion of the validation, a Request for Review was posed by UNFCCC which then resulted in a registration with corrections of the project activity. In this context EB 45 concluded:

*The Board agreed to register with corrections the project activities:*

*“Animal Manure Management System (AMMS) GHG Mitigation Project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, P.R. of China” (1891) if the project participants and the DOE (TÜV-SÜD) submit a revised PDD and a corresponding validation report which incorporate the responses submitted to the request for review regarding the project starting date, and the revised calculation of the average nitrogen per head and other fuels;*

In light of the above, the validation report is complemented by the following:

a) Starting date:

This starting date was revised in order to arrive at full consistency with the definitions of the CDM glossary, which is “The starting date of a CDM project activity is the earliest date at which either the implementation or construction or real action of a project activity begins”. The starting day has been changed to the actual day of construction start, which is 17 July 2007. This is underlined by the documented evidence on the contracting of the construction company one day prior to this date. The DOE underlines that the change of dates, from the planned date of construction after receipt of permits to the actual construction start date as available by the end of the audit process, does not impact the aspect of early CDM consideration. In any case the project start occurred after the initiation of the audit process (contracts, GSP, onsite visit). The latter underlines CDM consideration. Furthermore CDM consideration is demonstrated through documents such as the Letter of Intent on the

purchase of CERs by the World Bank signed on October 17, 2006. Corresponding evidence was received and reviewed by the audit team. Thus, compliance with the requirements of CDM consideration prior the start of the project activity as defined by EB 41, Annex 46 is assured. Below the project timeline is included.

| Timeline         | Activity   | Evidence |
|------------------|--|----------|
| October 17, 2006 | The PE and the Community Development Carbon Fund that the World Bank act as trustee and the PE signed Letter of Intent to seek CDM support | IRL 37   |
| Nov 24, 2006     | The PE obtained domestic approval of Environmental Impact Assessment   | IRL 38   |
| March 22, 2007   | China DNA signed Letter of Approval  | IRL 30   |
| July 16, 2007    | The PE signed construction contract with Hangzhou Environment and Energy Company to start civil work construction                          | IRL 39   |
| November 2007    | The PE signed generator supply contract with GE  | IRL 40   |

b) Revised calculation of the average nitrogen per head

In regard to the calculation of NEXsite in the validation context (ex-ante estimates), the calculation was adapted and now includes the scaling according to Livestock weight as requested by EB. TÜV SÜD can confirm the correctness of the adapted calculations. It is noted that for the sake of conservativeness VS was not adapted according to weight in the ex-ante calculations.

Project specific calculation results show that the broiler has an averaged weight of 0.9 kg, close to the defaults values in Table 10A-9 of IPCC 2006 Guidelines. The layer population has an averaged weight of 2.4 kg, while IPCC 2006 Guideline has a default as 1.8 kg in Table 10A-9 (IRL 43). Furthermore, B7.2 of the PDD defined that  $W_{site}$  will be monitored ex-post.

The certified emission reduction will be calculated based on the modified VS and NEX with monitored site weight correction.

Based on the scaling of NEX as detailed above, the overall emission reductions calculations have been adapted correctly in an updated Excel Spreadsheet (IRL 41).

c) Other fuels potentially used to generate power.

As far as this confirmation is possible at the typical design stage of a CDM focused on in validation, the DOE has confirmed that the project will not use any other fuels. The technical design of the generators to be applied (Jenbacher biogas engines) is specific for biogas. Among others in order to ensure full traceability on the fuels used in this project, farm sites that would have included the transport of biogas were excluded during the validation process. One reason for this was that gas input is more reliably controlled in a closed system. As this can not be fully confirmed at validation a Forward Action Request is posed on this matter.

**Forward Action Request:**

It shall be reconfirmed at verification that no other fuels can be used in the project activity.

(see also Table 3 of Annex 1)

Beyond the above indicated items, some other minor changes have been incorporated to the final PDD (Version 08).

In section B.7.1 the use of flow meters and pumps for VS metering through parameters  $F_{Aer\ a}$  and  $F_{AD}$  was specified and for  $PE_{flare,y}$  it was clarified that the parameter is set zero. In section B.7.2, item 5, the approach for backup metering of exported electricity was adapted (due to the fact that it was not possible to install backup meter in the substation of Electricity Company). The adapted approach is still based primarily on invoiced from the electricity company and is considered appropriate by the validator. Furthermore, it was clarified that published weather data from the closest meteorological will be used. These items above have been validated by TÜV SÜD.

## 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><br><a href="https://www.netinform.de/KE/files/pdf/MinhePDD_11_28_CLEAN_FOR_PUBLISHING.pdf">https://www.netinform.de/KE/files/pdf/MinhePDD_11_28_CLEAN_FOR_PUBLISHING.pdf</a><br>(Version 01, 28.11.2006) |                            |
| <b>Starting date of the global stakeholder consultation process:</b><br>The PDD was open for comments from November 30 to December 29, 2006.   |                            |
| <b>Comment submitted by:</b><br>-  | <b>Issues raised:</b><br>- |
| <b>Response by TÜV SÜD:</b><br>-   |                            |

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><br><a href="https://www.netinform.de/KE/files/pdf/MinhePDF-0318-REPEAT.pdf">https://www.netinform.de/KE/files/pdf/MinhePDF-0318-REPEAT.pdf</a><br>(Version 03, 1.3.2007) |                            |
| <b>Starting date of the global stakeholder consultation process:</b><br>The PDD was re-open for comments from March 24 to April 22, 2007   |                            |
| <b>Comment submitted by:</b><br>-  | <b>Issues raised:</b><br>- |
| <b>Response by TÜV SÜD:</b><br>-   |                            |

## 5 VALIDATION OPINION

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

Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

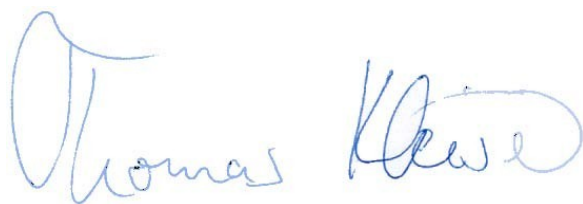
The review of the project design documentation and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfilment of stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM. Hence TÜV SÜD will recommend the project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

In essence TÜV SÜD has validated project information and has come to the conclusion that the utilized information and data are reliable, creditable and appropriate.

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, 2009-04-15

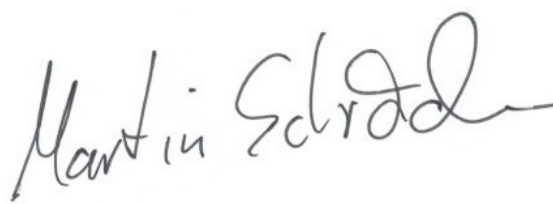


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Thomas Kleiser

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

Munich, 2009-04-15



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Martin Schröder

Assessment Team Leader



Validation of the CDM Project:  
Animal Manure Management System (AMMS) GHG mitigation project,  
Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR  
of China.



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## **Annex 1: Validation Protocol**



## Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

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| CHECKLIST TOPIC / QUESTION  | Ref.       | COMMENTS   | PPD in GSP                          | Final PDD                           |
|---|------------|--|-------------------------------------|-------------------------------------|
| <b>A. General description of project activity</b>   |            |  |                                     |                                     |
| <b>A.1. Title of the project activity</b>   |            |  |                                     |                                     |
| A.1.1. Does the used project title clearly enable to identify the unique CDM activity?  | 1          | Yes, the title allows to identify the project clearly.   | <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?  | 1          | Version number and date is clearly indicated.  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| A.1.3. Is this consistent with the time line of the project's history?  | 1          | Yes, the version number is consistent.   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| <b>A.2. Description of the project activity</b>   |            |  |                                     |                                     |
| A.2.1. Is the description delivering a transparent overview of the project activities?  | 1, 2, 4, 6 | The brief description presented is considered sufficient. Beyond a summary on the proposed activity, the targeted sustainable benefits are described.  | <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? | 1, 2, 4, 6 | During the onsite visit, the conditions described for the baseline scenario / current practice have been encountered. The farms and the lagoons exist as indicated. Census data on chicken stocks have been revised randomly.<br><br>In regard to the project scenario the site for construction has been indicated. Contacts and details of the German / Danish provider of the technology to be employed have been indicated during the onsite visit.<br><br>A feasibility study exists that provides further details of the current situation and the technology to be applied. | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| A.2.3. Is the information provided by these proofs consistent with the information pro-   | 1          | The information provided is consistent with the information of the PDD. Among others, the baseline setting has been confirmed with   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

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| vided by the PDD?   |      | Livestock census data and the relevant lagoons have been visited.   |                                     |                                     |
| A.2.4. Is all information presented consistent with details provided by further chapters of the PDD?  | 1    | The information presented in section A is considered consistent with the remaining chapters of the PDD.   | <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?   | 1    | The form is correctly applied.<br>In the final version of the PDD it has been clarified that the IBRD is considered participant.<br>Furthermore The Netherlands has been added as Party.<br><b><u>Clarification Request No. 1.</u></b><br>Extract of financial/business report for Minhe remains to be delivered.                                   | CR1                                 | <input checked="" type="checkbox"/> |
| A.3.2. Is the participation of the listed entities or Parties confirmed by each one of them?  | 1    | For Minhe: Beyond the information and proof provided by the PDD, the General Manager and Vice General Manager of Shandong Minhe Animal Husbandary Ltd. have confirmed the participation of the company in the project during the onsite visit.<br><b><u>Outstanding Issue:</u></b><br>IBRD and The Netherlands need to confirm their participation. | OI1                                 | <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)? | 1    | <b><u>Corrective Action Request No.1.</u></b><br>Consistency of the company name should be assured (title/table A-1 vs. Annex 1)  | CAR1                                | <input checked="" type="checkbox"/> |
| <b>A.4. Technical description of the project activity</b>   |      |   |                                     |                                     |
| <i>A.4.1. Location of the project activity</i>  |      |   |                                     |                                     |

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| A.4.1.1.Does the information provided on the location of the project activity allow for a clear identification of the site(s) / farms (e.g. GPS coordinates)? | 1    | <p><b>Clarification Request No. 2.</b></p> <p>An overview map of smaller scale (expanded) and with English references (esp. farm numbers) should be integrated to PDD (Figure A3, alternatively as annex).</p> <p>GPS coordinates should be indicated for three compound areas. Point of GPS coordinate should be marked on map / Fig A3)</p> <p><b>Clarification Request No. 3.</b></p> <p>Overview sketches with scale should be delivered for the different compounds. Individual farms and all relevant installations such as lagoons should be included.</p> <p>A sketch of the area of the project activity (construction site) should be elaborated.</p> | CR2+3                               | <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.)?      | 1, 4 | <p>Within the farm area the proponent has indicated the site where the project's technology (biodigester, etc ) is to be installed.</p> <p>The site is located close to existing farm buildings that are clearly in the property of the participant.</p> <p>Furthermore an Approval on Environmental Impacts has been obtained.</p> <p><b>Outstanding Issue:</b></p> <p>Provincial approval of the project activity is pending. Corresponding information remains to be delivered to the auditor.</p>   | OI                                  | <input checked="" type="checkbox"/> |
| <b>A.4.2. Category(ies) of project activity</b>   |      |   |                                     |                                     |
| A.4.2.1.To which category(ies) does the project activity belonging to? Is the category correctly identified and indicated?                                    | 1, 4 | The indicated scopes (13, 15,1) are correct.  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| <b>A.4.3. Technology to be employed by the project activity</b>   |      |   |                                     |                                     |

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| A.4.3.1.Does the technical design of the project activity reflect current good practices?  | 1, 4, 6 | The project activity is considered to be above average levels of good practice in China. AMWS including biodigestors are still highly uncommon in China, while corresponding technology is frequently applied in industrialised countries.  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| A.4.3.2.Does the description of the technology to be applied provide sufficient and transparent input/ information to evaluate its impact on the greenhouse gas balance? | 1, 4, 6 | <p>In general terms an indication of the applied technology is included to the PDD. Further technical details are included to a feasibility study.</p> <p>Major stages are described in order to reduce volatile solids and GHG emissions:</p> <ul style="list-style-type: none"> <li>Sealed anerobic digester - Mesophilic temperature digester</li> <li>Biogas purification and collection (use of a biological stream, water vapour separator and dry sulfurizing tower, plus 2 gas tanks)</li> <li>Biogas based power generation (power generation – electricity sold to grid), warm water discharge for biodigester heating.</li> <li>Aerobic treatment of biogas liquid in lagoon.</li> </ul> <p><b><u>Clarification Request No. 4.</u></b></p> <p>Further details of the gas tanks (stage 2) to be installed shall be indicated and a risk assessment shall be indicated (also in PDD).</p> <p><b><u>Clarification Request No. 5.</u></b></p> <p>A detailed technical map / layout of the technology to be installed including all stages (1-4) and its technical details should be provided. Beyond the information provided in the feasibility study, the sketch should be specific for the project site (and the area foreseen for construction (see also CR on A.4.1).</p> | CR<br>4+5+6<br>+7+8<br>CAR 2        | <input checked="" type="checkbox"/> |

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|                            |      | <p><b><u>Clarification Request No. 6.</u></b><br/>The used term “co-generation” for the generators type is requested to be specified or changed – if actually no thermal energy is produced/used.</p> <p><b><u>Clarification Request No. 7.</u></b><br/>It should be indicated how potential times for equipment maintenance or other non-operation time could impact / are considered for plant management and specifically in the calculation of GHG emission reductions (reactor, tanks, and generators; relevance for monitoring / metering).</p> <p><b><u>Corrective Action Request No.2.</u></b><br/>The technology under the project scenario is considered to require flaring (due to risk aspects when generator does not work, and as indicated by methodology). The described technology to be applied and monitoring aspects should be adapted (compare also section 6.1./ parameters).<br/>The flaring tool needs to be applied for monitoring flare efficiency, if it is accounted for emission reductions.</p> <p><b><u>Clarification Request No. 8.</u></b><br/>For the project scenarios the availability of cropland should be indicated.</p> <p>In comparison to the indications of the feasibility study, the technical design has stayed the same as initially scheduled. However, farms that included transport of effluent were excluded from the initial PDD. Only 85,6 % of the initially intended chicken population will supply manure to the digester.</p> <p>All calculations, including on biogas and energy production, have</p> |            |           |

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|   |           | been updated accordingly (20 June 2008).   |                                     |                                     |
| A.4.3.3.Does the implementation of the project activity require any technology transfer from annex-I-countries to the host country(ies)?  | 1, 4, 6   | Yes, the project includes the import of technology from an Annex I country. It has been indicated that key parts of the biodigester are going to be obtained from Germany.<br>The local staff in charge of the plant will receive capacity building in Germany.  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| A.4.3.4.Is the technology implemented by the project activity environmentally safe?   | 1, 4, 6,8 | The technology is considered environmentally safe.<br>In regard to the baseline scenario (open lagoons) a substantial improvement of environmental impact can be expected.<br>The CRs of A.4.3.2 (especially in regard to risks) remain to be covered.           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| A.4.3.5.Is the information provided in compliance with actual situation or planning?  | 1, 4, 6,  | The information provided is consistent with conditions encountered onsite and the documentation of project planning (as contained in PDD and feasibility study).   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| A.4.3.6.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? | 1, 4, 6,  | Yes, the project uses state of the art technology.<br>Considering that currently open lagoons are most commonly used in the region, biodigestors combined with electricity production and resulting emission reductions is considered a significant improvement. | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| A.4.3.7.Is the project technology likely to be substituted by other or more efficient technologies within the project period?   | 1, 4, 6,  | Considering the level of innovation introduced by the project, a technology substitution is not considered likely.   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| A.4.3.8.Does the project require extensive initial training and maintenance efforts in  | 1, 4, 6,  | The project requires extensive initial training. The necessary maintenance activities are considered complex. The company  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

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| order to be carried out as scheduled during the project period?   |          | Minhe is considered to have the requirements in order to initiate necessary measures and safeguards.   |            |                                     |
| A.4.3.9. Is information available on the demand and requirements for training and maintenance?              | 1, 4, 6, | <p>For the plant manager training will occur, partially in Germany and Denmark in 2007. It was indicated, that expertise is going to be passed on to further staff members. Further technical expertise exists with in the environmental department of the Minhe company.</p> <p><b><u>Clarification Request No. 9.</u></b></p> <p>A document / plan in regard the scheduled training of Minhe's technical staff should be provided to the audit team.</p> <p><b><u>Clarification Request No. 10.</u></b></p> <p>Foreseen maintenance activities for the different technical elements/stages of the project and its infrastructure should be explained.</p> <p><b><u>Clarification Request No. 11.</u></b></p> <p>The "project developer" as indicated in A.4.3 should be referenced and it should be made clear if the participant is considered project developer.</p> | CR 9+10+11 | <input checked="" type="checkbox"/> |
| A.4.3.10. Is a schedule available for the implementation of the project and are there any risks for delays? | 1, 4, 6, | <p>It has been indicated during the first onsite visit that construction shall start in April 07 and that the equipment is expected on site in August 07. The plant is expected to be operational by the start of 2008. The latter was indicated under the condition of prompt CDM registration.</p> <p><b><u>Clarification Request No. 12.</u></b></p> <p>Beyond the indications of the feasibility study, a revised /adapted document with the specific timeline for project installation should</p>   | CR 12      | <input checked="" type="checkbox"/> |

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|  |          | be delivered.   |                                     |                                     |
| <b>A.4.4. Estimated amount of emission reductions over the chosen crediting period</b>   |          |   |                                     |                                     |
| A.4.4.1. Is the form required for the indication of projected emission reductions correctly applied?   | 1        | The form for emission reductions over crediting period is correctly applied.<br>Due to changes in the calculation of the emission reductions the figures in the final version of the PDD have changed.  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| A.4.4.2. Are the figures provided consistent with other data presented in the PDD?   | 1        | The indicated figures are considered consistent.  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| <b>A.4.5. Public funding of the project activity</b>   |          |   |                                     |                                     |
| A.4.5.1. Is the information provided on public funding in compliance with the actual situation or planning as available by the project participants? | 1,14, 15 | As indicated by the participant, no public funding from an Annex I country is going to be included to project finances.<br>In regard to general funding, it has been indicated that the project costs are going to be financed by own resources and via loans. A corresponding letter of intention with a local bank has been reviewed. | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| A.4.5.2. Is all information provided consistent with the details given in remaining chapters of the PDD (in particular annex 2)?                     | 1        | See comments in protocol section for Annex 2.   | <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</b>  |          |   |                                     |                                     |
| B.1.1.1. Are reference number, version number, and title of the baseline and monitoring methodology clearly indicated?                               | 1,2      | The methodology applied is ACM0010 which is clearly referenced. In the revised PDD a change to version 02 occurred. The GSP was repeated.   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |



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|--|----------|--|-------------------------|-----------|---------------------------------|-----|----------------------|-----|----------------------|-----|---------------------|---|
| B.1.1.2.Is the applied version the most recent one and / or is this version still applicable?  | 1,2      | ACM0010 version 02 is valid and applicable.<br>ACM0002 was used for the calculation of CEF <sub>Bl,elec</sub> , and CEF <sub>grid</sub> .  | ☑                       | ☑         |                                 |     |                      |     |                      |     |                     |   |
| B.2. Justification of the choice of the methodology and why it is applicable to the project activity   |          |  |                         |           |                                 |     |                      |     |                      |     |                     |   |
| B.2.1.1.Is the applied methodology considered the most appropriate one?  | 1,2      | For the described project case ACM0010 is considered the most appropriate one.   | ☑                       | ☑         |                                 |     |                      |     |                      |     |                     |   |
| Integrate the required amount of sub-checklists on the applicability criteria as given by the applied methodology and comment on at least every line answered with “No”; |          |  |                         |           |                                 |     |                      |     |                      |     |                     |   |
| B.2.2. Criterion 1: Farms where livestock populations, comprising of cattle, buffalo, swine, sheep, goats, and/or poultry, is managed under confined conditions          | 1,2,4    | <table><tr><td>Applicability checklist</td><td>Yes / No</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> <p>The sites and installation have been revised. Production is focused exclusively on poultry livestock. Livestock numbers have been revised randomly on a per farm basis.</p> <p><b><u>Corrective Action Request No.3.</u></b><br/>In Annex 3, first table the Livestock (LT) number provided does not correspond with the unit description in the table.</p> <p><b><u>Corrective Action Request No.4.</u></b><br/>The number of farms indicated throughout the PDD is not consisted with Annex 3. (29 vs. 30)</p> <p><b><u>Clarification Request No. 13.</u></b><br/>The data on Livestock / baseline contained in the Annex to the</p> | Applicability checklist | Yes / No  | Criterion discussed in the PDD? | Yes | Compliance provable? | Yes | Compliance verified? | Yes | CAR 3+4<br>CR 13+14 | ☑ |
| Applicability checklist  | Yes / No |  |                         |           |                                 |     |                      |     |                      |     |                     |   |
| Criterion discussed in the PDD?  | Yes      |  |                         |           |                                 |     |                      |     |                      |     |                     |   |
| Compliance provable?   | Yes      |  |                         |           |                                 |     |                      |     |                      |     |                     |   |
| Compliance verified?   | Yes      |  |                         |           |                                 |     |                      |     |                      |     |                     |   |

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|---|----------|---|-------------------------|-----------|---------------------------------|-----|----------------------|-----|----------------------|-----|-------------------------------------|-------------------------------------|
|   |          | <p>PDD should be clearly referenced. It should be indicated if this is average LT data per year, and based on which timeframe the average LT data has been calculated.</p> <p><b><u>Clarification Request No. 14.</u></b></p> <p>A sketch of the internal architecture of the barns is requested, which clarifies the process that the manure stays within the barns. For Scraper and manual cleaning the process of flushing with water should be described.</p> |                         |           |                                 |     |                      |     |                      |     |                                     |                                     |
| B.2.3. Criterion 2: Farms where manure is not discharged into natural water resources (e.g. rivers or estuaries)  | 1,2      | <table><tr><td>Applicability checklist</td><td>Yes / No</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> <p>The presence of the lagoons has been checked in the field.</p>  | Applicability checklist | Yes / No  | Criterion discussed in the PDD? | Yes | Compliance provable? | Yes | Compliance verified? | Yes | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Applicability checklist   | Yes / No |   |                         |           |                                 |     |                      |     |                      |     |                                     |                                     |
| Criterion discussed in the PDD?   | Yes      |   |                         |           |                                 |     |                      |     |                      |     |                                     |                                     |
| Compliance provable?  | Yes      |   |                         |           |                                 |     |                      |     |                      |     |                                     |                                     |
| Compliance verified?  | Yes      |   |                         |           |                                 |     |                      |     |                      |     |                                     |                                     |
| B.2.4. Criterion 3: In case of anaerobic lagoons treatments systems, the depth of the lagoons used for manure management under the baseline scenario should be at least 1m. | 1,2,4    | <table><tr><td>Applicability checklist</td><td>Yes / No</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  | Criterion discussed in the PDD? | Yes | Compliance provable? | Yes | Compliance verified? | Yes | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Applicability checklist   | Yes / No |   |                         |           |                                 |     |                      |     |                      |     |                                     |                                     |
| Criterion discussed in the PDD?   | Yes      |   |                         |           |                                 |     |                      |     |                      |     |                                     |                                     |
| Compliance provable?  | Yes      |   |                         |           |                                 |     |                      |     |                      |     |                                     |                                     |
| Compliance verified?  | Yes      |   |                         |           |                                 |     |                      |     |                      |     |                                     |                                     |
| B.2.5. Criterion 4: The annual average temperature in the site where the anaerobic manure treatment facility in the baseline existed is higher than 5°C.                    | 1,2,10   | <table><tr><td>Applicability checklist</td><td>Yes / No</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  | Criterion discussed in the PDD? | Yes | Compliance provable? | Yes | Compliance verified? | Yes | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Applicability checklist   | Yes / No |   |                         |           |                                 |     |                      |     |                      |     |                                     |                                     |
| Criterion discussed in the PDD?   | Yes      |   |                         |           |                                 |     |                      |     |                      |     |                                     |                                     |
| Compliance provable?  | Yes      |   |                         |           |                                 |     |                      |     |                      |     |                                     |                                     |
| Compliance verified?  | Yes      |   |                         |           |                                 |     |                      |     |                      |     |                                     |                                     |

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|---|----------|---|-------------------------|-----------|---------------------------------|-----|----------------------|-----|----------------------|-----|------|---|
|   |          | Regional data on climate conditions was checked.  |                         |           |                                 |     |                      |     |                      |     |      |   |
| B.2.6. Criterion 5: In the baseline case, the minimum retention time of manure waste in the anaerobic treatment system is greater than 1 month. (Consider size and input to lagoon in order to estimate retention time)           | 1,2,4    | <table><tr><td>Applicability checklist</td><td>Yes / No</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>No</td></tr></table> <p><b>Clarification Request No. 15.</b></p> <p>It should be demonstrated / explained that the installed lagoons and their volume are sufficient to assure the indicated retention time of min. 1 month.</p> | Applicability checklist | Yes / No  | Criterion discussed in the PDD? | Yes | Compliance provable? | Yes | Compliance verified? | No  | CR15 | ☑ |
| Applicability checklist   | Yes / No |   |                         |           |                                 |     |                      |     |                      |     |      |   |
| Criterion discussed in the PDD?   | Yes      |   |                         |           |                                 |     |                      |     |                      |     |      |   |
| Compliance provable?  | Yes      |   |                         |           |                                 |     |                      |     |                      |     |      |   |
| Compliance verified?  | No       |   |                         |           |                                 |     |                      |     |                      |     |      |   |
| B.2.7. Criterion 6: The AWMS/process in the project case should ensure that no leakage of manure waste into ground water takes place, e.g., the lagoon should have a non-permeable layer at the lagoon bottom. Is that fulfilled? | 1,2      | <table><tr><td>Applicability checklist</td><td>Yes / No</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> <p>According to the project planning, these requirements are going to be complied with. It is not scheduled that further lagoons are added.</p>  | Applicability checklist | Yes / No  | Criterion discussed in the PDD? | Yes | Compliance provable? | Yes | Compliance verified? | Yes | ☑    | ☑ |
| Applicability checklist   | Yes / No |   |                         |           |                                 |     |                      |     |                      |     |      |   |
| Criterion discussed in the PDD?   | Yes      |   |                         |           |                                 |     |                      |     |                      |     |      |   |
| Compliance provable?  | Yes      |   |                         |           |                                 |     |                      |     |                      |     |      |   |
| Compliance verified?  | Yes      |   |                         |           |                                 |     |                      |     |                      |     |      |   |
| B.3. Description of the sources and gases included in the project boundary  |          |   |                         |           |                                 |     |                      |     |                      |     |      |   |
| Integrate the required amount of sub-checklists for sources and gases as given by the methodology applied and comment on at least every line an-  |          |   |                         |           |                                 |     |                      |     |                      |     |      |   |

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| CHECKLIST TOPIC / QUESTION  | Ref.     | COMMENTS  | PPD in GSP         | Final PDD |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
|---|----------|---|--------------------|-----------|--|-----|----------------------------------|-----|---|-----|-----------------------------------|-----|-------------------------------------|-------------------------------------|
| swered with “No” <a href="#">Replace blue text</a>  |          |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| B.3.1. Source: <b>Baseline</b> - Direct emissions from the waste treatment process<br>Description of Source<br>Gas(es): <b>CH<sub>4</sub></b><br>Type: Baseline Emissions (included)    | 1,2      | <table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table><br><br>Fixed emission estimates – no monitoring of baseline emissions. | Boundary checklist | Yes / No  | Source and gas(es) discussed in the PDD? | Yes | Inclusion / exclusion justified? | Yes | Explanation / Justification sufficient? | Yes | Consistency with monitoring plan? | Yes | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Boundary checklist  | Yes / No |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Source and gas(es) discussed in the PDD?  | Yes      |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Inclusion / exclusion justified?  | Yes      |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Explanation / Justification sufficient?   | Yes      |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Consistency with monitoring plan?   | Yes      |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| B.3.2. Source: <b>Baseline</b> - Direct emissions from the waste treatment process<br>Description of Source<br>Gas(es): <b>N<sub>2</sub>O</b><br>Type: Baseline Emissions (included)    | 1,2      | <table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table><br><br>Fixed emission estimates – no monitoring of baseline emissions. | Boundary checklist | Yes / No  | Source and gas(es) discussed in the PDD? | Yes | Inclusion / exclusion justified? | Yes | Explanation / Justification sufficient? | Yes | Consistency with monitoring plan? | Yes | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Boundary checklist  | Yes / No |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Source and gas(es) discussed in the PDD?  | Yes      |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Inclusion / exclusion justified?  | Yes      |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Explanation / Justification sufficient?   | Yes      |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Consistency with monitoring plan?   | Yes      |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| B.3.3. Source: <b>Baseline</b> - Emissions from electricity consumption or generation<br>Description of Source<br>Gas(es): <b>CO<sub>2</sub></b><br>Type: Baseline Emissions (included) | 1,2      | <table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>  | Boundary checklist | Yes / No  | Source and gas(es) discussed in the PDD? | Yes | Inclusion / exclusion justified? | Yes | Explanation / Justification sufficient? | Yes | Consistency with monitoring plan? | Yes | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Boundary checklist  | Yes / No |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Source and gas(es) discussed in the PDD?  | Yes      |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Inclusion / exclusion justified?  | Yes      |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Explanation / Justification sufficient?   | Yes      |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Consistency with monitoring plan?   | Yes      |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |

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| CHECKLIST TOPIC / QUESTION  | Ref.     | COMMENTS  | PPD in GSP         | Final PDD |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
|---|----------|---|--------------------|-----------|--|-----|----------------------------------|-----|---|-----|-----------------------------------|-----|-------------------------------------|-------------------------------------|
|   |          | As baseline emissions no monitoring foreseen.   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| B.3.4. Source: <b>Baseline</b> - Emissions from thermal energy generation<br>Description of Source<br>Gas(es): <b>CO<sub>2</sub></b><br>Type: Baseline Emissions (included)                 | 1,2      | <table><tr><th>Boundary checklist</th><th>Yes / No</th></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>N/a</td></tr><tr><td>Inclusion / exclusion justified?</td><td>N/a</td></tr><tr><td>Explanation / Justification sufficient?</td><td>N/a</td></tr><tr><td>Consistency with monitoring plan?</td><td>N/a</td></tr></table><br><br>Not applicable in the specific project case.  | Boundary checklist | Yes / No  | Source and gas(es) discussed in the PDD? | N/a | Inclusion / exclusion justified? | N/a | Explanation / Justification sufficient? | N/a | Consistency with monitoring plan? | N/a | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Boundary checklist  | Yes / No |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Source and gas(es) discussed in the PDD?  | N/a      |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Inclusion / exclusion justified?  | N/a      |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Explanation / Justification sufficient?   | N/a      |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Consistency with monitoring plan?   | N/a      |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| B.3.5. Source: <b>Project Activity</b> - Emissions from thermal energy generation<br>Description of Source<br>Gas(es): <b>CO<sub>2</sub></b><br>Type: Project activity Emissions (included) | 1,2      | <table><tr><th>Boundary checklist</th><th>Yes / No</th></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>N/a</td></tr><tr><td>Inclusion / exclusion justified?</td><td>N/a</td></tr><tr><td>Explanation / Justification sufficient?</td><td>N/a</td></tr><tr><td>Consistency with monitoring plan?</td><td>N/a</td></tr></table>  | Boundary checklist | Yes / No  | Source and gas(es) discussed in the PDD? | N/a | Inclusion / exclusion justified? | N/a | Explanation / Justification sufficient? | N/a | Consistency with monitoring plan? | N/a | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Boundary checklist  | Yes / No |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Source and gas(es) discussed in the PDD?  | N/a      |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Inclusion / exclusion justified?  | N/a      |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Explanation / Justification sufficient?   | N/a      |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Consistency with monitoring plan?   | N/a      |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| B.3.6. Source: <b>Project Activity</b> - Emissions from onsite electricity use<br>Description of Source<br>Gas(es): <b>CO<sub>2</sub></b><br>Type: Project Activity Emissions (included)    | 1,2      | <table><tr><th>Boundary checklist</th><th>Yes / No</th></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table><br><br>The monitoring foresees measurements on the supply side (I – at the transformer (by energy company), with II – backup meter (by | Boundary checklist | Yes / No  | Source and gas(es) discussed in the PDD? | Yes | Inclusion / exclusion justified? | Yes | Explanation / Justification sufficient? | Yes | Consistency with monitoring plan? | Yes | CR16+<br>17                         | <input checked="" type="checkbox"/> |
| Boundary checklist  | Yes / No |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Source and gas(es) discussed in the PDD?  | Yes      |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Inclusion / exclusion justified?  | Yes      |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Explanation / Justification sufficient?   | Yes      |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Consistency with monitoring plan?   | Yes      |   |                    |           |  |     |                                  |     |   |     |                                   |     |                                     |                                     |

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|--|----------|--|-------------------------------------|-------------------------------------|--|-----|----------------------------------|-----|---|-----|-----------------------------------|-----|-------------------------------------|-------------------------------------|
|  |          | <p>project), and III outlet meter of the biogas power generator). Consumption (IV) is going to be metered at the biogas generator sites.</p> <p><b><u>Clarification Request No. 16.</u></b></p> <p>The technical details of the electric meters need to be indicated (national standards).</p> <p><b><u>Clarification Request No. 17.</u></b></p> <p>In Annex 4 / Monitoring Plan, the indications of calibration (4) should also include other remaining technical equipment (flow-meters, flare, etc.)</p> |                                     |                                     |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| B.3.7. Source: <b>Project Activity</b> – Direct emissions from the Waste treatment process<br>Description of Source<br>Gas(es): <b>N<sub>2</sub>O</b><br>Type: Project Activity Emissions (included) | 1,2      | <table><tr><th>Boundary checklist</th><th>Yes / No</th></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>   | Boundary checklist                  | Yes / No                            | Source and gas(es) discussed in the PDD? | Yes | Inclusion / exclusion justified? | Yes | Explanation / Justification sufficient? | Yes | Consistency with monitoring plan? | Yes | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Boundary checklist   | Yes / No |  |                                     |                                     |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Source and gas(es) discussed in the PDD?   | Yes      |  |                                     |                                     |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Inclusion / exclusion justified?   | Yes      |  |                                     |                                     |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Explanation / Justification sufficient?  | Yes      |  |                                     |                                     |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| Consistency with monitoring plan?  | Yes      |  |                                     |                                     |  |     |                                  |     |   |     |                                   |     |                                     |                                     |
| B.3.8. Is the spatial and technological boundary definition in line with the requirements of the methodology?  | 1,2      | <p>Yes, the boundary definition is considered to be in line with the requirements of the methodology.</p> <p>Land application and slurry storage are outside the boundary and farms as well.</p> <p>Some of the farms – which are considered outside the project boundary - are physically separated from each other. Corresponding aspects are discussed in the context of leakage.</p>   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |  |     |                                  |     |   |     |                                   |     |                                     |                                     |

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|--|-------|--|-------------------------------------|-------------------------------------|
| B.3.9. Do the spatial and technological boundaries as verified on-site comply with the discussion provided by / indication included to the PDD?  | 1,2   | Yes, the boundaries in regard to the baseline conditions and project scenario have been verified on site.  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| B.3.10. Are all mayor emission sources associated to the project included to the boundaries? (Consider e.g. the case of pitfall storage below confinements or heating of digester)   | 1,2   | All mayor emission sources associated to the project are estimated to have been included. .<br><br>As indicated above / CR 14:<br>A sketch of the specific conditions within the farm houses should be included so that the treatment of manure becomes clear – from excretion, to application of scraper or manual cleaning to mixing with water and transport in canals.   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| B.3.11. Is a clear diagram included to the PDD that demonstrates the project scenario as well as the pre-project conditions with all the treatment steps?<br><br>Is a) the fraction of degraded volatile solids degraded in the system, b) the final disposal of methane, if any captured, and c) the use of auxiliary energy indicated in the diagrams? | 1,2   | <b><u>Clarification Request No. 18.</u></b><br>The diagrammatic presentation of the project boundaries needs to be complemented with another diagrammatic indication of the pre-project conditions within the boundary (acc. to methodology). Furthermore the following aspects need to be covered:<br>a) the fraction of degraded volatile solids degraded in the system, b) the final disposal of methane, if any captured, and c) the use of auxiliary energy | CR 18                               | <input checked="" type="checkbox"/> |
| <b>B.4. Description of how the baseline scenario is identified and description of the identified baseline scenario</b>   |       |  |                                     |                                     |
| B.4.1. Step I: Have all technically feasible baseline scenario alternatives to the project activity been identified and discussed by the   | 1,2,4 | Yes, all alternatives are considered to have been identified. The indicated options of the methodology have been dealt with briefly but sufficiently.  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

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|--|-------|---|-------------------------------------|-------------------------------------|
| <p>PDD? Why can this list be considered as being complete?</p> <p>The expected alternatives must include</p> <p>a) the project scenario without CDM registration,</p> <p>b) all alternatives according to IPCC:</p> <ul style="list-style-type: none"> <li>• Daily Spread</li> <li>• Solid Storage</li> <li>• Liquid/Slurry</li> <li>• Uncovered Anaerobic Lagoon</li> <li>• Anaerobic Digester</li> <li>• Composting - In-Vessel</li> <li>• Composting - Static Pile</li> <li>• Composting - Intensive Windrow</li> <li>• Composting - Passive Windrow</li> <li>• Poultry Manure with Litter</li> <li>• Poultry Manure without Litter</li> <li>• Aerobic Treatment, and</li> </ul> <p>c) Continuation of the current situation.</p> |       | Beyond the current practice, the list of the technological options indicated in the methodology has been covered. No indications on other commonly used practices have been identified.             |                                     |                                     |
| <p>B.4.2. Does the project identify correctly and excludes those options not in line with regulatory or legal requirements - with exception to those that are systematically not enforced?<br/><i>(in line with sub step 1b of latest version of additionality tool)</i></p>   | 1,2,4 | Non-legal options are not included to the set of scenarios.   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| <p>B.4.3. Is an analysis carried out identifying those alternatives that are common practice in the country / region (considering same</p>   | 1,2,4 | <p>The current open lagoons are common practice.</p> <p>Based on internet research carried out by the auditors as well as discussion with local experts, it was confirmed that the installation</p> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |



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|--|----------------------|--|-------------------------------------|-------------------------------------|
| scale, comparable framework/environment)?  |                      | of biodigestors same or similar to the proposed design are not common practice in China.<br>The PDD includes corresponding indications.  |                                     |                                     |
| B.4.4. Step II; barrier analysis: Has a barrier analysis been carried out for the different alternatives and have the prohibited alternatives been excluded? Is transparent and documented evidence provided?                                | 1,2,4                | Yes, a basic barrier analysis is carried out in order to narrow down the large list of potential alternatives as pre-defined by the methodology to the ones that are potentially applicable to the local setting. The explanations given are considered adequate.<br><b><u>Clarification Request No. 19.</u></b><br>The aspects<br>- Composting in vessel<br>- Aerobic treatment<br>should be elaborated with some further detail.<br>Relevant references / sources should be given. | CR 19                               | <input checked="" type="checkbox"/> |
| B.4.5. If several alternatives remain, is a) an investment analysis applied to those alternatives that do not face any barriers (step III) or b) is the alternative with the least emissions as the most plausible baseline scenario chosen? | 1,2,4                | Out of the set of alternatives, the <ul style="list-style-type: none"> <li>Uncovered lagoon</li> <li>Pres-separation uncovered lagoon and</li> <li>Anerobic digester (with and without CDM component)</li> </ul> have been scrutinized through an investment analysis.   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| B.4.6. In case of step III, investment analysis: Are the financial indicators clearly identified and calculated (Costs and revenues, IRR, NPV)?  | 1,2,4<br>,3,5,<br>36 | An investment analysis has been carried out for the remaining and potentially applicable alternatives (as indicated in B.4.5).<br>It is considered that the calculations are consistent.<br>IRR is only at 0,85 % for the project scenario without CDM. NPV are elaborated based on a benchmark of 9%, sustained with official sources from NDRC.  | CR 20+21+22<br>CAR 5                | <input checked="" type="checkbox"/> |

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|--|-------|---|-------------------------------------|-------------------------------------|
|  |       | <p>However the following Requests are posed.</p> <p><b><u>Clarification Request No. 20.</u></b></p> <p>In addition to the approval for grid connection provided by the electricity company, a verification (evidence by company) of the price that is going to be paid should be provided.</p> <p><b><u>Clarification Request No. 21.</u></b></p> <p>The rationale of choosing a 25 year project lifetime should be included to the PDD.</p> <p><b><u>Corrective Action Request No.5.</u></b></p> <p>The operating hours of the generators and the electricity produced require revision. The currently used 100% operating time is not considered feasible.</p> <p><b><u>Clarification Request No. 22.</u></b></p> <p>In the secondary document (excel spreadsheet) on finances, the included data should be briefly referenced (in an extra column), so that the calculated figure becomes clear (e.g. indicate used operating hours etc). Where the data is only indirectly deductible from the feasibility study (e.g. table 9.7), the included figures should be explained by including a list of concrete items and individual costs so that the accumulated values are self-explanatory.</p> |                                     |                                     |
| B.4.7. In case of step III: Is the calculation of financial figures correctly done for those alternatives without barriers?              | 1,2,4 | Yes, see B.4.6  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| B.4.8. In case of step III: Is the analysis presented in a transparent manner including publicly available proofs for the utilized data? | 1,2,4 | Yes, see B.4.6  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| B.4.9. In case of Step III: Are cost estimates   | 1,2,4 | Yes, see B.4.6  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

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|--|---------------|--|-------------------------------------|-------------------------------------|
| considered complete, reasonable and sustained with evidence?   |               | Cost estimates are furthermore largely contained in the feasibility study.   |                                     |                                     |
| B.4.10. In case of step III: Have all relevant revenues been incorporated (e.g. sale of electricity, manure as fertilizer, cost savings due to red. electricity purchase)  | 1,2,4<br>, 35 | Yes, see B.4.6<br>No income from use of fertilizer confirmed.  | <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 CDM project activity (assessment and demonstration of additionality):</b>   |               |  |                                     |                                     |
| B.5.1. Can it be concluded that the baseline is not the project scenario without CDM component, and that thus the project is additional?   | 1,2,4         | It is deemed that baseline scenario is not the project scenario without CDM component, as demanded by the methodology. | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| <b>B.6. Emissions reductions</b>   |               |  |                                     |                                     |
| Integrate questions concerning methodological choices and selection of options, if necessary   |               |  |                                     |                                     |
| <i>B.6.1. Explanation of methodological choices</i>  |               |  |                                     |                                     |
| <b>Baseline emissions:</b>   |               |  |                                     |                                     |
| i) Methane emissions   |               |  |                                     |                                     |
| B.6.1.1. Is the relevant formula for the calculation of methane emissions calculated correctly?  | 1,2,<br>4,5   | Yes, the formula is calculated correctly.  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| B.6.1.2. Referring to the applied Methane Conversion Factor (MCF): Has i) the annual average temperature of the site been considered correctly, ii) the conservativeness factor been applied (x 0,94), and iii) the relative reduction of the volatile solids been considered according to | 1,2,<br>4,5   | MCF has been used correctly. The open lagoons are the only treatment stage.  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

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|---|---------|---|-------------------------------------|-------------------------------------|
| treatment stage(see Annex 3 of methodology)?  |         |   |                                     |                                     |
| <p>B.6.1.3. Has the Annual volatile solid for livestock LT entering the AWMS (<math>VS_{LT,y}</math> in kg-dm/animal/ year) be determined in one of the following ways (order of preference)?</p> <ol style="list-style-type: none"> <li>Using published country specific data</li> <li>Estimation of VS based on dietary intake of livestock</li> <li>Scaling default IPCC values (VS default) to adjust for site specific average animal weight.</li> <li>Utilizing published IPCC default values, multiplying the value with no. of days in year (<math>nd_y</math>)</li> </ol> <p>Are used sources of information documented?</p> | 1,2,4,5 | <p>IPCC defaults (option 4) have been used as no other sources are indicated not to be available. Sources are documented.</p> <p>The requirements of the methodology in regard to the use of VS values are satisfied and have been revised (Genetics, Formulated feed ratios, animal weights).</p> <p>In line with the latter also Bo values (max methane production potential) have been deducted from IPCC.</p> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| ii) N <sub>2</sub> O emissions from manure management   |         | Subdivision in direct and indirect emissions:   |                                     |                                     |
| B.6.1.4. Is the relevant formula for the calculation of the <u>direct</u> N <sub>2</sub> O emissions ( $E_{N2O,D,y}$ ) correctly calculated (N <sub>2</sub> O kg / year)?   | 1,2,4,5 | The relevant formula is applied.  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Referring to B.6.1.6.: Is the direct N <sub>2</sub> O emission factor ( $EF_{N2O,D,j}$ ) for the treatment system j of the manure manage-   | 1,2,4,5 | <p>For NEX (nitrogen excretion) IPCC defaults scaled by site specific weight have been used.</p> <p>The emission factor according IPCC Guidelines is 0.</p>   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

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|--|----------|---|-------------------------------------|-------------------------------------|
| ment system in kg N <sub>2</sub> O-N/kg N estimated with site-specific, regional or national data if such data is available, or is otherwise the default EF3 from table 10.21, chapter 10, volume 4, in the IPCC 2006 Guidelines used?   |          | Compare table 2.  |                                     |                                     |
| B.6.1.5. Is the relevant formula for the calculation of the <u>indirect</u> N <sub>2</sub> O emissions (E <sub>N2O, ID, y</sub> ) correctly calculated (N <sub>2</sub> O kg / year)?   | 1,2, 4,5 | Yes, the formula is correctly applied.  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| B.6.1.6. Referring to B.6.1.11.: Is the indirect N <sub>2</sub> O emission factor for N <sub>2</sub> O emissions from atmospheric deposition of nitrogen on soils and water surfaces (kg N <sub>2</sub> O-N/kg NH <sub>3</sub> -N and NO <sub>x</sub> -N emitted) estimated with site-specific, regional or national data if such data is available, or are otherwise default values for EF4 from table 11.3, chapter 11, volume 4 of IPCC 2006 Guidelines used? | 1,2, 4,5 | IPCC default has been used in the documented absence of other data.   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| B.6.1.7. Referring to B.6.1.11.: Are the indirect N <sub>2</sub> O emissions for further treatment stages (e.g. land application) calculated based on sustained calculations or values?  | 1,2, 4,5 | No further treatment stages are included to the baseline.   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| iii) CO <sub>2</sub> emission from electricity and heat within the project boundary  |          |   |                                     |                                     |
| B.6.1.8. Is the relevant formula for the calculation of the emissions from electricity and   | 1,2, 4,5 | Yes, the formula for emissions from electricity consumption is applied correctly. Heat consumption is not applicable. | CR 23                               | <input checked="" type="checkbox"/> |

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|--|----------|--|-------------------------------------|-------------------------------------|
| heat within the project boundary correctly applied and calculated?   |          | <b>Clarification Request No. 23.</b><br>Further information / evidence of the baseline energy consumption (EGBI,y) should be provided, and values should be incorporated to the PDD (e.g. operating hours of pumps etc). |                                     |                                     |
| B.6.1.9.Referring to B.6.1.15.: Is the carbon emissions factor for electricity consumed at the project site in the absence of the project activity (tCO <sub>2</sub> /MWh) estimated according to one of the two options offered by the methodology?<br><b>Option 1 (electricity from an onsite fossil fuel fired power plant):</b> participants should use as $CEF_{BI,elec}$ the default EF for diesel generator >200 KW for SCC projects: 0,8 tCO <sub>2</sub> /MWh from table I.D.1 in AMS.I.D.<br><b>Option 2 (electricity purchased from the grid):</b> participants should calculate $CEF_{BI,elec}$ according to ACM0002, if less than small scale threshold (15 MW) participants should use default EF for a diesel generator >200 KW for SCC projects: 0,8 tCO <sub>2</sub> /MWh from table I.D.1 in AMS.I.D.<br>Evidence for the chosen option? | 1,2, 4,5 | The calculated baseline EF of the North China Power Grid is used instead of the indicated 0,8 default (I.D) for SSC.   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| B.6.1.10. Referring to B.6.1.15.: Is the grid emission factor $CEF_{grid}$ estimated   | 1,2, 4,5 | Operating Margin Emission Factor (EFom) is estimated with 1.0585 t CO <sub>2</sub> / MWh (as announced by the Office of National Co-   | CR 24<br>CAR 6                      | <input checked="" type="checkbox"/> |

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|--|----------|--|-------------------------------------|-------------------------------------|
| <p>according to one of the options provided by the methodology?</p> <p><b>Option 1:</b> <math>CEF_{grid}</math> should be calculated according to methodology ACM0002 ("Consolidated baseline methodology for grid-connected electricity generation from renewable sources").</p> <p><b>Option 2:</b> If the generation capacity is less than the small-scale project activity (15 MW), the method for the calculation of <math>CEF_{grid}</math> in the simplified baseline methodology for small-scale CDM project activity AMS.I.D could be used.</p> |          | <p>ordination Committee on Climate Change).</p> <p>Built Margin Emission Factor was calculated ex-ante according to most recent information on newly built plants (Option 1) with 0,9066 t CO<sub>2</sub> / MWh (as announced by the Office of National Coordination Committee on Climate Change).</p> <p>For <math>CEF_{grid}</math>, the baseline emission factor is the weighted average of 0,9826 t CO<sub>2</sub> / MWh.</p> <p><b><u>Clarification Request No. 24.</u></b></p> <p>Concrete calculations / corresponding documentation on <math>EF_{Bm}</math> and <math>BF_{OM}</math> remain to be submitted.</p> <p>Corresponding information should be included to the PDD as Annex.</p> <p><b><u>Corrective Action Request No.6.</u></b></p> <p>The amount of electricity produced (<math>EG_{d,y}</math>) is considered to need adaptation in line with capacities and maintenance requirements</p> |                                     |                                     |
| B.6.1.11. Has the CO <sub>2</sub> emissions intensity for thermal energy generation (tCO <sub>2</sub> e/MJ) been estimated as the average of the historical 3 years of consumption?  | 1,2, 4,5 | Not Applicable   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| <b>Project emissions</b>   |          |  |                                     |                                     |
| i) Methane emissions from AWMS where gas is captured ( $PE_{AD,y}$ ):  |          |  |                                     |                                     |
| B.6.1.12. Is the correct formula for the estimation of physical leakage $PE_{AD,y}$ chosen?  | 1,2, 4,5 | <p>Yes the correct formula is used.</p> <p><b><u>Clarification Request No. 25.</u></b></p> <p>The source for RVs needs to be justified in regard to why test val-</p>  | CR 25                               | <input checked="" type="checkbox"/> |

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|--|----------|--|-------------------------------------|-------------------------------------|
| <b>Option 1:</b> Formula 10 a) if the AWMS is a anaerobic digester only<br><b>Option 2:</b> Formula 10 b) if the AWMS consists of further stages.                                    |          | ues are or are not used. If Annex I values are applied clear referencing is requested.<br>Reference/source should be provided for the methane content in biogas (0,67), applied in the context of the 0,15 leakage factor for the digester.  |                                     |                                     |
| B.6.1.13. Is the $LF_{AD}$ (physical leakage factor) sustained by study results (if lower 0,15) or is the correct default used (0,15)?   | 1,2, 4,5 | 0,15 default is used for physical leakage in the biodigester, which is in line with the methodology.   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| (ii) Methane emissions from aerobic AWMS treatment ( $PE_{Aer, y}$ )   |          |  |                                     |                                     |
| B.6.1.14. Is the relevant formula for the calculation of the $CH_4$ emissions from aerobic AWMS treatment correctly calculated?  | 1,2, 4,5 | The formula has been applied correctly.<br><b>Clarification Request No. 26.</b><br>It should be indicated / documented in the excel sheet how it is dealt with the necessary parameter of $PE_{SI}$ of formula (11) of the methodology.<br>In general, the excel sheet with ER calculations units and sources (e.g. no. of IPCC table) should be given for all values. | CR 26                               | <input checked="" type="checkbox"/> |
| B.6.1.15. What are the following management / treatment steps for the large amount of sludge produced by aerobic treatment? If ponds are used, are they inside the project boundary? | 1,2, 4,5 | An aerobic lagoon is included for biogas liquid within boundaries. Slurry storage / land applications outside boundary ( $PE_{SI, y}$ ) is considered leakage.   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| B.6.1.16. Are the methane emissions from sludge disposed in storage  | 1,2, 4,5 | Sludge emissions are considered leakage, see B.6.1.14  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |



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| pits/ponds prior to disposal correctly estimated using the formula from the methodology?   |          |  |                                     |                                     |
| (iii) N <sub>2</sub> O emissions from manure management  |          |  |                                     |                                     |
| B.6.1.17. Is the relevant formula for the calculation of the N <sub>2</sub> O emissions from aerobic AWMS treatment correctly calculated?  | 1,2, 4,5 | Yes, the relevant formula has been applied.  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| B.6.1.18. Are the <u>direct</u> N <sub>2</sub> O emissions correctly calculated?   | 1,2, 4,5 | Yes, the direct N <sub>2</sub> O emissions are calculated correctly.<br><b><u>Clarification Request No. 27.</u></b><br>Following the indications of Annex 2, it should be clarified in detail how NEX was elaborated and – if applicable - the use of IPCC defaults should be justified. | CR 27                               | <input checked="" type="checkbox"/> |
| B.6.1.19. Are the <u>indirect</u> N <sub>2</sub> O emissions correctly calculated?   | 1,2, 4,5 | Yes, the formula for indirect N <sub>2</sub> O emissions is calculated correctly.  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| B.6.1.20. Is the reduction of nitrogen during the following treatment stages correctly calculated? Is that in line with the conditions encountered onsite?                                   | 1,2, 4,5 | There are no treatment stages within the project boundary beyond aerobic lagoons.  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| iv) Physical Leakage from distribution network of the captured methane in (PE <sub>PL</sub> )  |          |  |                                     |                                     |
| B.6.1.21. Is the leakage estimation reasonable and conservative, calculated as difference between monitored methane generated and that consumed in flare, electricity generation and boiler? | 1,2, 4,5 | Leakage in distribution network is considered 0, as the pipeline network is small in scale (less than 1km).  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

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| (v) Project emissions from flaring of the residual gas stream ( $PE_{flare, y}$ ):  |             |   |                                     |                                     |
| B.6.1.22. Has the latest version of the flaring too been applied?   | 1,2,<br>4,5 | <b>Clarification Request No. 28.</b><br>CH4 emissions due to inefficient combustion are set to zero, which is considered to need revision / further clarification.<br><br>In line with the CAR 2: Regarding security aspects, gas production, tank size, etc, flaring should be incorporated; demonstration of the compliance with the corresponding UNFCCC tool should be considered.  | CR 28                               | <input checked="" type="checkbox"/> |
| (vi) Project emissions from heat use and electricity use ( $PE_{elec/heat}$ ):  |             |   |                                     |                                     |
| B.6.1.23. Is the relevant formula for the calculation of emissions from heat and electricity used applied and calculated correctly?<br><br>Are the estimates on electricity and heat use in the project scenario reasonable and conservative?   | 1,2,<br>4,5 | Yes the correct formula for electricity consumption has been applied. Thermal energy is not used / produced.<br><b>Clarification Request No. 29.</b><br>The data presented as electricity consumed in the project case requires further specification. A list of included equipment should be provided (equipment list, including e.g. details aerobic lagoon, pumps, digester, etc. .) | CR 29                               | <input checked="" type="checkbox"/> |
| B.6.1.24. Have adequate emission factors been used for the electricity consumed at the project site during the project activity ( $CEF_d$ )<br><br><b>Option 1 (electricity from an onsite fossil fuel fired power plant):</b> participants should use for $CEF_d$ the default EF for diesel generator >200 KW for SCC projects: 0,8 tCO <sub>2</sub> /MWh from table | 1,2,<br>4,5 | The calculated baseline EF of the North China Power Grid is used (0,9826) instead of the indicated 0,8 default (I.D) for SSC.   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

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|---|----------|--|-------------------------------------|-------------------------------------|
| I.D.1 in AMS.I.D.<br><b>Option 2 (electricity purchased from the grid):</b> participants should calculate $CEF_d$ according to ACM0002, if less than small scale threshold (15 GWh/yr) participants should use default EF for a diesel generator >200 KW for SCC projects: 0,8 tCO <sub>2</sub> /MWh from table I.D.1 in AMS.I.D. |          |  |                                     |                                     |
| <b>Leakage</b>  |          |  |                                     |                                     |
| B.6.1.25. Is the relevant formula for the calculation of leakage from land application of treated manure, outside the project boundary applied correctly (N <sub>2</sub> O and CH <sub>4</sub> )?   | 1,2, 4,5 | Yes, the relevant formula is applied and the net approach between baseline and project emissions outside of the boundary is taken.   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| <b>i) Estimation of N<sub>2</sub>O emissions</b>  |          |  |                                     |                                     |
| B.6.1.26. Has the N <sub>2</sub> O baseline leakage been correctly calculated?  | 1,2, 4,5 | The formula is applied correctly. Calculations are based on IPCC defaults.<br><b>Clarification Request No. 30.</b><br>The chosen value 0,4 for Reduced NEX fraction / RN,n should be referenced in further detail. | CR 30                               | <input checked="" type="checkbox"/> |
| B.6.1.27. Has the N <sub>2</sub> O leakage of the project scenario been correctly calculated?   | 1,2, 4,5 | The formula is applied correctly. Calculations are based on IPCC defaults.   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| <b>(ii) Methane emissions from disposal of treated manure</b>   |          |  |                                     |                                     |
| B.6.1.28. Is the relevant formula for the calculation of CH <sub>4</sub> leakage from disposal  | 1,2, 4,5 | Yes, the formula has been applied correctly.   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

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|--|----------|--|-------------------------------------|---|---------------------------------|-----|-------------------------------------|-------------------------------------|
| of treated manure applied accurately?  |          |  |                                     |   |                                 |     |                                     |                                     |
| Other emissions considered leakage   |          |  |                                     |   |                                 |     |                                     |                                     |
| B.6.1.29. Are there other emission sources that should be considered leakage?  | 1,2, 4,5 | Emissions from the transport of manure from two farm compounds (which represent a small fraction) to the new biodigester are considered as leakage.<br><b>Clarification Request No. 31.</b><br>The process of manure transport should be described in detail (e.g. with or without water, impacts on emissions and further calculations due to transport form, etc).<br>Calculations should be part of one complete excel spreadsheet. | CR 31                               | <input checked="" type="checkbox"/><br>Transport was excluded |                                 |     |                                     |                                     |
| Emission reductions  |          |  |                                     |   |                                 |     |                                     |                                     |
| B.6.1.30. Is the relevant formula for the calculation of emissions reductions applied accurately?  | 1,2, 4,5 | Yes, the formula has been applied correctly.   | <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? | 1,2, 4,5 | Yes, the table of parameters is considered in line with the methodology.<br><b>Clarification Request No. 32.</b><br>Relevant parameters in regard to flaring remain to be incorporated to the list of parameters (B.6.2. u. B.7.1)   | CR 32                               | <input checked="" type="checkbox"/>                           |                                 |     |                                     |                                     |
| Integrate the required amount of sub-checklists for monitoring parameter and comment on any line answered with “No”.                               |          |  |                                     |   |                                 |     |                                     |                                     |
| Not-monitored parameters:  |          |  |                                     |   |                                 |     |                                     |                                     |
| B.6.2.2.Parameter Title: 1   | 1,2, 4,5 | <table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>yes</td></tr></table>  | Data Checklist                      | Yes / No  | Title in line with methodology? | yes | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Data Checklist   | Yes / No |  |                                     |   |                                 |     |                                     |                                     |
| Title in line with methodology?  | yes      |  |                                     |   |                                 |     |                                     |                                     |

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|--|--|----------|------------|-----------------------------------|------------|---|--------------|---|-----------------|----------------------|----------------------------------|--|--------------|--|---------|--|--------------------------------|----------|---------------------------------------|-----|--------------------------------|-----|---------------------------------------|-----|-------------------------------|-----|-------------------------------------|-------------------------------------|---|-----|-------------------------------------|-----|---|-----|-------------------------------------|-------------------------------------|--|
| <table><tr><td>ID Number:</td><td>1</td></tr><tr><td>Parameter:</td><td><math>R_{VS,a}</math></td></tr><tr><td>Data unit:</td><td>Fraction</td></tr><tr><td>Description:</td><td>VS degradation factor</td></tr><tr><td>Source of data:</td><td>Refer to Annex 1</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>Any comment:</td><td>Estimated from Table provided in Annex 1. The most conservative value for the given technology must be used.</td></tr></table>   | ID Number:   | 1        | Parameter: | $R_{VS,a}$                        | Data unit: | Fraction  | Description: | VS degradation factor   | Source of data: | Refer to Annex 1     | Measurement procedures (if any): | Archive electronically during project plus 5 years | Any comment: | Estimated from Table provided in Annex 1. The most conservative value for the given technology must be used. |         | <table><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 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 |                                     |     |   |     |                                     |                                     |  |
| ID Number:   | 1  |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Parameter:   | $R_{VS,a}$   |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Data unit:   | Fraction   |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Description:   | VS degradation factor  |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Source of data:  | Refer to Annex 1   |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Measurement procedures (if any):   | Archive electronically during project plus 5 years   |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Any comment:   | Estimated from Table provided in Annex 1. The most conservative value for the given technology must be used. |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| 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  |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| <p>B.6.2.3.Parameter Title: 2</p> <table><tr><td>ID Number:</td><td>2</td></tr><tr><td>Parameter:</td><td><math>EF_{N_2O,D_i}</math>, <math>EF_{N_2O,D_i}</math></td></tr><tr><td>Data unit:</td><td>kg N2O-N/ kg N and kg N2O-N/ kg NH3-N and NOX-N</td></tr><tr><td>Description:</td><td>N2O emission factors (direct and indirect emissions) used in equation 14 and 15</td></tr><tr><td>Source of data:</td><td>IPCC 2006 Guidelines</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>Any comment:</td><td>IPCC 2006 default values may be used, if country specific or region specific data are not available.</td></tr></table> | ID Number:   | 2        | Parameter: | $EF_{N_2O,D_i}$ , $EF_{N_2O,D_i}$ | Data unit: | kg N2O-N/ kg N and kg N2O-N/ kg NH3-N and NOX-N | Description: | N2O emission factors (direct and indirect emissions) used in equation 14 and 15 | Source of data: | IPCC 2006 Guidelines | Measurement procedures (if any): | Archive electronically during project plus 5 years | Any comment: | IPCC 2006 default values may be used, if country specific or region specific data are not available.         | 1,2,4,5 | <table><tr><td>Data Checklist</td><td>Yes / No</td></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 | 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"/> |  |
| ID Number:   | 2  |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Parameter:   | $EF_{N_2O,D_i}$ , $EF_{N_2O,D_i}$  |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Data unit:   | kg N2O-N/ kg N and kg N2O-N/ kg NH3-N and NOX-N  |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Description:   | N2O emission factors (direct and indirect emissions) used in equation 14 and 15                              |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Source of data:  | IPCC 2006 Guidelines   |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Measurement procedures (if any):   | Archive electronically during project plus 5 years   |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Any comment:   | IPCC 2006 default values may be used, if country specific or region specific data are not available.         |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Data 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?  | yes  |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Has this value been verified?  | yes  |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Choice of data correctly justified?  | yes  |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Measurement method correctly described?  | yes  |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| <p>B.6.2.4.Parameter Title: 3</p> <table><tr><td>ID Number:</td><td>3</td></tr><tr><td>Parameter:</td><td><math>F_{gas}</math></td></tr><tr><td>Data unit:</td><td>Fraction</td></tr><tr><td>Description:</td><td>Fraction of N lost due to volatilization</td></tr><tr><td>Source of data:</td><td>IPCC 2006 Guidelines</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>Any comment:</td><td>IPCC 2006 default values can be used.</td></tr></table>  | ID Number:   | 3        | Parameter: | $F_{gas}$                         | Data unit: | Fraction  | Description: | Fraction of N lost due to volatilization  | Source of data: | IPCC 2006 Guidelines | Measurement procedures (if any): | Archive electronically during project plus 5 years | Any comment: | IPCC 2006 default values can be used.  | 1,2,4,5 | <table><tr><td>Data Checklist</td><td>Yes / No</td></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>   | Data Checklist                 | Yes / No | Title in line with methodology?       | yes | Data unit correctly expressed? | yes | Appropriate description of parameter? | yes | Source clearly referenced?    | yes | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |   |     |                                     |     |   |     |                                     |                                     |  |
| ID Number:   | 3  |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Parameter:   | $F_{gas}$  |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Data unit:   | Fraction   |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Description:   | Fraction of N lost due to volatilization   |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Source of data:  | IPCC 2006 Guidelines   |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Measurement procedures (if any):   | Archive electronically during project plus 5 years   |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Any comment:   | IPCC 2006 default values can be used.  |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Data Checklist   | Yes / No   |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Title in line with methodology?  | yes  |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Data unit correctly expressed?   | yes  |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Appropriate description of parameter?  | yes  |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |
| Source clearly referenced?   | yes  |          |            |                                   |            |   |              |   |                 |                      |                                  |  |              |  |         |  |                                |          |                                       |     |                                |     |                                       |     |                               |     |                                     |                                     |   |     |                                     |     |   |     |                                     |                                     |  |

# Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION   | Ref.  | COMMENTS  |            | PPD in GSP  | Final PDD  |   |              |   |                 |   |                                  |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |
|--|---|---|------------|---|------------|---|--------------|---|-----------------|---|----------------------------------|--|--------------|--|---------|--|--|----------------|----------|---------------------------------|-----|--------------------------------|-----|---------------------------------------|-----|----------------------------|-----|-------------------------|-----|-------------------------------|-----|-------------------------------------|-----|---|-------------------------------------|-------------------------------------|-------------------------------------|
|  |   | <table><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> |            | Correct value provided?                             | yes        | Has this value been verified?   | yes          | Choice of data correctly justified?                         | yes             | Measurement method correctly described? | yes                              |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |
| Correct value provided?  | yes   |   |            |   |            |   |              |   |                 |   |                                  |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |
| Has this value been verified?  | yes   |   |            |   |            |   |              |   |                 |   |                                  |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |
| Choice of data correctly justified?  | yes   |   |            |   |            |   |              |   |                 |   |                                  |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |
| Measurement method correctly described?  | yes   |   |            |   |            |   |              |   |                 |   |                                  |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |
| <div>B.6.2.5.Parameter Title: 4</div> <table><tr><td>ID Number:</td><td>4</td></tr><tr><td>Parameter:</td><td>EF<sub>1</sub>, EF<sub>4</sub>, EF<sub>5</sub></td></tr><tr><td>Data unit:</td><td>kg N<sub>2</sub>O-N/ kg N for EF<sub>1</sub>, EF<sub>5</sub> and kg N<sub>2</sub>O-N/ kg NH<sub>3</sub>-N and NO<sub>x</sub>-N for EF<sub>4</sub></td></tr><tr><td>Description:</td><td>N<sub>2</sub>O emission factor from soil and runoff water</td></tr><tr><td>Source of data:</td><td>IPCC 2006 Guidelines</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>Any comment:</td><td>IPCC 2006 default values may be used, if country specific or region specific data are not available.</td></tr></table> | ID Number:  | 4   | Parameter: | EF <sub>1</sub> , EF <sub>4</sub> , EF <sub>5</sub> | Data unit: | kg N <sub>2</sub> O-N/ kg N for EF <sub>1</sub> , EF <sub>5</sub> and kg N <sub>2</sub> O-N/ kg NH <sub>3</sub> -N and NO <sub>x</sub> -N for EF <sub>4</sub> | Description: | N <sub>2</sub> O emission factor from soil and runoff water | Source of data: | IPCC 2006 Guidelines                    | Measurement procedures (if any): | Archive electronically during project plus 5 years | Any comment: | IPCC 2006 default values may be used, if country specific or region specific data are not available. | 1,2,4,5 | <table><tr><td>Data Checklist</td><td>Yes / No</td></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 | 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"/> |
| ID Number:   | 4   |   |            |   |            |   |              |   |                 |   |                                  |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |
| Parameter:   | EF <sub>1</sub> , EF <sub>4</sub> , EF <sub>5</sub>   |   |            |   |            |   |              |   |                 |   |                                  |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |
| Data unit:   | kg N <sub>2</sub> O-N/ kg N for EF <sub>1</sub> , EF <sub>5</sub> and kg N <sub>2</sub> O-N/ kg NH <sub>3</sub> -N and NO <sub>x</sub> -N for EF <sub>4</sub> |   |            |   |            |   |              |   |                 |   |                                  |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |
| Description:   | N <sub>2</sub> O emission factor from soil and runoff water   |   |            |   |            |   |              |   |                 |   |                                  |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |
| Source of data:  | IPCC 2006 Guidelines  |   |            |   |            |   |              |   |                 |   |                                  |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |
| Measurement procedures (if any):   | Archive electronically during project plus 5 years  |   |            |   |            |   |              |   |                 |   |                                  |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |
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| Data 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?  | yes   |   |            |   |            |   |              |   |                 |   |                                  |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |
| Has this value been verified?  | yes   |   |            |   |            |   |              |   |                 |   |                                  |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |
| Choice of data correctly justified?  | yes   |   |            |   |            |   |              |   |                 |   |                                  |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |
| Measurement method correctly described?  | yes   |   |            |   |            |   |              |   |                 |   |                                  |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |
| <div>B.6.2.6.Parameter Title: 5</div> <table><tr><td>ID Number:</td><td>5</td></tr><tr><td>Parameter:</td><td>F<sub>leach</sub></td></tr><tr><td>Data unit:</td><td>Fraction</td></tr><tr><td>Description:</td><td>Fraction of N leached</td></tr><tr><td>Source of data:</td><td>IPCC 2006 Guidelines</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>Any comment:</td><td>IPCC 2006 default values can be used.</td></tr></table>  | ID Number:  | 5   | Parameter: | F <sub>leach</sub>                                  | Data unit: | Fraction  | Description: | Fraction of N leached                                       | Source of data: | IPCC 2006 Guidelines                    | Measurement procedures (if any): | Archive electronically during project plus 5 years | Any comment: | IPCC 2006 default values can be used.  | 1,2,4,5 | <table><tr><td>Data Checklist</td><td>Yes / No</td></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>No</td></tr><tr><td>Choice of data correctly justified?</td><td>yes</td></tr></table>   |  | Data 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? | yes | Has this value been verified? | No  | Choice of data correctly justified? | yes | CR 33                                   | <input checked="" type="checkbox"/> |                                     |                                     |
| ID Number:   | 5   |   |            |   |            |   |              |   |                 |   |                                  |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |
| Parameter:   | F <sub>leach</sub>  |   |            |   |            |   |              |   |                 |   |                                  |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |
| Data unit:   | Fraction  |   |            |   |            |   |              |   |                 |   |                                  |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |
| Description:   | Fraction of N leached   |   |            |   |            |   |              |   |                 |   |                                  |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |
| Source of data:  | IPCC 2006 Guidelines  |   |            |   |            |   |              |   |                 |   |                                  |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |
| Measurement procedures (if any):   | Archive electronically during project plus 5 years  |   |            |   |            |   |              |   |                 |   |                                  |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |
| Any comment:   | IPCC 2006 default values can be used.   |   |            |   |            |   |              |   |                 |   |                                  |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |
| Data 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?  | yes   |   |            |   |            |   |              |   |                 |   |                                  |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |
| Has this value been verified?  | No  |   |            |   |            |   |              |   |                 |   |                                  |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |
| Choice of data correctly justified?  | yes   |   |            |   |            |   |              |   |                 |   |                                  |  |              |  |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |                                     |                                     |                                     |

# Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION   | Ref.  | COMMENTS   |            | PPD in GSP                              | Final PDD  |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
|--|---|--|------------|---|------------|----------------------|--------------|--|-----------------|-------------------------------|----------------------------------|---|--------------|---|---------|--|--|----------------|----------|---------------------------------|-----|--------------------------------|-----|---------------------------------------|-----|----------------------------|-----|-------------------------|-----|-------------------------------|-----|-------------------------------------|-----|---|-----|-------------------------------------|-------------------------------------|
|  |   | <table><tr><td>Measurement method correctly described?</td><td>yes</td></tr></table><br><b>Clarification Request No. 33.</b><br>The fact that precipitation is lower than evaporation needs to be sustained. |            | Measurement method correctly described? | yes        |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Measurement method correctly described?  | yes   |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| <div>B.6.2.7.Parameter Title: 6</div> <table><tr><td>ID Number:</td><td>6</td></tr><tr><td>Parameter:</td><td>CEFB<sub>therm,v</sub></td></tr><tr><td>Data unit:</td><td>tCO<sub>2</sub>/MJ</td></tr><tr><td>Description:</td><td>Emission factor of baseline heat use</td></tr><tr><td>Source of data:</td><td>Refer to baseline methodology</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>Any comment:</td><td>Calculated as per procedure described in the baseline methodology.</td></tr></table>  | ID Number:  | 6  | Parameter: | CEFB <sub>therm,v</sub>                 | Data unit: | tCO <sub>2</sub> /MJ | Description: | Emission factor of baseline heat use     | Source of data: | Refer to baseline methodology | Measurement procedures (if any): | Archive electronically during project plus 5 years              | Any comment: | Calculated as per procedure described in the baseline methodology.  | 1,2,4,5 | <table><tr><td>Data Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>n/a</td></tr><tr><td>Data unit correctly expressed?</td><td>n/a</td></tr><tr><td>Appropriate description of parameter?</td><td>n/a</td></tr><tr><td>Source clearly referenced?</td><td>n/a</td></tr><tr><td>Correct value provided?</td><td>n/a</td></tr><tr><td>Has this value been verified?</td><td>n/a</td></tr><tr><td>Choice of data correctly justified?</td><td>n/a</td></tr><tr><td>Measurement method correctly described?</td><td>n/a</td></tr></table> |  | Data Checklist | Yes / No | Title in line with methodology? | n/a | Data unit correctly expressed? | n/a | Appropriate description of parameter? | n/a | Source clearly referenced? | n/a | Correct value provided? | n/a | Has this value been verified? | n/a | Choice of data correctly justified? | n/a | Measurement method correctly described? | n/a | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| ID Number:   | 6   |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Parameter:   | CEFB <sub>therm,v</sub>   |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Data unit:   | tCO <sub>2</sub> /MJ  |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Description:   | Emission factor of baseline heat use  |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Source of data:  | Refer to baseline methodology   |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Measurement procedures (if any):   | Archive electronically during project plus 5 years  |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Any comment:   | Calculated as per procedure described in the baseline methodology.  |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Data Checklist   | Yes / No  |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Title in line with methodology?  | n/a   |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Data unit correctly expressed?   | n/a   |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Appropriate description of parameter?  | n/a   |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Source clearly referenced?   | n/a   |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Correct value provided?  | n/a   |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Has this value been verified?  | n/a   |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Choice of data correctly justified?  | n/a   |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Measurement method correctly described?  | n/a   |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| <div>B.6.2.8.Parameter Title: 7</div> <table><tr><td>ID Number:</td><td>7</td></tr><tr><td>Parameter:</td><td>EG<sub>BL,v</sub></td></tr><tr><td>Data unit:</td><td>MWh</td></tr><tr><td>Description:</td><td>Electricity consumption by Baseline AWMS</td></tr><tr><td>Source of data:</td><td>Project proponents</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically for the duration of project plus 5 years</td></tr><tr><td>Any comment:</td><td>Estimation is based on three years data prior to start of the project. Electricity meters will undergo maintenance/calibration subject to appropriate industry standards. The accuracy of the meter readings will be verified by receipts issued by the purchasing power company. Uncertainty of the meters to be obtained from the manufacturers. This uncertainty to be included in a conservative manner while calculating CERs and procedure for doing so should be described in the CDM-PDD.</td></tr></table> | ID Number:  | 7  | Parameter: | EG <sub>BL,v</sub>                      | Data unit: | MWh                  | Description: | Electricity consumption by Baseline AWMS | Source of data: | Project proponents            | Measurement procedures (if any): | Archive electronically for the duration of project plus 5 years | Any comment: | Estimation is based on three years data prior to start of the project. Electricity meters will undergo maintenance/calibration subject to appropriate industry standards. The accuracy of the meter readings will be verified by receipts issued by the purchasing power company. Uncertainty of the meters to be obtained from the manufacturers. This uncertainty to be included in a conservative manner while calculating CERs and procedure for doing so should be described in the CDM-PDD. | 1,2,4,5 | <table><tr><td>Data Checklist</td><td>Yes / No</td></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 | 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"/> |
| ID Number:   | 7   |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Parameter:   | EG <sub>BL,v</sub>  |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Data unit:   | MWh   |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Description:   | Electricity consumption by Baseline AWMS  |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Source of data:  | Project proponents  |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Measurement procedures (if any):   | Archive electronically for the duration of project plus 5 years   |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Any comment:   | Estimation is based on three years data prior to start of the project. Electricity meters will undergo maintenance/calibration subject to appropriate industry standards. The accuracy of the meter readings will be verified by receipts issued by the purchasing power company. Uncertainty of the meters to be obtained from the manufacturers. This uncertainty to be included in a conservative manner while calculating CERs and procedure for doing so should be described in the CDM-PDD. |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Data 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?  | yes   |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Has this value been verified?  | yes   |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Choice of data correctly justified?  | yes   |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Measurement method correctly described?  | yes   |  |            |   |            |                      |              |  |                 |                               |                                  |   |              |   |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |

## Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

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Industrie Service

| CHECKLIST TOPIC / QUESTION  | Ref.   | COMMENTS   | PPD in GSP | Final PDD          |            |        |              |  |                 |                    |                                  |  |              |  |                |  |                                 |          |                                 |     |                                       |     |                                       |                                     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
|---|--|--|------------|--------------------|------------|--------|--------------|--|-----------------|--------------------|----------------------------------|--|--------------|--|----------------|--|---------------------------------|----------|---------------------------------|-----|---------------------------------------|-----|---------------------------------------|-------------------------------------|----------------------------|-----|-------------------------|-----|-------------------------------|-----|-------------------------------------|-----|---|-----|-------------------------------------|-------------------------------------|
|   |  | <p>The chosen approach on estimates of baseline electricity consumption is considered acceptable. No specific meters for pumps have been in place. Consumption was estimated by capacity of pumps and operating hours.</p> <p>See CR above on evidence for pumps and operating hours (detailed calculation), etc in order to calculate baseline electricity consumption.</p> |            |                    |            |        |              |  |                 |                    |                                  |  |              |  |                |  |                                 |          |                                 |     |                                       |     |                                       |                                     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| <p>B.6.2.9.Parameter Title: 8</p> <table><tr><td>ID Number:</td><td>8</td></tr><tr><td>Parameter:</td><td>nd<sub>v</sub></td></tr><tr><td>Data unit:</td><td>Number</td></tr><tr><td>Description:</td><td>Number of days treatment plant was operational in year y</td></tr><tr><td>Source of data:</td><td>Project proponents</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronic for the duration of project + 5 yrs</td></tr><tr><td>Any comment:</td><td>---</td></tr></table> | ID Number:   | 8  | Parameter: | nd <sub>v</sub>    | Data unit: | Number | Description: | Number of days treatment plant was operational in year y | Source of data: | Project proponents | Measurement procedures (if any): | Archive electronic for the duration of project + 5 yrs | Any comment: | ---  | 1,2,4,5        | <table><tr><th>Data 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?</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> <p>Under the baseline scenario the open lagoons are considered to have been operational 365 days/ year.</p> | Data 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? | 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"/> |
| ID Number:  | 8  |  |            |                    |            |        |              |  |                 |                    |                                  |  |              |  |                |  |                                 |          |                                 |     |                                       |     |                                       |                                     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Parameter:  | nd <sub>v</sub>  |  |            |                    |            |        |              |  |                 |                    |                                  |  |              |  |                |  |                                 |          |                                 |     |                                       |     |                                       |                                     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Data unit:  | Number   |  |            |                    |            |        |              |  |                 |                    |                                  |  |              |  |                |  |                                 |          |                                 |     |                                       |     |                                       |                                     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Description:  | Number of days treatment plant was operational in year y |  |            |                    |            |        |              |  |                 |                    |                                  |  |              |  |                |  |                                 |          |                                 |     |                                       |     |                                       |                                     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Source of data:   | Project proponents                                       |  |            |                    |            |        |              |  |                 |                    |                                  |  |              |  |                |  |                                 |          |                                 |     |                                       |     |                                       |                                     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Measurement procedures (if any):  | Archive electronic for the duration of project + 5 yrs   |  |            |                    |            |        |              |  |                 |                    |                                  |  |              |  |                |  |                                 |          |                                 |     |                                       |     |                                       |                                     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Any comment:  | ---  |  |            |                    |            |        |              |  |                 |                    |                                  |  |              |  |                |  |                                 |          |                                 |     |                                       |     |                                       |                                     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Data 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?   | yes  |  |            |                    |            |        |              |  |                 |                    |                                  |  |              |  |                |  |                                 |          |                                 |     |                                       |     |                                       |                                     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Has this value been verified?   | yes  |  |            |                    |            |        |              |  |                 |                    |                                  |  |              |  |                |  |                                 |          |                                 |     |                                       |     |                                       |                                     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Choice of data correctly justified?   | yes  |  |            |                    |            |        |              |  |                 |                    |                                  |  |              |  |                |  |                                 |          |                                 |     |                                       |     |                                       |                                     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Measurement method correctly described?   | yes  |  |            |                    |            |        |              |  |                 |                    |                                  |  |              |  |                |  |                                 |          |                                 |     |                                       |     |                                       |                                     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| <p>B.6.2.10. Parameter Title: 9</p> <table><tr><td>ID Number:</td><td>9</td></tr><tr><td>Parameter:</td><td>HG<sub>BL,y</sub></td></tr><tr><td>Data unit:</td><td>MJ</td></tr><tr><td>Description:</td><td>Heat used by baseline AWMS</td></tr><tr><td>Source of data:</td><td>Project proponents</td></tr><tr><td>Measurement</td><td>Archive electronic for the duration of project + 5 yrs</td></tr></table>   | ID Number:   | 9  | Parameter: | HG <sub>BL,y</sub> | Data unit: | MJ     | Description: | Heat used by baseline AWMS                               | Source of data: | Project proponents | Measurement                      | Archive electronic for the duration of project + 5 yrs | 1,2,4,5      | <table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>n/a</td></tr><tr><td>Data unit correctly expressed?</td><td>n/a</td></tr><tr><td>Appropriate description of parameter?</td><td>n/a</td></tr></table> | Data Checklist | Yes / No   | Title in line with methodology? | n/a      | Data unit correctly expressed?  | n/a | Appropriate description of parameter? | n/a | <input checked="" type="checkbox"/>   | <input checked="" type="checkbox"/> |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| ID Number:  | 9  |  |            |                    |            |        |              |  |                 |                    |                                  |  |              |  |                |  |                                 |          |                                 |     |                                       |     |                                       |                                     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Parameter:  | HG <sub>BL,y</sub>                                       |  |            |                    |            |        |              |  |                 |                    |                                  |  |              |  |                |  |                                 |          |                                 |     |                                       |     |                                       |                                     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Data unit:  | MJ   |  |            |                    |            |        |              |  |                 |                    |                                  |  |              |  |                |  |                                 |          |                                 |     |                                       |     |                                       |                                     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Description:  | Heat used by baseline AWMS                               |  |            |                    |            |        |              |  |                 |                    |                                  |  |              |  |                |  |                                 |          |                                 |     |                                       |     |                                       |                                     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Source of data:   | Project proponents                                       |  |            |                    |            |        |              |  |                 |                    |                                  |  |              |  |                |  |                                 |          |                                 |     |                                       |     |                                       |                                     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Measurement   | Archive electronic for the duration of project + 5 yrs   |  |            |                    |            |        |              |  |                 |                    |                                  |  |              |  |                |  |                                 |          |                                 |     |                                       |     |                                       |                                     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Data Checklist  | Yes / No   |  |            |                    |            |        |              |  |                 |                    |                                  |  |              |  |                |  |                                 |          |                                 |     |                                       |     |                                       |                                     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Title in line with methodology?   | n/a  |  |            |                    |            |        |              |  |                 |                    |                                  |  |              |  |                |  |                                 |          |                                 |     |                                       |     |                                       |                                     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Data unit correctly expressed?  | n/a  |  |            |                    |            |        |              |  |                 |                    |                                  |  |              |  |                |  |                                 |          |                                 |     |                                       |     |                                       |                                     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Appropriate description of parameter?   | n/a  |  |            |                    |            |        |              |  |                 |                    |                                  |  |              |  |                |  |                                 |          |                                 |     |                                       |     |                                       |                                     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |



# Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd.,  
Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION  |   | Ref.                 | COMMENTS |              | PPD in GSP  | Final PDD  |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
|---|---|----------------------|----------|--------------|---|------------|---|--------------|--|-----------------|-------------------------|----------------------------------|---|--------------|-------------------------------------|---------|--|-----|----------------|----------|---------------------------------|-----|--------------------------------|-----|---------------------------------------|-----|----------------------------|-----|-------------------------|----|-------------------------------|----|-------------------------------------|----|---|----|-------|---|
| <table><tr><td>procedures (if any):</td><td></td></tr><tr><td>Any comment:</td><td>At start of project. Fuel purchase records to be cross checked with estimates. Estimation is based on three years data prior to start of the project.</td></tr></table>  |   | procedures (if any): |          | Any comment: | At start of project. Fuel purchase records to be cross checked with estimates. Estimation is based on three years data prior to start of the project. |            | <table><tr><td>Source clearly referenced?</td><td>n/a</td></tr><tr><td>Correct value provided?</td><td>n/a</td></tr><tr><td>Has this value been verified?</td><td>n/a</td></tr><tr><td>Choice of data correctly justified?</td><td>n/a</td></tr><tr><td>Measurement method correctly described?</td><td>n/a</td></tr></table> |              | Source clearly referenced?                             | n/a             | Correct value provided? | n/a                              | Has this value been verified?   | n/a          | Choice of data correctly justified? | n/a     | Measurement method correctly described?  | n/a |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| procedures (if any):  |   |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Any comment:  | At start of project. Fuel purchase records to be cross checked with estimates. Estimation is based on three years data prior to start of the project. |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Source clearly referenced?  | n/a   |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Correct value provided?   | n/a   |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Has this value been verified?   | n/a   |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Choice of data correctly justified?   | n/a   |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Measurement method correctly described?   | n/a   |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| B.6.2.11.          Parameter Title: 10<br><table><tr><td>ID Number:</td><td>10</td></tr><tr><td>Parameter:</td><td>MS%<sub>MBLj</sub></td></tr><tr><td>Data unit:</td><td>Fraction</td></tr><tr><td>Description:</td><td>Fraction of manure handled in system j in the baseline</td></tr><tr><td>Source of data:</td><td>Project proponents</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>Any comment:</td><td>---</td></tr></table>  |   | ID Number:           | 10       | Parameter:   | MS% <sub>MBLj</sub>   | Data unit: | Fraction  | Description: | Fraction of manure handled in system j in the baseline | Source of data: | Project proponents      | Measurement procedures (if any): | Archive electronically during project plus 5 years  | Any comment: | ---                                 | 1,2,4,5 | <table><tr><td>Data Checklist</td><td>Yes / No</td></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>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table> <p><b>Clarification Request No. 34.</b><br/>On MS % incomplete data / explanations is provided in corresponding PDD table (B.6.2)</p> |     | Data 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? | No | Has this value been verified? | No | Choice of data correctly justified? | No | Measurement method correctly described? | No | CR 34 | ☑ |
| ID Number:  | 10  |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Parameter:  | MS% <sub>MBLj</sub>   |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Data unit:  | Fraction  |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Description:  | Fraction of manure handled in system j in the baseline  |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Source of data:   | Project proponents  |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Measurement procedures (if any):  | Archive electronically during project plus 5 years  |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Any comment:  | ---   |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Data 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?   | No  |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Has this value been verified?   | No  |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Choice of data correctly justified?   | No  |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Measurement method correctly described?   | No  |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| B.6.2.12.          Parameter Title: 11<br><table><tr><td>ID Number:</td><td>11</td></tr><tr><td>Parameter:</td><td>GWP<sub>CH<sub>4</sub></sub></td></tr><tr><td>Data unit:</td><td>tCO<sub>2</sub>e/tCH<sub>4</sub></td></tr><tr><td>Description:</td><td>Global warming potential for CH<sub>4</sub></td></tr><tr><td>Source of data:</td><td>IPCC</td></tr><tr><td>Measurement procedures (if any):</td><td>21 for the first commitment period. Shall be updated according to any future COP/MOP decisions.</td></tr><tr><td>Any comment:</td><td></td></tr></table> |   | ID Number:           | 11       | Parameter:   | GWP <sub>CH<sub>4</sub></sub>   | Data unit: | tCO <sub>2</sub> e/tCH <sub>4</sub>   | Description: | Global warming potential for CH <sub>4</sub>           | Source of data: | IPCC                    | Measurement procedures (if any): | 21 for the first commitment period. Shall be updated according to any future COP/MOP decisions. | Any comment: |                                     | 1,2,4,5 | <table><tr><td>Data Checklist</td><td>Yes / No</td></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>   |     | Data Checklist | Yes / No | Title in line with methodology? | Yes | Data unit correctly expressed? | Yes | Appropriate description of parameter? | Yes | Source clearly referenced? | Yes | ☑                       | ☑  |                               |    |                                     |    |   |    |       |   |
| ID Number:  | 11  |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Parameter:  | GWP <sub>CH<sub>4</sub></sub>   |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Data unit:  | tCO <sub>2</sub> e/tCH <sub>4</sub>   |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Description:  | Global warming potential for CH <sub>4</sub>  |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Source of data:   | IPCC  |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Measurement procedures (if any):  | 21 for the first commitment period. Shall be updated according to any future COP/MOP decisions.   |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Any comment:  |   |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Data Checklist  | Yes / No  |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Title in line with methodology?   | Yes   |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Data unit correctly expressed?  | Yes   |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Appropriate description of parameter?   | Yes   |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |
| Source clearly referenced?  | Yes   |                      |          |              |   |            |   |              |  |                 |                         |                                  |   |              |                                     |         |  |     |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |    |                               |    |                                     |    |   |    |       |   |

## Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION       | Ref.   | COMMENTS                                |          | PPD in GSP                          | Final PDD                           |
|----------------------------------|--|---|----------|-------------------------------------|-------------------------------------|
|                                  |  | Correct value provided?                 | Yes      |                                     |                                     |
|                                  |  | Has this value been verified?           | Yes      |                                     |                                     |
|                                  |  | Choice of data correctly justified?     | Yes      |                                     |                                     |
|                                  |  | Measurement method correctly described? | N/a      |                                     |                                     |
|                                  |  |   |          |                                     |                                     |
| B.6.2.13. Parameter Title: 12    | 1,2,4,5  |   |          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| ID Number:                       | 12   |   |          |                                     |                                     |
| Parameter:                       | GWP <sub>N<sub>2</sub>O</sub>  |   |          |                                     |                                     |
| Data unit:                       | tCO <sub>2</sub> e/tN <sub>2</sub> O   |   |          |                                     |                                     |
| Description:                     | Global warming potential for N <sub>2</sub> O  |   |          |                                     |                                     |
| Source of data:                  | IPCC   |   |          |                                     |                                     |
| Measurement procedures (if any): | 310 for the first commitment period. Shall be updated according to any future COP/MOP decisions. |   |          |                                     |                                     |
| Any comment:                     |  |   |          |                                     |                                     |
|                                  |  | Data 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?                 | Yes      |                                     |                                     |
|                                  |  | Has this value been verified?           | Yes      |                                     |                                     |
|                                  |  | Choice of data correctly justified?     | Yes      |                                     |                                     |
|                                  |  | Measurement method correctly described? | N/a      |                                     |                                     |
|                                  |  |   |          |                                     |                                     |
| B.6.2.14. Parameter Title: 13    | 1,2,4,5  |   |          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| ID Number:                       | 13   |   |          |                                     |                                     |
| Parameter:                       | D <sub>CH<sub>4</sub></sub>  |   |          |                                     |                                     |
| Data unit:                       | t/m <sup>3</sup>   |   |          |                                     |                                     |
| Description:                     | Density of methane   |   |          |                                     |                                     |
| Source of data:                  | Technical literature   |   |          |                                     |                                     |
| Measurement procedures (if any): | Archive electronically during project plus 5 years   |   |          |                                     |                                     |
| Any comment:                     | 0.00067 t/m <sup>3</sup> at room temperature 20°C and 1 atm pressure                             |   |          |                                     |                                     |
|                                  |  | Data 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?                 | Yes      |                                     |                                     |
|                                  |  | Has this value been verified?           | Yes      |                                     |                                     |
|                                  |  | Choice of data correctly justified?     | Yes      |                                     |                                     |

# Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION   | Ref.  | COMMENTS   |            | PPD in GSP                              | Final PDD  |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
|--|---|--|------------|---|------------|-----|--------------|---|-----------------|----------------------|-------------|--|----------------------|--|--------------|-----|---------|--|--|----------------|----------|---------------------------------|-----|--------------------------------|-----|---------------------------------------|-----|----------------------------|-----|-------------------------|-----|-------------------------------|-----|-------------------------------------|-----|---|-----|-------------------------------------|-------------------------------------|
|  |   | <table><tr><td>Measurement method correctly described?</td><td>N/a</td></tr></table> |            | Measurement method correctly described? | N/a        |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Measurement method correctly described?  | N/a   |  |            |   |            |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| <div>B.6.2.15.      Parameter Title: 14</div> <table><tr><td>ID Number:</td><td>14</td></tr><tr><td>Parameter:</td><td>MCF<sub>a</sub></td></tr><tr><td>Data unit:</td><td>---</td></tr><tr><td>Description:</td><td>Methane conversion factor for leakage calculation assumed to be equal 1</td></tr><tr><td>Source of data:</td><td>See Leakage section</td></tr><tr><td>Measurement</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>procedures (if any):</td><td></td></tr><tr><td>Any comment:</td><td>---</td></tr></table> | ID Number:  | 14   | Parameter: | MCF <sub>a</sub>                        | Data unit: | --- | Description: | Methane conversion factor for leakage calculation assumed to be equal 1 | Source of data: | See Leakage section  | Measurement | Archive electronically during project plus 5 years | procedures (if any): |  | Any comment: | --- | 1,2,4,5 | <table><tr><td>Data Checklist</td><td>Yes / No</td></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>N/a</td></tr></table> |  | Data 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? | Yes | Has this value been verified? | Yes | Choice of data correctly justified? | Yes | Measurement method correctly described? | N/a | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| ID Number:   | 14  |  |            |   |            |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Parameter:   | MCF <sub>a</sub>  |  |            |   |            |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Data unit:   | ---   |  |            |   |            |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Description:   | Methane conversion factor for leakage calculation assumed to be equal 1 |  |            |   |            |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Source of data:  | See Leakage section   |  |            |   |            |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Measurement  | Archive electronically during project plus 5 years                      |  |            |   |            |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| procedures (if any):   |   |  |            |   |            |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Any comment:   | ---   |  |            |   |            |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Data 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?  | Yes   |  |            |   |            |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Has this value been verified?  | Yes   |  |            |   |            |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Choice of data correctly justified?  | Yes   |  |            |   |            |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Measurement method correctly described?  | N/a   |  |            |   |            |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| <div>B.6.2.16.      Parameter Title: 15</div> <table><tr><td>ID Number:</td><td>15</td></tr><tr><td>Parameter:</td><td>CF<sub>PROD-NN</sub></td></tr><tr><td>Data unit:</td><td>---</td></tr><tr><td>Description:</td><td>Conversion factor = 44/28</td></tr><tr><td>Source of data:</td><td>Technical literature</td></tr><tr><td>Measurement</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>procedures (if any):</td><td></td></tr><tr><td>Any comment:</td><td>---</td></tr></table>   | ID Number:  | 15   | Parameter: | CF <sub>PROD-NN</sub>                   | Data unit: | --- | Description: | Conversion factor = 44/28   | Source of data: | Technical literature | Measurement | Archive electronically during project plus 5 years | procedures (if any): |  | Any comment: | --- | 1,2,4,5 | <table><tr><td>Data Checklist</td><td>Yes / No</td></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>N/a</td></tr></table> |  | Data 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? | Yes | Has this value been verified? | Yes | Choice of data correctly justified? | Yes | Measurement method correctly described? | N/a | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| ID Number:   | 15  |  |            |   |            |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Parameter:   | CF <sub>PROD-NN</sub>   |  |            |   |            |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Data unit:   | ---   |  |            |   |            |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Description:   | Conversion factor = 44/28   |  |            |   |            |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Source of data:  | Technical literature  |  |            |   |            |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Measurement  | Archive electronically during project plus 5 years                      |  |            |   |            |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| procedures (if any):   |   |  |            |   |            |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Any comment:   | ---   |  |            |   |            |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Data 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?  | Yes   |  |            |   |            |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Has this value been verified?  | Yes   |  |            |   |            |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Choice of data correctly justified?  | Yes   |  |            |   |            |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |
| Measurement method correctly described?  | N/a   |  |            |   |            |     |              |   |                 |                      |             |  |                      |  |              |     |         |  |  |                |          |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |     |   |     |                                     |                                     |

## Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION   | Ref.     | COMMENTS   | PPD in GSP     | Final PDD |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |    |   |    |       |   |
|--|----------|--|----------------|-----------|---------------------------------|-----|--------------------------------|-----|---------------------------------------|-----|----------------------------|-----|-------------------------|-----|-------------------------------|-----|-------------------------------------|----|---|----|-------|---|
|  |          |  |                |           |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |    |   |    |       |   |
| B.6.2.17. ADDED FOR I.D: Parameter 16 – Operating Margin Emissions Factor for North China Power Grid | 1,2, 4,5 | <table><tr><th>Data 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?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table> <p><b><u>Corrective Action Request No.7.</u></b></p> <p>In regard to EFOM /section B.6.2, inconsistencies exist with values provide in Section B.6.1 of the PDD (p.33). These should be corrected.</p> <p>The background data and the calculations of EFBm and EFOM should be provided in an Annex to the PDD.</p> <p>See CR on EF calculations</p> | Data 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? | No  | Has this value been verified? | No  | Choice of data correctly justified? | No | Measurement method correctly described? | No | CAR 7 | ☑ |
| Data 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?  | No       |  |                |           |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |    |   |    |       |   |
| Has this value been verified?  | No       |  |                |           |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |    |   |    |       |   |
| Choice of data correctly justified?  | No       |  |                |           |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |    |   |    |       |   |
| Measurement method correctly described?  | No       |  |                |           |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |    |   |    |       |   |
| B.6.2.18. ADDED FOR I.D: Parameter 17– Built Margin Emissions Factor for North China Power Grid      | 1,2, 4,5 | <table><tr><th>Data 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?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr></table>   | Data 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? | Yes | Has this value been verified? | Yes | ☑                                   | ☑  |   |    |       |   |
| Data 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?  | Yes      |  |                |           |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |    |   |    |       |   |
| Has this value been verified?  | Yes      |  |                |           |                                 |     |                                |     |                                       |     |                            |     |                         |     |                               |     |                                     |    |   |    |       |   |

## Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION   | Ref.     | COMMENTS  |     | PPD in GSP | Final PDD |
|--|----------|---|-----|------------|-----------|
|  |          | Choice of data correctly justified?   | Yes |            |           |
|  |          | Measurement method correctly described?   | Yes |            |           |
|  |          | See CR on EF calculations.  |     |            |           |
| B.6.2.19. Parameter Title: 18-20<br>Is there any other parameter added and justified?                        | 1,2, 4,5 | No other parameters added.  |     | ☑          | ☑         |
| B.6.3. Ex-ante calculation of emission reductions  |          |   |     |            |           |
| B.6.3.1.Is the projection based on the same procedures as used for future monitoring?                        | 1,2, 4,5 | The emission reductions are calculated:<br>ER=BE-PE-Le<br><br>For verification attention is drawn to the fact that:<br><br>If the baseline emissions from anaerobic lagoons are higher than the measured CH4 generated in the anaerobic digester in the project, then the latter shall be used for (Certified) Emission Reductions. Hence monitoring data will be used. |     | ☑          | ☑         |
| B.6.3.2.Are the GHG calculations documented in a complete and transparent manner?                            | 1,2, 4,5 | Yes, calculations are documented completely   |     | ☑          | ☑         |
| B.6.3.3.Is the data provided in this section consistent with data as presented in other chapters of the PDD? |          | <b><u>Corrective Action Request No.8.</u></b><br>Consistency of table B 8 with excel calculations in regard to the used value for CO2 emissions needs to be assured.  |     | CAR 8      | ☑         |
| B.6.4. Summary of the ex-ante estimation of emission reductions  |          |   |     |            |           |
| B.6.4.1.Will the project result in fewer GHG emissions than the baseline scenario?                           | 1,2, 4,5 | Yes, emissions will be reduced.   |     | ☑          | ☑         |

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| CHECKLIST TOPIC / QUESTION  | Ref.     | COMMENTS   | PPD in GSP                          | Final PDD                           |
|---|----------|--|-------------------------------------|-------------------------------------|
| B.6.4.2. Is the form/table required for the indication of projected emission reductions correctly applied?                                | 1,2, 4,5 | Yes, the table for emission reductions is correctly applied.   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| B.6.4.3. Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period? | 1,2, 4,5 | The project is inline with the envisioned time schedule.<br><br>Revised timeline requested above.  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| B.6.4.4. Is the data provided in this section in consistency with data as presented in other chapters of the PDD?                         | 1,2, 4,5 | Information provided is consistent.  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| <b>B.7. Application of the monitoring methodology and description of the monitoring plan</b>  |          |  |                                     |                                     |
| <i>B.7.1. Data and parameters monitored</i>   |          |  |                                     |                                     |
| B.7.1.1. Is a project specific diagram on monitoring included and does it reflect the project situation?                                  | 1,2, 4,5 | A diagram / Figure B3 reflect the monitoring activities.<br><br><b><u>Clarification Request No. 35.</u></b><br>In line with the monitoring diagram template as provided by the AM0010 further details of the individual measurement activities should be included to the diagram (in addition to the requested flaring). If abbreviations are used in the diagram, they should be referenced.<br><br>For different elements of monitoring, details should be given on the measurement procedures for <ul style="list-style-type: none"> <li>N concentration</li> <li>COD.</li> <li>Quantity of effluent</li> </ul> The latter aspects should be integrated to the monitoring plan. | CR 35                               | <input checked="" type="checkbox"/> |

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| CHECKLIST TOPIC / QUESTION  | Ref.   | COMMENTS                                     | PPD in GSP | Final PDD |              |                           |                 |                      |                                  |  |                       |          |                   |     |              |  |          |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
|---|--|--|------------|-----------|--------------|---------------------------|-----------------|----------------------|----------------------------------|--|-----------------------|----------|-------------------|-----|--------------|--|----------|---|----------------------|----------|---------------------------------|-----|--------------------------------|-----|---------------------------------------|-----|----------------------------|-----|--|-----|-------------------------------|-----|---|-----|---------------------------------|-----|----------------------------------|-----|-----------------------------|-----|-------------------------------|-----|---|---|
| B.7.1.2.Is the list of parameters presented in chapter B.7.1 considered to be complete with regard to the requirements of the applied methodology?  | 1,2, 4,5   | The set of parameters is considered complete | ☑          | ☑         |              |                           |                 |                      |                                  |  |                       |          |                   |     |              |  |          |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Integrate the required amount of sub-checklists for monitoring parameter and comment on any line answered with “No”.  |  |  |            |           |              |                           |                 |                      |                                  |  |                       |          |                   |     |              |  |          |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Monitored parameters  |  |  |            |           |              |                           |                 |                      |                                  |  |                       |          |                   |     |              |  |          |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| <div>B.7.1.3.Parameter Title: 1</div> <table><tr><td>Data / Parameter:</td><td>MCF</td></tr><tr><td>Data unit:</td><td>Fraction</td></tr><tr><td>Description:</td><td>Methane correction factor</td></tr><tr><td>Source of data:</td><td>IPCC 2006 Guidelines</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>Monitoring frequency:</td><td>Annually</td></tr><tr><td>QA/QC procedures:</td><td>---</td></tr><tr><td>Any comment:</td><td>The factor MCF is taken from IPCC 2006 guidelines. If annual average temperature is lower than 10 °C and higher than 5 °C, Annual MCF should be estimated using linear interpolation assuming MCF=0 at annual average temperature of 5 °C.</td></tr></table>              | Data / Parameter:  | MCF  | Data unit: | Fraction  | Description: | Methane correction factor | Source of data: | IPCC 2006 Guidelines | Measurement procedures (if any): | Archive electronically during project plus 5 years | Monitoring frequency: | Annually | QA/QC procedures: | --- | Any comment: | The factor MCF is taken from IPCC 2006 guidelines. If annual average temperature is lower than 10 °C and higher than 5 °C, Annual MCF should be estimated using linear interpolation assuming MCF=0 at annual average temperature of 5 °C. | 1,2, 4,5 | <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 | ☑ | ☑ |
| Data / Parameter:   | MCF  |  |            |           |              |                           |                 |                      |                                  |  |                       |          |                   |     |              |  |          |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Data unit:  | Fraction   |  |            |           |              |                           |                 |                      |                                  |  |                       |          |                   |     |              |  |          |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Description:  | Methane correction factor  |  |            |           |              |                           |                 |                      |                                  |  |                       |          |                   |     |              |  |          |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Source of data:   | IPCC 2006 Guidelines   |  |            |           |              |                           |                 |                      |                                  |  |                       |          |                   |     |              |  |          |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Measurement procedures (if any):  | Archive electronically during project plus 5 years   |  |            |           |              |                           |                 |                      |                                  |  |                       |          |                   |     |              |  |          |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Monitoring frequency:   | Annually   |  |            |           |              |                           |                 |                      |                                  |  |                       |          |                   |     |              |  |          |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| QA/QC procedures:   | ---  |  |            |           |              |                           |                 |                      |                                  |  |                       |          |                   |     |              |  |          |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Any comment:  | The factor MCF is taken from IPCC 2006 guidelines. If annual average temperature is lower than 10 °C and higher than 5 °C, Annual MCF should be estimated using linear interpolation assuming MCF=0 at annual average temperature of 5 °C. |  |            |           |              |                           |                 |                      |                                  |  |                       |          |                   |     |              |  |          |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| 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  |  |            |           |              |                           |                 |                      |                                  |  |                       |          |                   |     |              |  |          |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| <div>B.7.1.4.Parameter Title: 2</div> <table><tr><td>Data / Parameter:</td><td>MCF<sub>sl</sub></td></tr><tr><td>Data unit:</td><td>Fraction</td></tr><tr><td>Description:</td><td>Methane correction factor</td></tr><tr><td>Source of data:</td><td>IPCC 2006 Guidelines</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>Monitoring frequency:</td><td>Annually</td></tr><tr><td>QA/QC procedures:</td><td>---</td></tr><tr><td>Any comment:</td><td>The factor MCF is taken from IPCC 2006 guidelines. If annual average temperature is lower than 10 °C and higher than 5 °C, Annual MCF should be estimated using linear interpolation assuming MCF=0 at annual average temperature of 5 °C.</td></tr></table> | Data / Parameter:  | MCF <sub>sl</sub>                            | Data unit: | Fraction  | Description: | Methane correction factor | Source of data: | IPCC 2006 Guidelines | Measurement procedures (if any): | Archive electronically during project plus 5 years | Monitoring frequency: | Annually | QA/QC procedures: | --- | Any comment: | The factor MCF is taken from IPCC 2006 guidelines. If annual average temperature is lower than 10 °C and higher than 5 °C, Annual MCF should be estimated using linear interpolation assuming MCF=0 at annual average temperature of 5 °C. | 1,2, 4,5 | <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></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 | ☑                                       | ☑   |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Data / Parameter:   | MCF <sub>sl</sub>  |  |            |           |              |                           |                 |                      |                                  |  |                       |          |                   |     |              |  |          |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Data unit:  | Fraction   |  |            |           |              |                           |                 |                      |                                  |  |                       |          |                   |     |              |  |          |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Description:  | Methane correction factor  |  |            |           |              |                           |                 |                      |                                  |  |                       |          |                   |     |              |  |          |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Source of data:   | IPCC 2006 Guidelines   |  |            |           |              |                           |                 |                      |                                  |  |                       |          |                   |     |              |  |          |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Measurement procedures (if any):  | Archive electronically during project plus 5 years   |  |            |           |              |                           |                 |                      |                                  |  |                       |          |                   |     |              |  |          |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Monitoring frequency:   | Annually   |  |            |           |              |                           |                 |                      |                                  |  |                       |          |                   |     |              |  |          |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| QA/QC procedures:   | ---  |  |            |           |              |                           |                 |                      |                                  |  |                       |          |                   |     |              |  |          |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
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| 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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Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION  | Ref.   | COMMENTS  |            | PPD in GSP                              | Final PDD    |   |                 |                                  |                                  |  |                       |  |                   |  |              |  |          |   |     |                                |          |                                       |     |                                |                                     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
|---|--|---|------------|---|--------------|---|-----------------|----------------------------------|----------------------------------|--|-----------------------|--|-------------------|--|--------------|--|----------|---|-----|--------------------------------|----------|---------------------------------------|-----|--------------------------------|-------------------------------------|---------------------------------------|-----|----------------------------|-----|--|-----|-------------------------------|-----|---|-----|---------------------------------|-----|----------------------------------|-----|-----------------------------|-----|-------------------------------|-----|-------------------------------------|-------------------------------------|
|   |  | <table><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> |            | 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               |  |              |  |          |   |     |                                |          |                                       |     |                                |                                     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| 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  |   |            |   |              |   |                 |                                  |                                  |  |                       |  |                   |  |              |  |          |   |     |                                |          |                                       |     |                                |                                     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| <div>B.7.1.5.Parameter Title: 3</div> <table><tr><td>Data / Parameter:</td><td>B<sub>0LT</sub></td></tr><tr><td>Data unit:</td><td>Fraction</td></tr><tr><td>Description:</td><td>Maximum methane production</td></tr><tr><td>Source of data:</td><td>Technical literature</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>Monitoring frequency:</td><td>Annually</td></tr><tr><td>QA/QC procedures:</td><td>---</td></tr><tr><td>Any comment:</td><td>The value is taken from published sources. The parameter value should be updates on latest available public data source.</td></tr></table> | Data / Parameter:  | B <sub>0LT</sub>  | Data unit: | Fraction                                | Description: | Maximum methane production                  | Source of data: | Technical literature             | Measurement procedures (if any): | Archive electronically during project plus 5 years | Monitoring frequency: | Annually   | QA/QC procedures: | ---  | Any comment: | The value is taken from published sources. The parameter value should be updates on latest available public data source. | 1,2,4,5  | <table><tr><td>Monitoring Checklist</td><td>Yes / No</td></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"/> |
| Data / Parameter:   | B <sub>0LT</sub>   |   |            |   |              |   |                 |                                  |                                  |  |                       |  |                   |  |              |  |          |   |     |                                |          |                                       |     |                                |                                     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Data unit:  | Fraction   |   |            |   |              |   |                 |                                  |                                  |  |                       |  |                   |  |              |  |          |   |     |                                |          |                                       |     |                                |                                     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Description:  | Maximum methane production   |   |            |   |              |   |                 |                                  |                                  |  |                       |  |                   |  |              |  |          |   |     |                                |          |                                       |     |                                |                                     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
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| Measurement procedures (if any):  | Archive electronically during project plus 5 years   |   |            |   |              |   |                 |                                  |                                  |  |                       |  |                   |  |              |  |          |   |     |                                |          |                                       |     |                                |                                     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Monitoring frequency:   | Annually   |   |            |   |              |   |                 |                                  |                                  |  |                       |  |                   |  |              |  |          |   |     |                                |          |                                       |     |                                |                                     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures:   | ---  |   |            |   |              |   |                 |                                  |                                  |  |                       |  |                   |  |              |  |          |   |     |                                |          |                                       |     |                                |                                     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
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| 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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| Has this value been verified?   | Yes  |   |            |   |              |   |                 |                                  |                                  |  |                       |  |                   |  |              |  |          |   |     |                                |          |                                       |     |                                |                                     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Measurement method correctly described?   | Yes  |   |            |   |              |   |                 |                                  |                                  |  |                       |  |                   |  |              |  |          |   |     |                                |          |                                       |     |                                |                                     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Correct reference to standards?   | Yes  |   |            |   |              |   |                 |                                  |                                  |  |                       |  |                   |  |              |  |          |   |     |                                |          |                                       |     |                                |                                     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Indication of accuracy provided?  | Yes  |   |            |   |              |   |                 |                                  |                                  |  |                       |  |                   |  |              |  |          |   |     |                                |          |                                       |     |                                |                                     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
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| QA/QC procedures appropriate?   | Yes  |   |            |   |              |   |                 |                                  |                                  |  |                       |  |                   |  |              |  |          |   |     |                                |          |                                       |     |                                |                                     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| <div>B.7.1.6.Parameter Title: 4</div> <table><tr><td>Data / Parameter:</td><td>VS<sub>LT,v</sub></td></tr><tr><td>Data unit:</td><td>kg dry matter/animal/year</td></tr><tr><td>Description:</td><td>Volatile solid excretion per animal per day</td></tr><tr><td>Source of data:</td><td>Project proponents</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>Monitoring frequency:</td><td>Annually, estimated or based on published information such as IPCC</td></tr></table>   | Data / Parameter:  | VS <sub>LT,v</sub>  | Data unit: | kg dry matter/animal/year               | Description: | Volatile solid excretion per animal per day | Source of data: | Project proponents               | Measurement procedures (if any): | Archive electronically during project plus 5 years | Monitoring frequency: | Annually, estimated or based on published information such as IPCC | 1,2,4,5           | <table><tr><td>Monitoring Checklist</td><td>Yes / No</td></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></table> |              | Monitoring Checklist   | Yes / No | Title in line with methodology?   | Yes | Data unit correctly expressed? | Yes      | Appropriate description of parameter? | Yes | CR 36                          | <input checked="" type="checkbox"/> |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Data / Parameter:   | VS <sub>LT,v</sub>   |   |            |   |              |   |                 |                                  |                                  |  |                       |  |                   |  |              |  |          |   |     |                                |          |                                       |     |                                |                                     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
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| Description:  | Volatile solid excretion per animal per day  |   |            |   |              |   |                 |                                  |                                  |  |                       |  |                   |  |              |  |          |   |     |                                |          |                                       |     |                                |                                     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Source of data:   | Project proponents   |   |            |   |              |   |                 |                                  |                                  |  |                       |  |                   |  |              |  |          |   |     |                                |          |                                       |     |                                |                                     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
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| Monitoring frequency:   | Annually, estimated or based on published information such as IPCC   |   |            |   |              |   |                 |                                  |                                  |  |                       |  |                   |  |              |  |          |   |     |                                |          |                                       |     |                                |                                     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Monitoring Checklist  | Yes / No   |   |            |   |              |   |                 |                                  |                                  |  |                       |  |                   |  |              |  |          |   |     |                                |          |                                       |     |                                |                                     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Title in line with methodology?   | Yes  |   |            |   |              |   |                 |                                  |                                  |  |                       |  |                   |  |              |  |          |   |     |                                |          |                                       |     |                                |                                     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Data unit correctly expressed?  | Yes  |   |            |   |              |   |                 |                                  |                                  |  |                       |  |                   |  |              |  |          |   |     |                                |          |                                       |     |                                |                                     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Appropriate description of parameter?   | Yes  |   |            |   |              |   |                 |                                  |                                  |  |                       |  |                   |  |              |  |          |   |     |                                |          |                                       |     |                                |                                     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |



# Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION              |   | Ref.    | COMMENTS  |  | PPD in GSP           | Final PDD |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
|---|---|---------|---|--|----------------------|-----------|---------------------------------|-----|--------------------------------|-----|---------------------------------------|-----|----------------------------|-----|--|-----|-------------------------------|-----|---|-----|---------------------------------|-----|----------------------------------|-----|-----------------------------|-----|-------------------------------|-----|-------------------------------------|-------------------------------------|
| QA/QC procedures:                       | ---   |         | Source clearly referenced?  |  | Yes                  |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Any comment:                            | If it is required to use developed country VS values, the following should be monitored: - Genetic source of the production operations livestock originate from an Annex I Party; - The formulated feed rations (FFR). If equation 4 is used to estimate the value, VS <sub>default</sub> (kg-dm/animal/day, Default average animal weight of a defined population in kg from where the data on VS <sub>default</sub> is sourced (IPCC 2006 or US-EPA, which ever is lower) shall be recorded and archived. |         | Correct value provided for estimation?  |  | Yes                  |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
|   |   |         | Has this value been verified?   |  | Yes                  |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
|   |   |         | Measurement method correctly described?   |  | No                   |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
|   |   |         | Correct reference to standards?   |  | No                   |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
|   |   |         | Indication of accuracy provided?  |  | No                   |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
|   |   |         | QA/QC procedures described?   |  | No                   |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
|   |   |         | QA/QC procedures appropriate?   |  | No                   |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
|   |   |         | <b>Clarification Request No. 36.</b><br>The monitoring of applicability criteria in regard to BO and VS defaults (record keeping on genetic source, FFR, animal weights similar to industrialized countries) should be included explicitly to the MP.   |  |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| B.7.1.7.Parameter Title: 5              |   | 1,2,4,5 | <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   |         |   |  |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Data / Parameter:                       | CEF <sub>Bi,elec,v</sub>  |         |   |  |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Data unit:                              | tCO <sub>2</sub> /MWh   |         |   |  |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Description:                            | Emission factor of baseline electricity use   |         |   |  |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Source of data:                         | Refer to baseline methodology   |         |   |  |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Measurement procedures (if any):        | Archive electronically during project plus 5 years  |         |   |  |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Monitoring frequency:                   | At start of project   |         |   |  |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures:                       | ---   |         |   |  |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Any comment:                            | Calculated as per procedure described in the baseline methodology.  |         |   |  |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |

# Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION  | Ref.   | COMMENTS            | PPD in GSP | Final PDD             |              |  |                 |                               |                                  |  |                       |          |                   |     |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                                     |                                     |                               |     |                                     |                                     |
|---|--|---------------------|------------|-----------------------|--------------|--|-----------------|-------------------------------|----------------------------------|--|-----------------------|----------|-------------------|-----|--------------|--|---------|---|----------------------|----------|---------------------------------|-----|--------------------------------|-----|---------------------------------------|-----|----------------------------|-----|--|-----|-------------------------------|-----|---|-----|---------------------------------|-----|----------------------------------|-----|-------------------------------------|-------------------------------------|-------------------------------|-----|-------------------------------------|-------------------------------------|
|   |  |                     |            |                       |              |  |                 |                               |                                  |  |                       |          |                   |     |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                                     |                                     |                               |     |                                     |                                     |
| <div>B.7.1.8.Parameter Title: 6</div> <table><tr><td>Data / Parameter:</td><td>CEF<sub>grid</sub></td></tr><tr><td>Data unit:</td><td>tCO<sub>2</sub>/MWh</td></tr><tr><td>Description:</td><td>Emission factor of exported electricity</td></tr><tr><td>Source of data:</td><td>Refer to baseline methodology</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>Monitoring frequency:</td><td>Annually</td></tr><tr><td>QA/QC procedures:</td><td>---</td></tr><tr><td>Any comment:</td><td>Calculated as per procedure described in the baseline methodology.</td></tr></table>   | Data / Parameter:  | CEF <sub>grid</sub> | Data unit: | tCO <sub>2</sub> /MWh | Description: | Emission factor of exported electricity          | Source of data: | Refer to baseline methodology | Measurement procedures (if any): | Archive electronically during project plus 5 years | Monitoring frequency: | Annually | QA/QC procedures: | --- | Any comment: | Calculated as per procedure described in the baseline methodology.   | 1,2,4,5 | <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"/> |
| Data / Parameter:   | CEF <sub>grid</sub>  |                     |            |                       |              |  |                 |                               |                                  |  |                       |          |                   |     |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                                     |                                     |                               |     |                                     |                                     |
| Data unit:  | tCO <sub>2</sub> /MWh  |                     |            |                       |              |  |                 |                               |                                  |  |                       |          |                   |     |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                                     |                                     |                               |     |                                     |                                     |
| Description:  | Emission factor of exported electricity  |                     |            |                       |              |  |                 |                               |                                  |  |                       |          |                   |     |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                                     |                                     |                               |     |                                     |                                     |
| Source of data:   | Refer to baseline methodology  |                     |            |                       |              |  |                 |                               |                                  |  |                       |          |                   |     |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                                     |                                     |                               |     |                                     |                                     |
| Measurement procedures (if any):  | Archive electronically during project plus 5 years   |                     |            |                       |              |  |                 |                               |                                  |  |                       |          |                   |     |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                                     |                                     |                               |     |                                     |                                     |
| Monitoring frequency:   | Annually   |                     |            |                       |              |  |                 |                               |                                  |  |                       |          |                   |     |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                                     |                                     |                               |     |                                     |                                     |
| QA/QC procedures:   | ---  |                     |            |                       |              |  |                 |                               |                                  |  |                       |          |                   |     |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                                     |                                     |                               |     |                                     |                                     |
| Any comment:  | Calculated as per procedure described in the baseline methodology.   |                     |            |                       |              |  |                 |                               |                                  |  |                       |          |                   |     |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                                     |                                     |                               |     |                                     |                                     |
| 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  |                     |            |                       |              |  |                 |                               |                                  |  |                       |          |                   |     |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                                     |                                     |                               |     |                                     |                                     |
| <div>B.7.1.9.Parameter Title: 7</div> <table><tr><td>Data / Parameter:</td><td>CEF<sub>d</sub></td></tr><tr><td>Data unit:</td><td>tCO<sub>2</sub>/MWh</td></tr><tr><td>Description:</td><td>Emission factor for project activity consumption</td></tr><tr><td>Source of data:</td><td>Refer to baseline methodology</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>Monitoring frequency:</td><td>Annually</td></tr><tr><td>QA/QC procedures:</td><td>---</td></tr><tr><td>Any comment:</td><td>Calculated as per procedure described in the baseline methodology. If electricity used is produced using biogas, the factor is zero.</td></tr></table> | Data / Parameter:  | CEF <sub>d</sub>    | Data unit: | tCO <sub>2</sub> /MWh | Description: | Emission factor for project activity consumption | Source of data: | Refer to baseline methodology | Measurement procedures (if any): | Archive electronically during project plus 5 years | Monitoring frequency: | Annually | QA/QC procedures: | --- | Any comment: | Calculated as per procedure described in the baseline methodology. If electricity used is produced using biogas, the factor is zero. | 1,2,4,5 | <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></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 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                               |     |                                     |                                     |
| Data / Parameter:   | CEF <sub>d</sub>   |                     |            |                       |              |  |                 |                               |                                  |  |                       |          |                   |     |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                                     |                                     |                               |     |                                     |                                     |
| Data unit:  | tCO <sub>2</sub> /MWh  |                     |            |                       |              |  |                 |                               |                                  |  |                       |          |                   |     |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                                     |                                     |                               |     |                                     |                                     |
| Description:  | Emission factor for project activity consumption   |                     |            |                       |              |  |                 |                               |                                  |  |                       |          |                   |     |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                                     |                                     |                               |     |                                     |                                     |
| Source of data:   | Refer to baseline methodology  |                     |            |                       |              |  |                 |                               |                                  |  |                       |          |                   |     |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                                     |                                     |                               |     |                                     |                                     |
| Measurement procedures (if any):  | Archive electronically during project plus 5 years   |                     |            |                       |              |  |                 |                               |                                  |  |                       |          |                   |     |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                                     |                                     |                               |     |                                     |                                     |
| Monitoring frequency:   | Annually   |                     |            |                       |              |  |                 |                               |                                  |  |                       |          |                   |     |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                                     |                                     |                               |     |                                     |                                     |
| QA/QC procedures:   | ---  |                     |            |                       |              |  |                 |                               |                                  |  |                       |          |                   |     |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                                     |                                     |                               |     |                                     |                                     |
| Any comment:  | Calculated as per procedure described in the baseline methodology. If electricity used is produced using biogas, the factor is zero. |                     |            |                       |              |  |                 |                               |                                  |  |                       |          |                   |     |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                                     |                                     |                               |     |                                     |                                     |
| 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  |                     |            |                       |              |  |                 |                               |                                  |  |                       |          |                   |     |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                                     |                                     |                               |     |                                     |                                     |

# Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION   | Ref.  | COMMENTS  |            | PPD in GSP           | Final PDD    |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
|--|---|---|------------|----------------------|--------------|---|-----------------|--------------------------------|----------------------------------|--|-----------------------|--------------------------------------|-------------------|--|--------------|---|-----|---|-----|---------------------------------|-----|----------------------------------|-----|-----------------------------|-----|-------------------------------|-----|---|---|
|  |   | QA/QC procedures described?   | Yes        |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
|  |   | QA/QC procedures appropriate?   | Yes        |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
|  |   |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| B.7.1.10. Parameter Title: 8   | 1,2,4,5   | <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/a</td></tr><tr><td>Data unit correctly expressed?</td><td>N/a</td></tr><tr><td>Appropriate description of parameter?</td><td>N/a</td></tr><tr><td>Source clearly referenced?</td><td>N/a</td></tr><tr><td>Correct value provided for estimation?</td><td>N/a</td></tr><tr><td>Has this value been verified?</td><td>N/a</td></tr><tr><td>Measurement method correctly described?</td><td>N/a</td></tr><tr><td>Correct reference to standards?</td><td>N/a</td></tr><tr><td>Indication of accuracy provided?</td><td>N/a</td></tr><tr><td>QA/QC procedures described?</td><td>N/a</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/a</td></tr></table> |            | Monitoring Checklist | Yes / No     | Title in line with methodology?                     | N/a             | Data unit correctly expressed? | N/a                              | Appropriate description of parameter?              | N/a                   | Source clearly referenced?           | N/a               | Correct value provided for estimation? | N/a          | Has this value been verified?   | N/a | Measurement method correctly described? | N/a | Correct reference to standards? | N/a | Indication of accuracy provided? | N/a | QA/QC procedures described? | N/a | QA/QC procedures appropriate? | N/a | ☑ | ☑ |
| Monitoring Checklist   | Yes / No  |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Title in line with methodology?  | N/a   |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Data unit correctly expressed?   | N/a   |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Appropriate description of parameter?  | N/a   |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Source clearly referenced?   | N/a   |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Correct value provided for estimation?   | N/a   |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Has this value been verified?  | N/a   |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Measurement method correctly described?  | N/a   |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Correct reference to standards?  | N/a   |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Indication of accuracy provided?   | N/a   |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| QA/QC procedures described?  | N/a   |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| QA/QC procedures appropriate?  | N/a   |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| <table><tr><td>Data / Parameter:</td><td>CEFP<sub>thermal</sub></td></tr><tr><td>Data unit:</td><td>tCO<sub>2</sub>/MJ</td></tr><tr><td>Description:</td><td>Emission factor for thermal energy</td></tr><tr><td>Source of data:</td><td>Refer to baseline methodology</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>Monitoring frequency:</td><td>At the start of the project activity</td></tr><tr><td>QA/QC procedures:</td><td>---</td></tr><tr><td>Any comment:</td><td>Calculated as per procedure described in the baseline methodology. If heat used is produced using biogas, the factor is zero.</td></tr></table> | Data / Parameter:   | CEFP <sub>thermal</sub>   | Data unit: | tCO <sub>2</sub> /MJ | Description: | Emission factor for thermal energy                  | Source of data: | Refer to baseline methodology  | Measurement procedures (if any): | Archive electronically during project plus 5 years | Monitoring frequency: | At the start of the project activity | QA/QC procedures: | ---                                    | Any comment: | Calculated as per procedure described in the baseline methodology. If heat used is produced using biogas, the factor is zero. |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Data / Parameter:  | CEFP <sub>thermal</sub>   |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Data unit:   | tCO <sub>2</sub> /MJ  |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Description:   | Emission factor for thermal energy  |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Source of data:  | Refer to baseline methodology   |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Measurement procedures (if any):   | Archive electronically during project plus 5 years  |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Monitoring frequency:  | At the start of the project activity  |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| QA/QC procedures:  | ---   |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Any comment:   | Calculated as per procedure described in the baseline methodology. If heat used is produced using biogas, the factor is zero. |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| B.7.1.11. Parameter Title: 9   | 1,2,4,5   | <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></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 | ☑                                       | ☑   |                                 |     |                                  |     |                             |     |                               |     |   |   |
| 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   |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| <table><tr><td>Data / Parameter:</td><td>LF<sub>AD</sub></td></tr><tr><td>Data unit:</td><td>Fraction</td></tr><tr><td>Description:</td><td>Fraction of methane leakage from anaerobic digester</td></tr><tr><td>Source of data:</td><td>IPCC 2006 Guidelines</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>Monitoring frequency:</td><td>Annually</td></tr><tr><td>QA/QC procedures:</td><td></td></tr><tr><td>Any comment:</td><td>IPCC default of 0.15 or less if documented evidence can be provided (to be checked by DOE)</td></tr></table>  | Data / Parameter:   | LF <sub>AD</sub>  | Data unit: | Fraction             | Description: | Fraction of methane leakage from anaerobic digester | Source of data: | IPCC 2006 Guidelines           | Measurement procedures (if any): | Archive electronically during project plus 5 years | Monitoring frequency: | Annually                             | QA/QC procedures: |  | Any comment: | IPCC default of 0.15 or less if documented evidence can be provided (to be checked by DOE)                                    |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Data / Parameter:  | LF <sub>AD</sub>  |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Data unit:   | Fraction  |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Description:   | Fraction of methane leakage from anaerobic digester   |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Source of data:  | IPCC 2006 Guidelines  |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Measurement procedures (if any):   | Archive electronically during project plus 5 years  |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Monitoring frequency:  | Annually  |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| QA/QC procedures:  |   |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Any comment:   | IPCC default of 0.15 or less if documented evidence can be provided (to be checked by DOE)                                    |   |            |                      |              |   |                 |                                |                                  |  |                       |                                      |                   |  |              |   |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |

# Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION   | Ref.   | COMMENTS  |                      | PPD in GSP | Final PDD                       |                             |                                |                  |                                     |  |                       |          |                   |    |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
|--|--|---|----------------------|------------|---------------------------------|-----------------------------|--------------------------------|------------------|-------------------------------------|--|-----------------------|----------|-------------------|----|--------------|--|---------|---|----------------------|----------|---------------------------------|-----|--------------------------------|-----|---------------------------------------|-----|----------------------------|-----|--|-----|-------------------------------|-----|---|-----|---------------------------------|-----|----------------------------------|-----|-----------------------------|-----|-------------------------------|-----|-------------------------------------|-------------------------------------|
|  |  | 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                  |            |                                 |                             |                                |                  |                                     |  |                       |          |                   |    |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| <div>B.7.1.12.      Parameter Title: 10</div> <table><tr><td>Data / Parameter:</td><td>R<sub>Na</sub></td></tr><tr><td>Data unit:</td><td>fraction</td></tr><tr><td>Description:</td><td>Nitrogen degradation factor</td></tr><tr><td>Source of data:</td><td>Refer to Annex 1</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>Monitoring frequency:</td><td>Annually</td></tr><tr><td>QA/QC procedures:</td><td>--</td></tr><tr><td>Any comment:</td><td>Estimated from Table provided in Annex 1. The most conservative value for the given technology must be used.</td></tr></table> | Data / Parameter:  | R <sub>Na</sub>   | Data unit:           | fraction   | Description:                    | Nitrogen degradation factor | Source of data:                | Refer to Annex 1 | Measurement procedures (if any):    | Archive electronically during project plus 5 years | Monitoring frequency: | Annually | QA/QC procedures: | -- | Any comment: | Estimated from Table provided in Annex 1. The most conservative value for the given technology must be used. | 1,2,4,5 | <table><tr><td>Monitoring Checklist</td><td>Yes / No</td></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> <div>See CR on where the data comes from in Annex 1</div> | 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"/> |
| Data / Parameter:  | R <sub>Na</sub>  |   |                      |            |                                 |                             |                                |                  |                                     |  |                       |          |                   |    |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Data unit:   | fraction   |   |                      |            |                                 |                             |                                |                  |                                     |  |                       |          |                   |    |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Description:   | Nitrogen degradation factor  |   |                      |            |                                 |                             |                                |                  |                                     |  |                       |          |                   |    |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Source of data:  | Refer to Annex 1   |   |                      |            |                                 |                             |                                |                  |                                     |  |                       |          |                   |    |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Measurement procedures (if any):   | Archive electronically during project plus 5 years   |   |                      |            |                                 |                             |                                |                  |                                     |  |                       |          |                   |    |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Monitoring frequency:  | Annually   |   |                      |            |                                 |                             |                                |                  |                                     |  |                       |          |                   |    |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures:  | --   |   |                      |            |                                 |                             |                                |                  |                                     |  |                       |          |                   |    |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Any comment:   | Estimated from Table provided in Annex 1. The most conservative value for the given technology must be used. |   |                      |            |                                 |                             |                                |                  |                                     |  |                       |          |                   |    |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| 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  |   |                      |            |                                 |                             |                                |                  |                                     |  |                       |          |                   |    |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| <div>B.7.1.13.      Parameter Title: 11</div>  | 1,2,4,5  | <table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr></table> | Monitoring Checklist | Yes / No   | Title in line with methodology? | Yes                         | Data unit correctly expressed? | Yes              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>                |                       |          |                   |    |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Monitoring Checklist   | Yes / No   |   |                      |            |                                 |                             |                                |                  |                                     |  |                       |          |                   |    |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Title in line with methodology?  | Yes  |   |                      |            |                                 |                             |                                |                  |                                     |  |                       |          |                   |    |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Data unit correctly expressed?   | Yes  |   |                      |            |                                 |                             |                                |                  |                                     |  |                       |          |                   |    |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |

## Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION              |  | Ref.    | COMMENTS  |     | PPD in GSP           | Final PDD |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
|---|--|---------|---|-----|----------------------|-----------|---------------------------------|-----|--------------------------------|-----|---------------------------------------|-----|----------------------------|-----|--|-----|-------------------------------|-----|---|-----|---------------------------------|-----|----------------------------------|-----|-----------------------------|-----|-------------------------------|-----|---|---|
| Data / Parameter:                       | Type   |         | Appropriate description of parameter?   | Yes |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Data unit:                              | ---  |         | Source clearly referenced?  | Yes |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Description:                            | Type of barn and AWMS                              |         | Correct value provided for estimation?  | Yes |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Source of data:                         | Project proponents                                 |         | Has this value been verified?   | Yes |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Measurement procedures (if any):        | Archive electronically during project plus 5 years |         | Measurement method correctly described?   | Yes |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Monitoring frequency:                   | ---  |         | Correct reference to standards?   | Yes |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| QA/QC procedures:                       | ---  |         | Indication of accuracy provided?  | Yes |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Any comment:                            | Barn and AWMS layout and configuration.            |         | QA/QC procedures described?   | Yes |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
|   |  |         | QA/QC procedures appropriate?   | Yes |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
|   |  |         |   |     |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| B.7.1.14. Parameter Title: 12           |  | 1,2,4,5 | <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/a</td></tr><tr><td>Data unit correctly expressed?</td><td>N/a</td></tr><tr><td>Appropriate description of parameter?</td><td>N/a</td></tr><tr><td>Source clearly referenced?</td><td>N/a</td></tr><tr><td>Correct value provided for estimation?</td><td>N/a</td></tr><tr><td>Has this value been verified?</td><td>N/a</td></tr><tr><td>Measurement method correctly described?</td><td>N/a</td></tr><tr><td>Correct reference to standards?</td><td>N/a</td></tr><tr><td>Indication of accuracy provided?</td><td>N/a</td></tr><tr><td>QA/QC procedures described?</td><td>N/a</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/a</td></tr></table> |     | Monitoring Checklist | Yes / No  | Title in line with methodology? | N/a | Data unit correctly expressed? | N/a | Appropriate description of parameter? | N/a | Source clearly referenced? | N/a | Correct value provided for estimation? | N/a | Has this value been verified? | N/a | Measurement method correctly described? | N/a | Correct reference to standards? | N/a | Indication of accuracy provided? | N/a | QA/QC procedures described? | N/a | QA/QC procedures appropriate? | N/a | ☑ | ☑ |
| Monitoring Checklist                    | Yes / No   |         |   |     |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Title in line with methodology?         | N/a  |         |   |     |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Data unit correctly expressed?          | N/a  |         |   |     |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Appropriate description of parameter?   | N/a  |         |   |     |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Source clearly referenced?              | N/a  |         |   |     |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Correct value provided for estimation?  | N/a  |         |   |     |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Has this value been verified?           | N/a  |         |   |     |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Measurement method correctly described? | N/a  |         |   |     |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Correct reference to standards?         | N/a  |         |   |     |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Indication of accuracy provided?        | N/a  |         |   |     |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| QA/QC procedures described?             | N/a  |         |   |     |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| QA/QC procedures appropriate?           | N/a  |         |   |     |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| B.7.1.15. Parameter Title: 13           |  | 1,2,4,5 | <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/a</td></tr><tr><td>Data unit correctly expressed?</td><td>N/a</td></tr></table>   |     | Monitoring Checklist | Yes / No  | Title in line with methodology? | N/a | Data unit correctly expressed? | N/a | ☑                                     | ☑   |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Monitoring Checklist                    | Yes / No   |         |   |     |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Title in line with methodology?         | N/a  |         |   |     |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Data unit correctly expressed?          | N/a  |         |   |     |                      |           |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |

# Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION   |  | Ref.              | COMMENTS  |            | PPD in GSP                          | Final PDD                           |                                   |                 |                                |                                  |  |                       |                            |                   |  |              |                               |     |   |     |                                       |     |                                  |     |  |     |                               |     |   |                                     |                                 |     |                                  |     |                             |     |                               |     |  |  |
|--|--|-------------------|---|------------|-------------------------------------|-------------------------------------|-----------------------------------|-----------------|--------------------------------|----------------------------------|--|-----------------------|----------------------------|-------------------|--|--------------|-------------------------------|-----|---|-----|---------------------------------------|-----|----------------------------------|-----|--|-----|-------------------------------|-----|---|-------------------------------------|---------------------------------|-----|----------------------------------|-----|-----------------------------|-----|-------------------------------|-----|--|--|
| <table><tr><td>Data / Parameter:</td><td>GE</td></tr><tr><td>Data unit:</td><td>MJ/d</td></tr><tr><td>Description:</td><td>Gross energy intake of the animal</td></tr><tr><td>Source of data:</td><td>Project proponents</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>Monitoring frequency:</td><td>Annually</td></tr><tr><td>QA/QC procedures:</td><td>---</td></tr><tr><td>Any comment:</td><td>---</td></tr></table> |  | Data / Parameter: | GE  | Data unit: | MJ/d                                | Description:                        | Gross energy intake of the animal | Source of data: | Project proponents             | Measurement procedures (if any): | Archive electronically during project plus 5 years | Monitoring frequency: | Annually                   | QA/QC procedures: | ---                                    | Any comment: | ---                           |     | <table><tr><td>Appropriate description of parameter?</td><td>N/a</td></tr><tr><td>Source clearly referenced?</td><td>N/a</td></tr><tr><td>Correct value provided for estimation?</td><td>N/a</td></tr><tr><td>Has this value been verified?</td><td>N/a</td></tr><tr><td>Measurement method correctly described?</td><td>N/a</td></tr><tr><td>Correct reference to standards?</td><td>N/a</td></tr><tr><td>Indication of accuracy provided?</td><td>N/a</td></tr><tr><td>QA/QC procedures described?</td><td>N/a</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/a</td></tr></table> |     | Appropriate description of parameter? | N/a | Source clearly referenced?       | N/a | Correct value provided for estimation? | N/a | Has this value been verified? | N/a | Measurement method correctly described? | N/a                                 | Correct reference to standards? | N/a | Indication of accuracy provided? | N/a | QA/QC procedures described? | N/a | QA/QC procedures appropriate? | N/a |  |  |
| Data / Parameter:  | GE   |                   |   |            |                                     |                                     |                                   |                 |                                |                                  |  |                       |                            |                   |  |              |                               |     |   |     |                                       |     |                                  |     |  |     |                               |     |   |                                     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Data unit:   | MJ/d   |                   |   |            |                                     |                                     |                                   |                 |                                |                                  |  |                       |                            |                   |  |              |                               |     |   |     |                                       |     |                                  |     |  |     |                               |     |   |                                     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Description:   | Gross energy intake of the animal                  |                   |   |            |                                     |                                     |                                   |                 |                                |                                  |  |                       |                            |                   |  |              |                               |     |   |     |                                       |     |                                  |     |  |     |                               |     |   |                                     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Source of data:  | Project proponents                                 |                   |   |            |                                     |                                     |                                   |                 |                                |                                  |  |                       |                            |                   |  |              |                               |     |   |     |                                       |     |                                  |     |  |     |                               |     |   |                                     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Measurement procedures (if any):   | Archive electronically during project plus 5 years |                   |   |            |                                     |                                     |                                   |                 |                                |                                  |  |                       |                            |                   |  |              |                               |     |   |     |                                       |     |                                  |     |  |     |                               |     |   |                                     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Monitoring frequency:  | Annually   |                   |   |            |                                     |                                     |                                   |                 |                                |                                  |  |                       |                            |                   |  |              |                               |     |   |     |                                       |     |                                  |     |  |     |                               |     |   |                                     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| QA/QC procedures:  | ---  |                   |   |            |                                     |                                     |                                   |                 |                                |                                  |  |                       |                            |                   |  |              |                               |     |   |     |                                       |     |                                  |     |  |     |                               |     |   |                                     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Any comment:   | ---  |                   |   |            |                                     |                                     |                                   |                 |                                |                                  |  |                       |                            |                   |  |              |                               |     |   |     |                                       |     |                                  |     |  |     |                               |     |   |                                     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Appropriate description of parameter?  | N/a  |                   |   |            |                                     |                                     |                                   |                 |                                |                                  |  |                       |                            |                   |  |              |                               |     |   |     |                                       |     |                                  |     |  |     |                               |     |   |                                     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Source clearly referenced?   | N/a  |                   |   |            |                                     |                                     |                                   |                 |                                |                                  |  |                       |                            |                   |  |              |                               |     |   |     |                                       |     |                                  |     |  |     |                               |     |   |                                     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Correct value provided for estimation?   | N/a  |                   |   |            |                                     |                                     |                                   |                 |                                |                                  |  |                       |                            |                   |  |              |                               |     |   |     |                                       |     |                                  |     |  |     |                               |     |   |                                     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Has this value been verified?  | N/a  |                   |   |            |                                     |                                     |                                   |                 |                                |                                  |  |                       |                            |                   |  |              |                               |     |   |     |                                       |     |                                  |     |  |     |                               |     |   |                                     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Measurement method correctly described?  | N/a  |                   |   |            |                                     |                                     |                                   |                 |                                |                                  |  |                       |                            |                   |  |              |                               |     |   |     |                                       |     |                                  |     |  |     |                               |     |   |                                     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Correct reference to standards?  | N/a  |                   |   |            |                                     |                                     |                                   |                 |                                |                                  |  |                       |                            |                   |  |              |                               |     |   |     |                                       |     |                                  |     |  |     |                               |     |   |                                     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Indication of accuracy provided?   | N/a  |                   |   |            |                                     |                                     |                                   |                 |                                |                                  |  |                       |                            |                   |  |              |                               |     |   |     |                                       |     |                                  |     |  |     |                               |     |   |                                     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| QA/QC procedures described?  | N/a  |                   |   |            |                                     |                                     |                                   |                 |                                |                                  |  |                       |                            |                   |  |              |                               |     |   |     |                                       |     |                                  |     |  |     |                               |     |   |                                     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| QA/QC procedures appropriate?  | N/a  |                   |   |            |                                     |                                     |                                   |                 |                                |                                  |  |                       |                            |                   |  |              |                               |     |   |     |                                       |     |                                  |     |  |     |                               |     |   |                                     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| B.7.1.16. Parameter Title: 14  |  | 1,2, 4,5          | <table><tr><td>Monitoring Checklist</td><td>Yes / No</td></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  |                   |   |            |                                     |                                     |                                   |                 |                                |                                  |  |                       |                            |                   |  |              |                               |     |   |     |                                       |     |                                  |     |  |     |                               |     |   |                                     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| B.7.1.17. Parameter Title: 15  |  | 1,2,              |   |            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                   |                 |                                |                                  |  |                       |                            |                   |  |              |                               |     |   |     |                                       |     |                                  |     |  |     |                               |     |   |                                     |                                 |     |                                  |     |                             |     |                               |     |  |  |

# Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION   |  | Ref.  | COMMENTS  |             | PPD in GSP           | Final PDD    |                                 |  |                                |                                  |  |                       |                            |                              |  |   |                               |     |   |     |                                 |          |                                  |     |                                |     |                                       |     |                            |                                     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |  |  |
|--|--|---|---|-------------|----------------------|--------------|---------------------------------|--|--------------------------------|----------------------------------|--|-----------------------|----------------------------|------------------------------|--|---|-------------------------------|-----|---|-----|---------------------------------|----------|----------------------------------|-----|--------------------------------|-----|---------------------------------------|-----|----------------------------|-------------------------------------|--|-----|-------------------------------|-----|---|-----|---------------------------------|-----|----------------------------------|-----|-----------------------------|-----|-------------------------------|-----|--|--|
| <table><tr><td>Data / Parameter:</td><td>EG<sub>dy</sub></td></tr><tr><td>Data unit:</td><td>MWh</td></tr><tr><td>Description:</td><td>Electricity exported to grid</td></tr><tr><td>Source of data:</td><td>Project proponents</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>Monitoring frequency:</td><td>Annual</td></tr><tr><td>QA/QC procedures:</td><td>Electricity meters will undergo maintenance/calibration subject to appropriate industry standards. The accuracy of the meter readings will be verified by receipts issued by the purchasing power company. Uncertainty of the meters to be obtained from the manufacturers. This uncertainty to be included in a conservative manner while calculating CERs and procedure for doing so should be described in the CDM-PDD.</td></tr><tr><td>Any comment:</td><td>---</td></tr></table> |  | Data / Parameter:   | EG <sub>dy</sub>  | Data unit:  | MWh                  | Description: | Electricity exported to grid    | Source of data:                                  | Project proponents             | Measurement procedures (if any): | Archive electronically during project plus 5 years | Monitoring frequency: | Annual                     | QA/QC procedures:            | Electricity meters will undergo maintenance/calibration subject to appropriate industry standards. The accuracy of the meter readings will be verified by receipts issued by the purchasing power company. Uncertainty of the meters to be obtained from the manufacturers. This uncertainty to be included in a conservative manner while calculating CERs and procedure for doing so should be described in the CDM-PDD. | Any comment:  | ---                           | 4,5 | <table><tr><td>Monitoring Checklist</td><td>Yes / No</td></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 |  |  |
| Data / Parameter:  | EG <sub>dy</sub>   |   |   |             |                      |              |                                 |  |                                |                                  |  |                       |                            |                              |  |   |                               |     |   |     |                                 |          |                                  |     |                                |     |                                       |     |                            |                                     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Data unit:   | MWh  |   |   |             |                      |              |                                 |  |                                |                                  |  |                       |                            |                              |  |   |                               |     |   |     |                                 |          |                                  |     |                                |     |                                       |     |                            |                                     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Description:   | Electricity exported to grid   |   |   |             |                      |              |                                 |  |                                |                                  |  |                       |                            |                              |  |   |                               |     |   |     |                                 |          |                                  |     |                                |     |                                       |     |                            |                                     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Source of data:  | Project proponents   |   |   |             |                      |              |                                 |  |                                |                                  |  |                       |                            |                              |  |   |                               |     |   |     |                                 |          |                                  |     |                                |     |                                       |     |                            |                                     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Measurement procedures (if any):   | Archive electronically during project plus 5 years   |   |   |             |                      |              |                                 |  |                                |                                  |  |                       |                            |                              |  |   |                               |     |   |     |                                 |          |                                  |     |                                |     |                                       |     |                            |                                     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Monitoring frequency:  | Annual   |   |   |             |                      |              |                                 |  |                                |                                  |  |                       |                            |                              |  |   |                               |     |   |     |                                 |          |                                  |     |                                |     |                                       |     |                            |                                     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| QA/QC procedures:  | Electricity meters will undergo maintenance/calibration subject to appropriate industry standards. The accuracy of the meter readings will be verified by receipts issued by the purchasing power company. Uncertainty of the meters to be obtained from the manufacturers. This uncertainty to be included in a conservative manner while calculating CERs and procedure for doing so should be described in the CDM-PDD. |   |   |             |                      |              |                                 |  |                                |                                  |  |                       |                            |                              |  |   |                               |     |   |     |                                 |          |                                  |     |                                |     |                                       |     |                            |                                     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Any comment:   | ---  |   |   |             |                      |              |                                 |  |                                |                                  |  |                       |                            |                              |  |   |                               |     |   |     |                                 |          |                                  |     |                                |     |                                       |     |                            |                                     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| 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  |   |   |             |                      |              |                                 |  |                                |                                  |  |                       |                            |                              |  |   |                               |     |   |     |                                 |          |                                  |     |                                |     |                                       |     |                            |                                     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |  |  |
|  |  | Details on calibration described in section B.7.2 of the PDD. |   |             |                      |              |                                 |  |                                |                                  |  |                       |                            |                              |  |   |                               |     |   |     |                                 |          |                                  |     |                                |     |                                       |     |                            |                                     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| B.7.1.18. Parameter Title: 16  |  | 1,2,4,5   | <table><tr><td>Monitoring Checklist</td><td>Yes / No</td></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 | CR 37                      | <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  |   |   |             |                      |              |                                 |  |                                |                                  |  |                       |                            |                              |  |   |                               |     |   |     |                                 |          |                                  |     |                                |     |                                       |     |                            |                                     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| <table><tr><td>Data / Parameter:</td><td>Regulations</td></tr><tr><td>Data unit:</td><td>---</td></tr><tr><td>Description:</td><td>Existence and enforcement of relevant regulation</td></tr><tr><td>Source of data:</td><td>Project proponents</td></tr><tr><td>Measurement procedures (if any):</td><td>---</td></tr><tr><td>Monitoring frequency:</td><td>At start of crediting period</td></tr><tr><td>QA/QC procedures:</td><td>Quality control for the existence and enforcement of relevant regulations and incentives is beyond the bounds of the project activity. Instead, the DOE will verify the evidence collected.</td></tr><tr><td>Any comment:</td><td>---</td></tr></table>   |  |   | Data / Parameter:   | Regulations | Data unit:           | ---          | Description:                    | Existence and enforcement of relevant regulation | Source of data:                | Project proponents               | Measurement procedures (if any):                   | ---                   | Monitoring frequency:      | At start of crediting period | QA/QC procedures:  | Quality control for the existence and enforcement of relevant regulations and incentives is beyond the bounds of the project activity. Instead, the DOE will verify the evidence collected. | Any comment:                  | --- |   |     |                                 |          |                                  |     |                                |     |                                       |     |                            |                                     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Data / Parameter:  | Regulations  |   |   |             |                      |              |                                 |  |                                |                                  |  |                       |                            |                              |  |   |                               |     |   |     |                                 |          |                                  |     |                                |     |                                       |     |                            |                                     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Data unit:   | ---  |   |   |             |                      |              |                                 |  |                                |                                  |  |                       |                            |                              |  |   |                               |     |   |     |                                 |          |                                  |     |                                |     |                                       |     |                            |                                     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Description:   | Existence and enforcement of relevant regulation   |   |   |             |                      |              |                                 |  |                                |                                  |  |                       |                            |                              |  |   |                               |     |   |     |                                 |          |                                  |     |                                |     |                                       |     |                            |                                     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Source of data:  | Project proponents   |   |   |             |                      |              |                                 |  |                                |                                  |  |                       |                            |                              |  |   |                               |     |   |     |                                 |          |                                  |     |                                |     |                                       |     |                            |                                     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Measurement procedures (if any):   | ---  |   |   |             |                      |              |                                 |  |                                |                                  |  |                       |                            |                              |  |   |                               |     |   |     |                                 |          |                                  |     |                                |     |                                       |     |                            |                                     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Monitoring frequency:  | At start of crediting period   |   |   |             |                      |              |                                 |  |                                |                                  |  |                       |                            |                              |  |   |                               |     |   |     |                                 |          |                                  |     |                                |     |                                       |     |                            |                                     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| QA/QC procedures:  | Quality control for the existence and enforcement of relevant regulations and incentives is beyond the bounds of the project activity. Instead, the DOE will verify the evidence collected.  |   |   |             |                      |              |                                 |  |                                |                                  |  |                       |                            |                              |  |   |                               |     |   |     |                                 |          |                                  |     |                                |     |                                       |     |                            |                                     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |  |  |
| Any comment:   | ---  |   |   |             |                      |              |                                 |  |                                |                                  |  |                       |                            |                              |  |   |                               |     |   |     |                                 |          |                                  |     |                                |     |                                       |     |                            |                                     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |  |  |

## Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION  | Ref.  | COMMENTS   | PPD in GSP           | Final PDD |                                 |   |                                |                    |                                  |  |                       |         |                   |     |              |   |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
|---|---|--|----------------------|-----------|---------------------------------|---|--------------------------------|--------------------|----------------------------------|--|-----------------------|---------|-------------------|-----|--------------|---|---------|---|----------------------|----------|---------------------------------|-----|--------------------------------|-----|---------------------------------------|-----|----------------------------|-----|--|-----|-------------------------------|-----|---|-----|---------------------------------|-----|----------------------------------|-----|-----------------------------|-----|-------------------------------|-----|---|---|
|   |   | <p><b><u>Clarification Request No. 37.</u></b></p> <p>The project participants need to revise as indicated for the parameter “regulations”, if any (general) change in the legal framework during implementation affects the project. Due action would need to be taken if that is the case. The latter should be clearly indicated.</p> |                      |           |                                 |   |                                |                    |                                  |  |                       |         |                   |     |              |   |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| <p><b>B.7.1.19.           Parameter Title: 17</b></p> <table><tr><td>Data / Parameter:</td><td>N<sub>LT</sub></td></tr><tr><td>Data unit:</td><td>Number</td></tr><tr><td>Description:</td><td>Average livestock population used in both baseline and project case emissions estimation.</td></tr><tr><td>Source of data:</td><td>Project proponents</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>Monitoring frequency:</td><td>Monthly</td></tr><tr><td>QA/QC procedures:</td><td>---</td></tr><tr><td>Any comment:</td><td>The PDD should describe the system on monitoring the number of livestock population. The consistency between the value and indirect information (records of sales, records of food purchases) should be assessed.</td></tr></table> | Data / Parameter:   | N <sub>LT</sub>  | Data unit:           | Number    | Description:                    | Average livestock population used in both baseline and project case emissions estimation. | Source of data:                | Project proponents | Measurement procedures (if any): | Archive electronically during project plus 5 years | Monitoring frequency: | Monthly | QA/QC procedures: | --- | Any comment: | The PDD should describe the system on monitoring the number of livestock population. The consistency between the value and indirect information (records of sales, records of food purchases) should be assessed. | 1,2,4,5 | <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 | ☑ | ☑ |
| Data / Parameter:   | N <sub>LT</sub>   |  |                      |           |                                 |   |                                |                    |                                  |  |                       |         |                   |     |              |   |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Data unit:  | Number  |  |                      |           |                                 |   |                                |                    |                                  |  |                       |         |                   |     |              |   |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Description:  | Average livestock population used in both baseline and project case emissions estimation.   |  |                      |           |                                 |   |                                |                    |                                  |  |                       |         |                   |     |              |   |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Source of data:   | Project proponents  |  |                      |           |                                 |   |                                |                    |                                  |  |                       |         |                   |     |              |   |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Measurement procedures (if any):  | Archive electronically during project plus 5 years  |  |                      |           |                                 |   |                                |                    |                                  |  |                       |         |                   |     |              |   |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Monitoring frequency:   | Monthly   |  |                      |           |                                 |   |                                |                    |                                  |  |                       |         |                   |     |              |   |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| QA/QC procedures:   | ---   |  |                      |           |                                 |   |                                |                    |                                  |  |                       |         |                   |     |              |   |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Any comment:  | The PDD should describe the system on monitoring the number of livestock population. The consistency between the value and indirect information (records of sales, records of food purchases) should be assessed. |  |                      |           |                                 |   |                                |                    |                                  |  |                       |         |                   |     |              |   |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| 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   |  |                      |           |                                 |   |                                |                    |                                  |  |                       |         |                   |     |              |   |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| <p><b>B.7.1.20.           Parameter Title: 18</b></p>   | 1,2,4,5   | <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></table>  | Monitoring Checklist | Yes / No  | Title in line with methodology? | Yes   | Data unit correctly expressed? | Yes                | CR 38                            | ☑  |                       |         |                   |     |              |   |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Monitoring Checklist  | Yes / No  |  |                      |           |                                 |   |                                |                    |                                  |  |                       |         |                   |     |              |   |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Title in line with methodology?   | Yes   |  |                      |           |                                 |   |                                |                    |                                  |  |                       |         |                   |     |              |   |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |
| Data unit correctly expressed?  | Yes   |  |                      |           |                                 |   |                                |                    |                                  |  |                       |         |                   |     |              |   |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |   |   |



# Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION       |  | Ref.                                    | COMMENTS   |     | PPD in GSP | Final PDD |
|----------------------------------|--|---|--|-----|------------|-----------|
| Data / Parameter:                | W <sub>site</sub>  |   | Appropriate description of parameter?  | Yes |            |           |
| Data unit:                       | kg   |   | Source clearly referenced?   | Yes |            |           |
| Description:                     | Weight of livestock  |   | Correct value provided for estimation?   | Yes |            |           |
| Source of data:                  | Project proponents   |   | Has this value been verified?  | Yes |            |           |
| Measurement procedures (if any): | Archive electronically during project plus 5 years                         |   | Measurement method correctly described?  | No  |            |           |
| Monitoring frequency:            | Monthly  |   | Correct reference to standards?  | No  |            |           |
| QA/QC procedures:                | ---  |   | Indication of accuracy provided?   | No  |            |           |
| Any comment:                     | The PDD should describe the system on monitoring the weight of livestock . |   | QA/QC procedures described?  | No  |            |           |
|                                  |  |   | QA/QC procedures appropriate?  | No  |            |           |
|                                  |  |   | <b>Clarification Request No. 38.</b><br>It is stated that the animal weight will not be monitored. However, registry of animal weights is necessary in order to document that IPCC defaults can be used. |     |            |           |
| B.7.1.21. Parameter Title: 19    |  | 1,2,4,5                                 | Monitoring Checklist   |     | ☑          | ☑         |
| Data / Parameter:                | F <sub>AD</sub>  |   | Yes / No   |     |            |           |
| Data unit:                       | Fraction   |   | Title in line with methodology?  |     |            |           |
| Description:                     | Fraction of volatile solids directed to anaerobic digesters                |   | Yes  |     |            |           |
| Source of data:                  | Project proponents   |   | Data unit correctly expressed?   |     |            |           |
| Measurement procedures (if any): | Archive electronically during project plus 5 years                         |   | Yes  |     |            |           |
| Monitoring frequency:            | Annually   |   | Appropriate description of parameter?  |     |            |           |
| QA/QC procedures:                | ---  |   | Yes  |     |            |           |
| Any comment:                     | ---  |   | 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                                     |  |     |            |           |

# Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION   | Ref.   | COMMENTS          | PPD in GSP | Final PDD |              |   |                 |                    |                                  |  |                       |          |                   |  |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
|--|--|-------------------|------------|-----------|--------------|---|-----------------|--------------------|----------------------------------|--|-----------------------|----------|-------------------|--|--------------|-----|---------|---|----------------------|----------|---------------------------------|-----|--------------------------------|-----|---------------------------------------|-----|----------------------------|-----|--|-----|-------------------------------|-----|---|-----|---------------------------------|-----|-------------------------------------|-------------------------------------|-----------------------------|-----|-------------------------------|-----|-------------------------------------|-------------------------------------|
|  |  |                   |            |           |              |   |                 |                    |                                  |  |                       |          |                   |  |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| <div>B.7.1.22.      Parameter Title: 20</div> <table><tr><td>Data / Parameter:</td><td>F<sub>Aer</sub></td></tr><tr><td>Data unit:</td><td>Fraction</td></tr><tr><td>Description:</td><td>Fraction of volatile solids directed to aerobic treatment</td></tr><tr><td>Source of data:</td><td>Project proponents</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>Monitoring frequency:</td><td>Annually</td></tr><tr><td>QA/QC procedures:</td><td>---</td></tr><tr><td>Any comment:</td><td>---</td></tr></table>  | Data / Parameter:  | F <sub>Aer</sub>  | Data unit: | Fraction  | Description: | Fraction of volatile solids directed to aerobic treatment | Source of data: | Project proponents | Measurement procedures (if any): | Archive electronically during project plus 5 years | Monitoring frequency: | Annually | QA/QC procedures: | ---  | Any comment: | --- | 1,2,4,5 | <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"/> |
| Data / Parameter:  | F <sub>Aer</sub>   |                   |            |           |              |   |                 |                    |                                  |  |                       |          |                   |  |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Data unit:   | Fraction   |                   |            |           |              |   |                 |                    |                                  |  |                       |          |                   |  |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Description:   | Fraction of volatile solids directed to aerobic treatment  |                   |            |           |              |   |                 |                    |                                  |  |                       |          |                   |  |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Source of data:  | Project proponents   |                   |            |           |              |   |                 |                    |                                  |  |                       |          |                   |  |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Measurement procedures (if any):   | Archive electronically during project plus 5 years   |                   |            |           |              |   |                 |                    |                                  |  |                       |          |                   |  |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Monitoring frequency:  | Annually   |                   |            |           |              |   |                 |                    |                                  |  |                       |          |                   |  |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures:  | ---  |                   |            |           |              |   |                 |                    |                                  |  |                       |          |                   |  |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Any comment:   | ---  |                   |            |           |              |   |                 |                    |                                  |  |                       |          |                   |  |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| 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  |                   |            |           |              |   |                 |                    |                                  |  |                       |          |                   |  |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| <div>B.7.1.23.      Parameter Title: 21</div> <table><tr><td>Data / Parameter:</td><td>EL<sub>P,y</sub></td></tr><tr><td>Data unit:</td><td>MWh</td></tr><tr><td>Description:</td><td>Electricity used in Project AWMSs</td></tr><tr><td>Source of data:</td><td>Project proponents</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>Monitoring frequency:</td><td>Annually</td></tr><tr><td>QA/QC procedures:</td><td>Electricity meters will undergo maintenance/calibration subject to appropriate industry standards. The accuracy of the meter readings will be verified by receipts issued by the purchasing power company. Uncertainty of the meters to be obtained from the manufacturers. This uncertainty to be included in a conservative manner while calculating CERs and procedure for doing so should be described in the CDM-PDD.</td></tr><tr><td>Any comment:</td><td>---</td></tr></table> | Data / Parameter:  | EL <sub>P,y</sub> | Data unit: | MWh       | Description: | Electricity used in Project AWMSs                         | Source of data: | Project proponents | Measurement procedures (if any): | Archive electronically during project plus 5 years | Monitoring frequency: | Annually | QA/QC procedures: | Electricity meters will undergo maintenance/calibration subject to appropriate industry standards. The accuracy of the meter readings will be verified by receipts issued by the purchasing power company. Uncertainty of the meters to be obtained from the manufacturers. This uncertainty to be included in a conservative manner while calculating CERs and procedure for doing so should be described in the CDM-PDD. | Any comment: | --- | 1,2,4,5 | <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"/> |                             |     |                               |     |                                     |                                     |
| Data / Parameter:  | EL <sub>P,y</sub>  |                   |            |           |              |   |                 |                    |                                  |  |                       |          |                   |  |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Data unit:   | MWh  |                   |            |           |              |   |                 |                    |                                  |  |                       |          |                   |  |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Description:   | Electricity used in Project AWMSs  |                   |            |           |              |   |                 |                    |                                  |  |                       |          |                   |  |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Source of data:  | Project proponents   |                   |            |           |              |   |                 |                    |                                  |  |                       |          |                   |  |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Measurement procedures (if any):   | Archive electronically during project plus 5 years   |                   |            |           |              |   |                 |                    |                                  |  |                       |          |                   |  |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Monitoring frequency:  | Annually   |                   |            |           |              |   |                 |                    |                                  |  |                       |          |                   |  |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures:  | Electricity meters will undergo maintenance/calibration subject to appropriate industry standards. The accuracy of the meter readings will be verified by receipts issued by the purchasing power company. Uncertainty of the meters to be obtained from the manufacturers. This uncertainty to be included in a conservative manner while calculating CERs and procedure for doing so should be described in the CDM-PDD. |                   |            |           |              |   |                 |                    |                                  |  |                       |          |                   |  |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Any comment:   | ---  |                   |            |           |              |   |                 |                    |                                  |  |                       |          |                   |  |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| 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  |                   |            |           |              |   |                 |                    |                                  |  |                       |          |                   |  |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |

## Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION  | Ref.  | COMMENTS   |            | PPD in GSP                       | Final PDD    |                                 |                 |                                |                                  |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
|---|---|--|------------|----------------------------------|--------------|---------------------------------|-----------------|--------------------------------|----------------------------------|--|-----------------------|----------------------------|-------------------|---|--------------|-------|-------------------------------------|---|--|----------------------|----------|---------------------------------|-----|--------------------------------|-----|---------------------------------------|-----|----------------------------|-----|--|-----|-------------------------------|-----|---|-----|---------------------------------|-----|----------------------------------|-----|-----------------------------|-----|-------------------------------|-----|-------------------------------------|-------------------------------------|
|   |   | <table><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>  |            | Indication of accuracy provided? | Yes          | QA/QC procedures described?     | Yes             | QA/QC procedures appropriate?  | Yes                              |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Indication of accuracy provided?  | Yes   |  |            |                                  |              |                                 |                 |                                |                                  |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures described?   | Yes   |  |            |                                  |              |                                 |                 |                                |                                  |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures appropriate?   | Yes   |  |            |                                  |              |                                 |                 |                                |                                  |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| <div>B.7.1.24.      Parameter Title: 22</div> <table><tr><td>Data / Parameter:</td><td>HG<sub>B,y</sub></td></tr><tr><td>Data unit:</td><td>MJ</td></tr><tr><td>Description:</td><td>Heat used by project AWMS</td></tr><tr><td>Source of data:</td><td>Project proponents</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>Monitoring frequency:</td><td>at start of project</td></tr><tr><td>QA/QC procedures:</td><td>Fuel purchase records to be cross checked with estimates.</td></tr><tr><td>Any comment:</td><td>---</td></tr></table> | Data / Parameter:   | HG <sub>B,y</sub>  | Data unit: | MJ                               | Description: | Heat used by project AWMS       | Source of data: | Project proponents             | Measurement procedures (if any): | Archive electronically during project plus 5 years | Monitoring frequency: | at start of project        | QA/QC procedures: | Fuel purchase records to be cross checked with estimates. | Any comment: | ---   | 1,2,4,5                             | <table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>N/a</td></tr><tr><td>Data unit correctly expressed?</td><td>N/a</td></tr><tr><td>Appropriate description of parameter?</td><td>N/a</td></tr><tr><td>Source clearly referenced?</td><td>N/a</td></tr><tr><td>Correct value provided for estimation?</td><td>N/a</td></tr><tr><td>Has this value been verified?</td><td>N/a</td></tr><tr><td>Measurement method correctly described?</td><td>N/a</td></tr><tr><td>Correct reference to standards?</td><td>N/a</td></tr><tr><td>Indication of accuracy provided?</td><td>N/a</td></tr><tr><td>QA/QC procedures described?</td><td>N/a</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/a</td></tr></table> |  | Monitoring Checklist | Yes / No | Title in line with methodology? | N/a | Data unit correctly expressed? | N/a | Appropriate description of parameter? | N/a | Source clearly referenced? | N/a | Correct value provided for estimation? | N/a | Has this value been verified? | N/a | Measurement method correctly described? | N/a | Correct reference to standards? | N/a | Indication of accuracy provided? | N/a | QA/QC procedures described? | N/a | QA/QC procedures appropriate? | N/a | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Data / Parameter:   | HG <sub>B,y</sub>   |  |            |                                  |              |                                 |                 |                                |                                  |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Data unit:  | MJ  |  |            |                                  |              |                                 |                 |                                |                                  |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Description:  | Heat used by project AWMS                                 |  |            |                                  |              |                                 |                 |                                |                                  |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Source of data:   | Project proponents  |  |            |                                  |              |                                 |                 |                                |                                  |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Measurement procedures (if any):  | Archive electronically during project plus 5 years        |  |            |                                  |              |                                 |                 |                                |                                  |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Monitoring frequency:   | at start of project                                       |  |            |                                  |              |                                 |                 |                                |                                  |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures:   | Fuel purchase records to be cross checked with estimates. |  |            |                                  |              |                                 |                 |                                |                                  |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Any comment:  | ---   |  |            |                                  |              |                                 |                 |                                |                                  |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Monitoring Checklist  | Yes / No  |  |            |                                  |              |                                 |                 |                                |                                  |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Title in line with methodology?   | N/a   |  |            |                                  |              |                                 |                 |                                |                                  |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Data unit correctly expressed?  | N/a   |  |            |                                  |              |                                 |                 |                                |                                  |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Appropriate description of parameter?   | N/a   |  |            |                                  |              |                                 |                 |                                |                                  |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Source clearly referenced?  | N/a   |  |            |                                  |              |                                 |                 |                                |                                  |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Correct value provided for estimation?  | N/a   |  |            |                                  |              |                                 |                 |                                |                                  |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Has this value been verified?   | N/a   |  |            |                                  |              |                                 |                 |                                |                                  |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Measurement method correctly described?   | N/a   |  |            |                                  |              |                                 |                 |                                |                                  |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Correct reference to standards?   | N/a   |  |            |                                  |              |                                 |                 |                                |                                  |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Indication of accuracy provided?  | N/a   |  |            |                                  |              |                                 |                 |                                |                                  |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures described?   | N/a   |  |            |                                  |              |                                 |                 |                                |                                  |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures appropriate?   | N/a   |  |            |                                  |              |                                 |                 |                                |                                  |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| <div>B.7.1.25.      Parameter Title: 23</div>   | 1,2,4,5   | <table><tr><td>Monitoring Checklist</td><td>Yes / No</td></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></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          | CR 39 | <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   |  |            |                                  |              |                                 |                 |                                |                                  |  |                       |                            |                   |   |              |       |                                     |   |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |

# Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION       |  | Ref.    | COMMENTS  |          | PPD in GSP | Final PDD                           |
|----------------------------------|--|---------|---|----------|------------|-------------------------------------|
| Data / Parameter:                | V <sub>f</sub>   |         | Has this value been verified?   | Yes      |            |                                     |
| Data unit:                       | m <sup>3</sup>   |         | Measurement method correctly described?   | Yes      |            |                                     |
| Description:                     | Biogas flow  |         | Correct reference to standards?   | Yes      |            |                                     |
| Source of data:                  | Project proponents   |         | Indication of accuracy provided?  | Yes      |            |                                     |
| Measurement procedures (if any): | Archive electronically during project plus 5 years   |         | QA/QC procedures described?   | Yes      |            |                                     |
| Monitoring frequency:            | Continuously by flow meter and reported cumulatively on weekly basis   |         | QA/QC procedures appropriate?   | Yes      |            |                                     |
| QA/QC procedures:                | Flow meters will undergo maintenance/calibration subject to appropriate industry standards. The frequency of calibration and control procedures would be different for each application. This maintenance/calibration practice should be clearly stated in the CDM-PDD   |         |   |          |            |                                     |
| Any comment:                     | The biogas flow will be measured at 4 points, as shown in the figure. But if the project participants can demonstrate that leakage in distribution pipeline is zero, it need be measured at any three points. The biogas flow to electricity or heat equipment in a moment can be considered destroyed, by monitoring that the equipment was working at this time. |         |   |          |            |                                     |
| B.7.1.26. Parameter Title: 24    |  | 1,2,4,5 | <p><b>Clarification Request No. 39.</b></p> <p>In regard to metering, the technical specifications / the applied industry standards for the flow meter should also be indicated in the PDD / Monitoring Plan (accuracies, details in regard to normalization (pressure / temp) of measured volume).</p> |          | CAR 9 +10  | <input checked="" type="checkbox"/> |
| Data / Parameter:                | C <sub>CH4</sub>   |         | Monitoring Checklist  | Yes / No |            |                                     |
| Data unit:                       | Fraction   |         | Title in line with methodology?   | Yes      |            |                                     |
| Description:                     | Methane fraction of biogas   |         | Data unit correctly expressed?  | Yes      |            |                                     |
| Source of data:                  | Project proponents   |         | Appropriate description of parameter?   | Yes      |            |                                     |
| Measurement procedures (if any): | Archive electronically during project plus 5 years. Shall be measured on wet basis.  |         | Source clearly referenced?  | Yes      |            |                                     |
| Monitoring frequency:            | to be decided by PPs.  |         | Correct value provided for estimation?  | Yes      |            |                                     |
| QA/QC procedures:                | The project proponents shall define the variability of the concentration. They shall also define the error in estimate for different level of measurement frequency. The level of accuracy will be deducted from average concentration of measurement.   |         | Has this value been verified?   | Yes      |            |                                     |
| Any comment:                     | The project proponents shall define the variability of the concentration. They shall also define the error in estimate for different level of measurement frequency. The level of accuracy will be deducted from average concentration of measurement.   |         | 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      |            |                                     |

## Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION   | Ref.   | COMMENTS  | PPD in GSP | Final PDD         |              |   |                 |  |                                  |  |                       |   |                   |  |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
|--|--|---|------------|-------------------|--------------|---|-----------------|--|----------------------------------|--|-----------------------|---|-------------------|--|--------------|--|---------|---|----------------------|----------|---------------------------------|-----|--------------------------------|-----|---------------------------------------|-----|----------------------------|-----|--|-----|-------------------------------|-----|---|-----|---------------------------------|-----|----------------------------------|-----|-----------------------------|-----|-------------------------------|-----|-------------------------------------|-------------------------------------|
|  |  | <p><b><u>Corrective Action Request No.9.</u></b></p> <p>In section 5.4. of the MP it is indicated that a CH4 flowmeter will be installed. It is deemed, as indicated also in the diagram, that this is a regular biogas flowmeter. Thus adaption on terminology is requested.</p> <p><b><u>Corrective Action Request No.10.</u></b></p> <p>The proposed number of gas samples is not considered adequate in order to reflect the expected variability in methane content. E.g. several measurements should be envisioned in the first months in order to define an acceptable number of measurements per time unit. The chosen approach should be justified.</p> <p>The flaring tool is to be considered.</p> |            |                   |              |   |                 |  |                                  |  |                       |   |                   |  |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| <p>B.7.1.27.           Parameter Title: 25</p> <table><tr><td>Data / Parameter:</td><td>PE<sub>flaring,y</sub></td></tr><tr><td>Data unit:</td><td>tCO<sub>2e</sub></td></tr><tr><td>Description:</td><td>Project emissions from flaring of the residual gas stream in year y</td></tr><tr><td>Source of data:</td><td></td></tr><tr><td>Measurement procedures (if any):</td><td>The parameters used for determining the project emissions from flaring of the residual gas stream in year y (PE<sub>flaring,y</sub>) should be monitored as per the “Tool to determine project emissions from flaring gases containing Methane”.</td></tr><tr><td>Monitoring frequency:</td><td>(</td></tr><tr><td>QA/QC procedures:</td><td>The parameters used for determining the project emissions from flaring of the residual gas stream in year y (PE<sub>flaring,y</sub>) should use the QA/QC procedures as per the “Tool to determine project emissions from flaring gases containing Methane”.</td></tr><tr><td>Any comment:</td><td></td></tr></table> | Data / Parameter:  | PE <sub>flaring,y</sub>   | Data unit: | tCO <sub>2e</sub> | Description: | Project emissions from flaring of the residual gas stream in year y | Source of data: |  | Measurement procedures (if any): | The parameters used for determining the project emissions from flaring of the residual gas stream in year y (PE <sub>flaring,y</sub> ) should be monitored as per the “Tool to determine project emissions from flaring gases containing Methane”. | Monitoring frequency: | ( | QA/QC procedures: | The parameters used for determining the project emissions from flaring of the residual gas stream in year y (PE <sub>flaring,y</sub> ) should use the QA/QC procedures as per the “Tool to determine project emissions from flaring gases containing Methane”. | Any comment: |  | 1,2,4,5 | <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>n/a</td></tr><tr><td>Data unit correctly expressed?</td><td>n/a</td></tr><tr><td>Appropriate description of parameter?</td><td>n/a</td></tr><tr><td>Source clearly referenced?</td><td>n/a</td></tr><tr><td>Correct value provided for estimation?</td><td>n/a</td></tr><tr><td>Has this value been verified?</td><td>n/a</td></tr><tr><td>Measurement method correctly described?</td><td>n/a</td></tr><tr><td>Correct reference to standards?</td><td>n/a</td></tr><tr><td>Indication of accuracy provided?</td><td>n/a</td></tr><tr><td>QA/QC procedures described?</td><td>n/a</td></tr><tr><td>QA/QC procedures appropriate?</td><td>n/a</td></tr></table> | Monitoring Checklist | Yes / No | Title in line with methodology? | n/a | Data unit correctly expressed? | n/a | Appropriate description of parameter? | n/a | Source clearly referenced? | n/a | Correct value provided for estimation? | n/a | Has this value been verified? | n/a | Measurement method correctly described? | n/a | Correct reference to standards? | n/a | Indication of accuracy provided? | n/a | QA/QC procedures described? | n/a | QA/QC procedures appropriate? | n/a | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Data / Parameter:  | PE <sub>flaring,y</sub>  |   |            |                   |              |   |                 |  |                                  |  |                       |   |                   |  |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Data unit:   | tCO <sub>2e</sub>  |   |            |                   |              |   |                 |  |                                  |  |                       |   |                   |  |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Description:   | Project emissions from flaring of the residual gas stream in year y  |   |            |                   |              |   |                 |  |                                  |  |                       |   |                   |  |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Source of data:  |  |   |            |                   |              |   |                 |  |                                  |  |                       |   |                   |  |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Measurement procedures (if any):   | The parameters used for determining the project emissions from flaring of the residual gas stream in year y (PE <sub>flaring,y</sub> ) should be monitored as per the “Tool to determine project emissions from flaring gases containing Methane”.             |   |            |                   |              |   |                 |  |                                  |  |                       |   |                   |  |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Monitoring frequency:  | (  |   |            |                   |              |   |                 |  |                                  |  |                       |   |                   |  |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures:  | The parameters used for determining the project emissions from flaring of the residual gas stream in year y (PE <sub>flaring,y</sub> ) should use the QA/QC procedures as per the “Tool to determine project emissions from flaring gases containing Methane”. |   |            |                   |              |   |                 |  |                                  |  |                       |   |                   |  |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Any comment:   |  |   |            |                   |              |   |                 |  |                                  |  |                       |   |                   |  |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Monitoring Checklist   | Yes / No   |   |            |                   |              |   |                 |  |                                  |  |                       |   |                   |  |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Title in line with methodology?  | n/a  |   |            |                   |              |   |                 |  |                                  |  |                       |   |                   |  |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Data unit correctly expressed?   | n/a  |   |            |                   |              |   |                 |  |                                  |  |                       |   |                   |  |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Appropriate description of parameter?  | n/a  |   |            |                   |              |   |                 |  |                                  |  |                       |   |                   |  |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Source clearly referenced?   | n/a  |   |            |                   |              |   |                 |  |                                  |  |                       |   |                   |  |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Correct value provided for estimation?   | n/a  |   |            |                   |              |   |                 |  |                                  |  |                       |   |                   |  |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Has this value been verified?  | n/a  |   |            |                   |              |   |                 |  |                                  |  |                       |   |                   |  |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Measurement method correctly described?  | n/a  |   |            |                   |              |   |                 |  |                                  |  |                       |   |                   |  |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Correct reference to standards?  | n/a  |   |            |                   |              |   |                 |  |                                  |  |                       |   |                   |  |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Indication of accuracy provided?   | n/a  |   |            |                   |              |   |                 |  |                                  |  |                       |   |                   |  |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures described?  | n/a  |   |            |                   |              |   |                 |  |                                  |  |                       |   |                   |  |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures appropriate?  | n/a  |   |            |                   |              |   |                 |  |                                  |  |                       |   |                   |  |              |  |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |

# Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION   | Ref.   | COMMENTS  | PPD in GSP | Final PDD            |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
|--|--|---|------------|----------------------|--------------|--|-----------------|--------------------|----------------------------------|--|-----------------------|----------------------|-------------------|-----|--------------|-----|---------|---|----------------------|----------|---------------------------------|-----|--------------------------------|-----|---------------------------------------|-----|----------------------------|-----|--|-------------------------------------|-------------------------------|-----|---|----|---------------------------------|----|----------------------------------|----|-----------------------------|----|-------------------------------|----|-------|-------------------------------------|
|  |  | As confirmed per final version of the PDD it is not accounted for Emission Reductions from flaring. |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| <div>B.7.1.28. Parameter Title: 26</div> <table><tr><td>Data / Parameter:</td><td>N<sub>DM</sub></td></tr><tr><td>Data unit:</td><td>kg N2O-N/KG effluent</td></tr><tr><td>Description:</td><td>N concentration in disposed manure</td></tr><tr><td>Source of data:</td><td>Project proponents</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>Monitoring frequency:</td><td>Every batch disposed</td></tr><tr><td>QA/QC procedures:</td><td>---</td></tr><tr><td>Any comment:</td><td>---</td></tr></table> | Data / Parameter:                                  | N <sub>DM</sub>   | Data unit: | kg N2O-N/KG effluent | Description: | N concentration in disposed manure               | Source of data: | Project proponents | Measurement procedures (if any): | Archive electronically during project plus 5 years | Monitoring frequency: | Every batch disposed | QA/QC procedures: | --- | Any comment: | --- | 1,2,4,5 | <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>No</td></tr><tr><td>Correct reference to standards?</td><td>No</td></tr><tr><td>Indication of accuracy provided?</td><td>No</td></tr><tr><td>QA/QC procedures described?</td><td>No</td></tr><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table> <p><b>Clarification Request No. 40.</b><br/>Monitoring procedures / activities for N<sub>DM</sub> should be clarified and incorporated to the PDD / Monitoring Plan.</p> | 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? | No | Correct reference to standards? | No | Indication of accuracy provided? | No | QA/QC procedures described? | No | QA/QC procedures appropriate? | No | CR 40 | <input checked="" type="checkbox"/> |
| Data / Parameter:  | N <sub>DM</sub>                                    |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| Data unit:   | kg N2O-N/KG effluent                               |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| Description:   | N concentration in disposed manure                 |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| Source of data:  | Project proponents                                 |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| Measurement procedures (if any):   | Archive electronically during project plus 5 years |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| Monitoring frequency:  | Every batch disposed                               |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| QA/QC procedures:  | ---  |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| Any comment:   | ---  |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| 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?  | No   |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| Correct reference to standards?  | No   |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| Indication of accuracy provided?   | No   |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| QA/QC procedures described?  | No   |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| QA/QC procedures appropriate?  | No   |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| <div>B.7.1.29. Parameter Title: 27</div> <table><tr><td>Data / Parameter:</td><td>Q<sub>DM</sub></td></tr><tr><td>Data unit:</td><td>kg</td></tr><tr><td>Description:</td><td>Mass of manure disposed outside project boundary</td></tr><tr><td>Source of data:</td><td>Project proponents</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>Monitoring frequency:</td><td>Every batch disposed</td></tr><tr><td>QA/QC procedures:</td><td>---</td></tr><tr><td>Any comment:</td><td>---</td></tr></table>     | Data / Parameter:                                  | Q <sub>DM</sub>   | Data unit: | kg                   | Description: | Mass of manure disposed outside project boundary | Source of data: | Project proponents | Measurement procedures (if any): | Archive electronically during project plus 5 years | Monitoring frequency: | Every batch disposed | QA/QC procedures: | --- | Any comment: | --- | 1,2,4,5 | <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 | CR 41                                  | <input checked="" type="checkbox"/> |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| Data / Parameter:  | Q <sub>DM</sub>                                    |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| Data unit:   | kg   |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| Description:   | Mass of manure disposed outside project boundary   |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| Source of data:  | Project proponents                                 |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| Measurement procedures (if any):   | Archive electronically during project plus 5 years |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| Monitoring frequency:  | Every batch disposed                               |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| QA/QC procedures:  | ---  |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| Any comment:   | ---  |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| Monitoring Checklist   | Yes / No   |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| Title in line with methodology?  | Yes  |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| Data unit correctly expressed?   | Yes  |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| Appropriate description of parameter?  | Yes  |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |
| Source clearly referenced?   | Yes  |   |            |                      |              |  |                 |                    |                                  |  |                       |                      |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |                                     |                               |     |   |    |                                 |    |                                  |    |                             |    |                               |    |       |                                     |

## Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION  | Ref.   | COMMENTS  |  | PPD in GSP | Final PDD                     |  |   |                    |                                  |  |                                  |          |                             |     |                               |     |         |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
|---|--|---|--|------------|-------------------------------|--|---|--------------------|----------------------------------|--|----------------------------------|----------|-----------------------------|-----|-------------------------------|-----|---------|--|----------------------|----------|---------------------------------|-----|--------------------------------|-----|---------------------------------------|-----|----------------------------|-----|--|-----|-------------------------------|-----|---|-----|---------------------------------|-----|----------------------------------|-----|-----------------------------|-----|-------------------------------|-----|-------------------------------------|-------------------------------------|
|   |  | <table> <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>No</td></tr> <tr><td>Correct reference to standards?</td><td>No</td></tr> <tr><td>Indication of accuracy provided?</td><td>No</td></tr> <tr><td>QA/QC procedures described?</td><td>No</td></tr> <tr><td>QA/QC procedures appropriate?</td><td>No</td></tr> </table> <p><b><u>Clarification Request No. 41.</u></b><br/>Monitoring procedures / activities for Q<sub>DM</sub> should be clarified and incorporated to the PDD / Monitoring Plan.</p> | Correct value provided for estimation? | Yes        | Has this value been verified? | Yes  | Measurement method correctly described? | No                 | Correct reference to standards?  | No   | Indication of accuracy provided? | No       | QA/QC procedures described? | No  | QA/QC procedures appropriate? | No  |         |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Correct value provided for estimation?  | Yes  |   |  |            |                               |  |   |                    |                                  |  |                                  |          |                             |     |                               |     |         |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Has this value been verified?   | Yes  |   |  |            |                               |  |   |                    |                                  |  |                                  |          |                             |     |                               |     |         |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Measurement method correctly described?   | No   |   |  |            |                               |  |   |                    |                                  |  |                                  |          |                             |     |                               |     |         |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Correct reference to standards?   | No   |   |  |            |                               |  |   |                    |                                  |  |                                  |          |                             |     |                               |     |         |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Indication of accuracy provided?  | No   |   |  |            |                               |  |   |                    |                                  |  |                                  |          |                             |     |                               |     |         |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures described?   | No   |   |  |            |                               |  |   |                    |                                  |  |                                  |          |                             |     |                               |     |         |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures appropriate?   | No   |   |  |            |                               |  |   |                    |                                  |  |                                  |          |                             |     |                               |     |         |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| <p><b>B.7.1.30.           Parameter Title: 28</b></p> <table> <tr><td>Data / Parameter:</td><td>MS%<sub>0</sub></td></tr> <tr><td>Data unit:</td><td>Fraction</td></tr> <tr><td>Description:</td><td>Fraction of manure handled in system j in project activity</td></tr> <tr><td>Source of data:</td><td>Project proponents</td></tr> <tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 yrs</td></tr> <tr><td>Monitoring frequency:</td><td>Annually</td></tr> <tr><td>QA/QC procedures:</td><td>---</td></tr> <tr><td>Any comment:</td><td>---</td></tr> </table> | Data / Parameter:  | MS% <sub>0</sub>  | Data unit:                             | Fraction   | Description:                  | Fraction of manure handled in system j in project activity | Source of data:                         | Project proponents | Measurement procedures (if any): | Archive electronically during project plus 5 yrs | Monitoring frequency:            | Annually | QA/QC procedures:           | --- | Any comment:                  | --- | 1,2,4,5 | <table> <tr><td>Monitoring Checklist</td><td>Yes / No</td></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"/> |
| Data / Parameter:   | MS% <sub>0</sub>   |   |  |            |                               |  |   |                    |                                  |  |                                  |          |                             |     |                               |     |         |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Data unit:  | Fraction   |   |  |            |                               |  |   |                    |                                  |  |                                  |          |                             |     |                               |     |         |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Description:  | Fraction of manure handled in system j in project activity |   |  |            |                               |  |   |                    |                                  |  |                                  |          |                             |     |                               |     |         |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Source of data:   | Project proponents   |   |  |            |                               |  |   |                    |                                  |  |                                  |          |                             |     |                               |     |         |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Measurement procedures (if any):  | Archive electronically during project plus 5 yrs           |   |  |            |                               |  |   |                    |                                  |  |                                  |          |                             |     |                               |     |         |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Monitoring frequency:   | Annually   |   |  |            |                               |  |   |                    |                                  |  |                                  |          |                             |     |                               |     |         |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures:   | ---  |   |  |            |                               |  |   |                    |                                  |  |                                  |          |                             |     |                               |     |         |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Any comment:  | ---  |   |  |            |                               |  |   |                    |                                  |  |                                  |          |                             |     |                               |     |         |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| 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  |   |  |            |                               |  |   |                    |                                  |  |                                  |          |                             |     |                               |     |         |  |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |

# Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION   | Ref.  | COMMENTS            | PPD in GSP | Final PDD        |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
|--|---|---------------------|------------|------------------|--------------|---|-----------------|--------------------|----------------------------------|--|-----------------------|----------|-------------------|-----|--------------|-----|---------|---|----------------------|----------|---------------------------------|-----|--------------------------------|-----|---------------------------------------|-----|----------------------------|-----|--|-----|-------------------------------|-----|---|-----|---------------------------------|-----|----------------------------------|-----|-----------------------------|-----|-------------------------------|-----|-------------------------------------|-------------------------------------|
| <div>B.7.1.31.      Parameter Title: 29</div> <table><tr><td>Data / Parameter:</td><td>NEX<sub>LT,y</sub></td></tr><tr><td>Data unit:</td><td>kg N/animal/year</td></tr><tr><td>Description:</td><td>Annual average nitrogen excretion per head of a defined livestock population in kg N/animal/year estimated as described in Annex 2.</td></tr><tr><td>Source of data:</td><td>Refer to Annex 2</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 yrs</td></tr><tr><td>Monitoring frequency:</td><td>Annually</td></tr><tr><td>QA/QC procedures:</td><td>---</td></tr><tr><td>Any comment:</td><td>---</td></tr></table> | Data / Parameter:   | NEX <sub>LT,y</sub> | Data unit: | kg N/animal/year | Description: | Annual average nitrogen excretion per head of a defined livestock population in kg N/animal/year estimated as described in Annex 2. | Source of data: | Refer to Annex 2   | Measurement procedures (if any): | Archive electronically during project plus 5 yrs | Monitoring frequency: | Annually | QA/QC procedures: | --- | Any comment: | --- | 1,2,4,5 | <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"/> |
| Data / Parameter:  | NEX <sub>LT,y</sub>   |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Data unit:   | kg N/animal/year  |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Description:   | Annual average nitrogen excretion per head of a defined livestock population in kg N/animal/year estimated as described in Annex 2. |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Source of data:  | Refer to Annex 2  |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Measurement procedures (if any):   | Archive electronically during project plus 5 yrs  |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Monitoring frequency:  | Annually  |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures:  | ---   |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Any comment:   | ---   |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| 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   |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| <div>B.7.1.32.      Parameter Title: 30</div> <table><tr><td>Data / Parameter:</td><td>GE<sub>LT</sub></td></tr><tr><td>Data unit:</td><td>MJ/day</td></tr><tr><td>Description:</td><td>Daily average gross energy intake in MJ/day.</td></tr><tr><td>Source of data:</td><td>Project proponents</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 yrs</td></tr><tr><td>Monitoring frequency:</td><td>Daily</td></tr><tr><td>QA/QC procedures:</td><td>---</td></tr><tr><td>Any comment:</td><td>---</td></tr></table>  | Data / Parameter:   | GE <sub>LT</sub>    | Data unit: | MJ/day           | Description: | Daily average gross energy intake in MJ/day.  | Source of data: | Project proponents | Measurement procedures (if any): | Archive electronically during project plus 5 yrs | Monitoring frequency: | Daily    | QA/QC procedures: | --- | Any comment: | --- | 1,2,4,5 | <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/a</td></tr><tr><td>Data unit correctly expressed?</td><td>N/a</td></tr><tr><td>Appropriate description of parameter?</td><td>N/a</td></tr><tr><td>Source clearly referenced?</td><td>N/a</td></tr><tr><td>Correct value provided for estimation?</td><td>N/a</td></tr><tr><td>Has this value been verified?</td><td>N/a</td></tr><tr><td>Measurement method correctly described?</td><td>N/a</td></tr><tr><td>Correct reference to standards?</td><td>N/a</td></tr><tr><td>Indication of accuracy provided?</td><td>N/a</td></tr><tr><td>QA/QC procedures described?</td><td>N/a</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/a</td></tr></table> | Monitoring Checklist | Yes / No | Title in line with methodology? | N/a | Data unit correctly expressed? | N/a | Appropriate description of parameter? | N/a | Source clearly referenced? | N/a | Correct value provided for estimation? | N/a | Has this value been verified? | N/a | Measurement method correctly described? | N/a | Correct reference to standards? | N/a | Indication of accuracy provided? | N/a | QA/QC procedures described? | N/a | QA/QC procedures appropriate? | N/a | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Data / Parameter:  | GE <sub>LT</sub>  |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Data unit:   | MJ/day  |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Description:   | Daily average gross energy intake in MJ/day.  |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Source of data:  | Project proponents  |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Measurement procedures (if any):   | Archive electronically during project plus 5 yrs  |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Monitoring frequency:  | Daily   |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures:  | ---   |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Any comment:   | ---   |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Monitoring Checklist   | Yes / No  |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Title in line with methodology?  | N/a   |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Data unit correctly expressed?   | N/a   |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Appropriate description of parameter?  | N/a   |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Source clearly referenced?   | N/a   |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Correct value provided for estimation?   | N/a   |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Has this value been verified?  | N/a   |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Measurement method correctly described?  | N/a   |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Correct reference to standards?  | N/a   |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Indication of accuracy provided?   | N/a   |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures described?  | N/a   |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures appropriate?  | N/a   |                     |            |                  |              |   |                 |                    |                                  |  |                       |          |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |



# Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION  | Ref.   | COMMENTS         | PPD in GSP | Final PDD      |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
|---|--|------------------|------------|----------------|--------------|--|-----------------|-----|----------------------------------|--|-----------------------|-----|-------------------|-----|--------------|-----|---------|---|----------------------|----------|---------------------------------|-----|--------------------------------|-----|---------------------------------------|-----|----------------------------|-----|--|-----|-------------------------------|-----|---|-----|---------------------------------|-----|----------------------------------|-----|-----------------------------|-----|-------------------------------|-----|-------------------------------------|-------------------------------------|
| <div>B.7.1.33.      Parameter Title: 31</div> <table><tr><td>Data / Parameter:</td><td>DE<sub>LT</sub></td></tr><tr><td>Data unit:</td><td>%</td></tr><tr><td>Description:</td><td>Digestible energy of the feed in percent (IPCC 2006 defaults available).</td></tr><tr><td>Source of data:</td><td>---</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 yrs</td></tr><tr><td>Monitoring frequency:</td><td>---</td></tr><tr><td>QA/QC procedures:</td><td>---</td></tr><tr><td>Any comment:</td><td>---</td></tr></table> | Data / Parameter:  | DE <sub>LT</sub> | Data unit: | %              | Description: | Digestible energy of the feed in percent (IPCC 2006 defaults available). | Source of data: | --- | Measurement procedures (if any): | Archive electronically during project plus 5 yrs | Monitoring frequency: | --- | QA/QC procedures: | --- | Any comment: | --- | 1,2,4,5 | <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/a</td></tr><tr><td>Data unit correctly expressed?</td><td>N/a</td></tr><tr><td>Appropriate description of parameter?</td><td>N/a</td></tr><tr><td>Source clearly referenced?</td><td>N/a</td></tr><tr><td>Correct value provided for estimation?</td><td>N/a</td></tr><tr><td>Has this value been verified?</td><td>N/a</td></tr><tr><td>Measurement method correctly described?</td><td>N/a</td></tr><tr><td>Correct reference to standards?</td><td>N/a</td></tr><tr><td>Indication of accuracy provided?</td><td>N/a</td></tr><tr><td>QA/QC procedures described?</td><td>N/a</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/a</td></tr></table> | Monitoring Checklist | Yes / No | Title in line with methodology? | N/a | Data unit correctly expressed? | N/a | Appropriate description of parameter? | N/a | Source clearly referenced? | N/a | Correct value provided for estimation? | N/a | Has this value been verified? | N/a | Measurement method correctly described? | N/a | Correct reference to standards? | N/a | Indication of accuracy provided? | N/a | QA/QC procedures described? | N/a | QA/QC procedures appropriate? | N/a | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Data / Parameter:   | DE <sub>LT</sub>   |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Data unit:  | %  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Description:  | Digestible energy of the feed in percent (IPCC 2006 defaults available). |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Source of data:   | ---  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Measurement procedures (if any):  | Archive electronically during project plus 5 yrs                         |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Monitoring frequency:   | ---  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures:   | ---  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Any comment:  | ---  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Monitoring Checklist  | Yes / No   |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Title in line with methodology?   | N/a  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Data unit correctly expressed?  | N/a  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Appropriate description of parameter?   | N/a  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Source clearly referenced?  | N/a  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Correct value provided for estimation?  | N/a  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Has this value been verified?   | N/a  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Measurement method correctly described?   | N/a  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Correct reference to standards?   | N/a  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Indication of accuracy provided?  | N/a  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures described?   | N/a  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures appropriate?   | N/a  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| <div>B.7.1.34.      Parameter Title: 32</div> <table><tr><td>Data / Parameter:</td><td>UE</td></tr><tr><td>Data unit:</td><td>fraction of GE</td></tr><tr><td>Description:</td><td>Urinary energy expressed as fraction of GE</td></tr><tr><td>Source of data:</td><td>---</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 yrs</td></tr><tr><td>Monitoring frequency:</td><td>---</td></tr><tr><td>QA/QC procedures:</td><td>---</td></tr><tr><td>Any comment:</td><td>---</td></tr></table>                               | Data / Parameter:  | UE               | Data unit: | fraction of GE | Description: | Urinary energy expressed as fraction of GE                               | Source of data: | --- | Measurement procedures (if any): | Archive electronically during project plus 5 yrs | Monitoring frequency: | --- | QA/QC procedures: | --- | Any comment: | --- | 1,2,4,5 | <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/a</td></tr><tr><td>Data unit correctly expressed?</td><td>N/a</td></tr><tr><td>Appropriate description of parameter?</td><td>N/a</td></tr><tr><td>Source clearly referenced?</td><td>N/a</td></tr><tr><td>Correct value provided for estimation?</td><td>N/a</td></tr><tr><td>Has this value been verified?</td><td>N/a</td></tr><tr><td>Measurement method correctly described?</td><td>N/a</td></tr><tr><td>Correct reference to standards?</td><td>N/a</td></tr><tr><td>Indication of accuracy provided?</td><td>N/a</td></tr><tr><td>QA/QC procedures described?</td><td>N/a</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/a</td></tr></table> | Monitoring Checklist | Yes / No | Title in line with methodology? | N/a | Data unit correctly expressed? | N/a | Appropriate description of parameter? | N/a | Source clearly referenced? | N/a | Correct value provided for estimation? | N/a | Has this value been verified? | N/a | Measurement method correctly described? | N/a | Correct reference to standards? | N/a | Indication of accuracy provided? | N/a | QA/QC procedures described? | N/a | QA/QC procedures appropriate? | N/a | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Data / Parameter:   | UE   |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Data unit:  | fraction of GE   |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Description:  | Urinary energy expressed as fraction of GE                               |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Source of data:   | ---  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Measurement procedures (if any):  | Archive electronically during project plus 5 yrs                         |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Monitoring frequency:   | ---  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures:   | ---  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Any comment:  | ---  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Monitoring Checklist  | Yes / No   |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Title in line with methodology?   | N/a  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Data unit correctly expressed?  | N/a  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Appropriate description of parameter?   | N/a  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Source clearly referenced?  | N/a  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Correct value provided for estimation?  | N/a  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Has this value been verified?   | N/a  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Measurement method correctly described?   | N/a  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Correct reference to standards?   | N/a  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| Indication of accuracy provided?  | N/a  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures described?   | N/a  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures appropriate?   | N/a  |                  |            |                |              |  |                 |     |                                  |  |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                  |     |                             |     |                               |     |                                     |                                     |

# Validation Protocol

Project Title: Animal Manure Management System (AMMS) GHG mitigation project, Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR of China.

Date of Completion: 15 April 2009

Number of Pages: 64



Industrie Service

| CHECKLIST TOPIC / QUESTION  | Ref.  | COMMENTS         | PPD in GSP | Final PDD                              |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
|---|---|------------------|------------|--|--------------|---|-----------------|-----|----------------------------------|---|-----------------------|-----|-------------------|-----|--------------|-----|---------|---|----------------------|----------|---------------------------------|-----|--------------------------------|-----|---------------------------------------|-----|----------------------------|-----|--|-----|-------------------------------|-----|---|-----|---------------------------------|-----|-------------------------------------|-------------------------------------|-----------------------------|-----|-------------------------------|-----|-------------------------------------|-------------------------------------|
|   |   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| <div>B.7.1.35.      Parameter Title: 33</div> <table><tr><td>Data / Parameter:</td><td>ASH</td></tr><tr><td>Data unit:</td><td>fraction of the dry matter feed intake</td></tr><tr><td>Description:</td><td>Ash content of the manure calculated as a fraction of the dry matter feed intake.</td></tr><tr><td>Source of data:</td><td>---</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years</td></tr><tr><td>Monitoring frequency:</td><td>---</td></tr><tr><td>QA/QC procedures:</td><td>---</td></tr><tr><td>Any comment:</td><td>---</td></tr></table>   | Data / Parameter:   | ASH              | Data unit: | fraction of the dry matter feed intake | Description: | Ash content of the manure calculated as a fraction of the dry matter feed intake. | Source of data: | --- | Measurement procedures (if any): | Archive electronically during project plus 5 years  | Monitoring frequency: | --- | QA/QC procedures: | --- | Any comment: | --- | 1,2,4,5 | <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/a</td></tr><tr><td>Data unit correctly expressed?</td><td>N/a</td></tr><tr><td>Appropriate description of parameter?</td><td>N/a</td></tr><tr><td>Source clearly referenced?</td><td>N/a</td></tr><tr><td>Correct value provided for estimation?</td><td>N/a</td></tr><tr><td>Has this value been verified?</td><td>N/a</td></tr><tr><td>Measurement method correctly described?</td><td>N/a</td></tr><tr><td>Correct reference to standards?</td><td>N/a</td></tr><tr><td>Indication of accuracy provided?</td><td>N/a</td></tr><tr><td>QA/QC procedures described?</td><td>N/a</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/a</td></tr></table> | Monitoring Checklist | Yes / No | Title in line with methodology? | N/a | Data unit correctly expressed? | N/a | Appropriate description of parameter? | N/a | Source clearly referenced? | N/a | Correct value provided for estimation? | N/a | Has this value been verified? | N/a | Measurement method correctly described? | N/a | Correct reference to standards? | N/a | Indication of accuracy provided?    | N/a                                 | QA/QC procedures described? | N/a | QA/QC procedures appropriate? | N/a | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Data / Parameter:   | ASH   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Data unit:  | fraction of the dry matter feed intake  |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Description:  | Ash content of the manure calculated as a fraction of the dry matter feed intake.   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Source of data:   | ---   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Measurement procedures (if any):  | Archive electronically during project plus 5 years  |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Monitoring frequency:   | ---   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures:   | ---   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Any comment:  | ---   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Monitoring Checklist  | Yes / No  |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Title in line with methodology?   | N/a   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Data unit correctly expressed?  | N/a   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Appropriate description of parameter?   | N/a   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Source clearly referenced?  | N/a   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Correct value provided for estimation?  | N/a   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Has this value been verified?   | N/a   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Measurement method correctly described?   | N/a   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Correct reference to standards?   | N/a   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Indication of accuracy provided?  | N/a   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures described?   | N/a   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures appropriate?   | N/a   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| <div>B.7.1.36.      Parameter Title: 34</div> <table><tr><td>Data / Parameter:</td><td>ED<sub>LT</sub></td></tr><tr><td>Data unit:</td><td>MJ/kg</td></tr><tr><td>Description:</td><td>Energy density of the feed in MJ/kg fed to livestock type LT.</td></tr><tr><td>Source of data:</td><td>---</td></tr><tr><td>Measurement procedures (if any):</td><td>Archive electronically during project plus 5 years. The project proponent will record the composition of the feed to enable the DOE to verify the energy density of the feed.</td></tr><tr><td>Monitoring frequency:</td><td>---</td></tr><tr><td>QA/QC procedures:</td><td>---</td></tr><tr><td>Any comment:</td><td>---</td></tr></table> | Data / Parameter:   | ED <sub>LT</sub> | Data unit: | MJ/kg                                  | Description: | Energy density of the feed in MJ/kg fed to livestock type LT.                     | Source of data: | --- | Measurement procedures (if any): | Archive electronically during project plus 5 years. The project proponent will record the composition of the feed to enable the DOE to verify the energy density of the feed. | Monitoring frequency: | --- | QA/QC procedures: | --- | Any comment: | --- | 1,2,4,5 | <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/a</td></tr><tr><td>Data unit correctly expressed?</td><td>N/a</td></tr><tr><td>Appropriate description of parameter?</td><td>N/a</td></tr><tr><td>Source clearly referenced?</td><td>N/a</td></tr><tr><td>Correct value provided for estimation?</td><td>N/a</td></tr><tr><td>Has this value been verified?</td><td>N/a</td></tr><tr><td>Measurement method correctly described?</td><td>N/a</td></tr><tr><td>Correct reference to standards?</td><td>N/a</td></tr></table>   | Monitoring Checklist | Yes / No | Title in line with methodology? | N/a | Data unit correctly expressed? | N/a | Appropriate description of parameter? | N/a | Source clearly referenced? | N/a | Correct value provided for estimation? | N/a | Has this value been verified? | N/a | Measurement method correctly described? | N/a | Correct reference to standards? | N/a | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                             |     |                               |     |                                     |                                     |
| Data / Parameter:   | ED <sub>LT</sub>  |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Data unit:  | MJ/kg   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Description:  | Energy density of the feed in MJ/kg fed to livestock type LT.   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Source of data:   | ---   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Measurement procedures (if any):  | Archive electronically during project plus 5 years. The project proponent will record the composition of the feed to enable the DOE to verify the energy density of the feed. |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Monitoring frequency:   | ---   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| QA/QC procedures:   | ---   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Any comment:  | ---   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Monitoring Checklist  | Yes / No  |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Title in line with methodology?   | N/a   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Data unit correctly expressed?  | N/a   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Appropriate description of parameter?   | N/a   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Source clearly referenced?  | N/a   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Correct value provided for estimation?  | N/a   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Has this value been verified?   | N/a   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Measurement method correctly described?   | N/a   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |
| Correct reference to standards?   | N/a   |                  |            |  |              |   |                 |     |                                  |   |                       |     |                   |     |              |     |         |   |                      |          |                                 |     |                                |     |                                       |     |                            |     |  |     |                               |     |   |     |                                 |     |                                     |                                     |                             |     |                               |     |                                     |                                     |

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| CHECKLIST TOPIC / QUESTION  | Ref.  | COMMENTS  |  | PPD in GSP                       | Final PDD |                             |     |                               |     |  |  |
|---|-------|---|--|----------------------------------|-----------|-----------------------------|-----|-------------------------------|-----|--|--|
|   |       | <table><tr><td>Indication of accuracy provided?</td><td>N/a</td></tr><tr><td>QA/QC procedures described?</td><td>N/a</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/a</td></tr></table>   |  | Indication of accuracy provided? | N/a       | QA/QC procedures described? | N/a | QA/QC procedures appropriate? | N/a |  |  |
| Indication of accuracy provided?  | N/a   |   |  |                                  |           |                             |     |                               |     |  |  |
| QA/QC procedures described?   | N/a   |   |  |                                  |           |                             |     |                               |     |  |  |
| QA/QC procedures appropriate?   | N/a   |   |  |                                  |           |                             |     |                               |     |  |  |
| 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?                  | 1,2,4 | Yes, the team of the Project participant is in charge with Monitoring.  |  | ☑                                | ☑         |                             |     |                               |     |  |  |
| B.7.2.2.Are responsibilities and institutional arrangements for data collection and archiving clearly provided?                         | 1,2,4 | Section B.7.1 of the PDD clearly indicates the parameters to be monitored. The project participant is responsible for monitoring. The meter for the produced electricity is in hands of the electricity company.<br><b><u>Clarification Request No. 42.</u></b><br>It should be clarified / evidenced if the power company will provide (and monitor) the corresponding feed-in meter (beyond the permit for connection). |  | CR 42                            | ☑         |                             |     |                               |     |  |  |
| B.7.2.3.Does the monitoring plan provide current good monitoring practice?  | 1,2,4 | The scheduled monitoring activities are considered to follow good practice.   |  | ☑                                | ☑         |                             |     |                               |     |  |  |
| B.7.2.4.If applicable: Does annex 4 provide useful information enabling a better understanding of the envisioned monitoring provisions? | 1,2,4 | Annex 4 includes additional information on Calibration of electric meters.  |  | ☑                                | ☑         |                             |     |                               |     |  |  |

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|---|-------|--|-------------------------------------|-------------------------------------|
| <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?   | 1,2,4 | Yes, the baseline study was concluded 28/11/2006.  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| B.8.1.2.Is this consistent with the time line of the PDD history?   | 1,2,4 | Yes, the PDD timeline is consistent.   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| B.8.1.3.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 information is consistent.  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| B.8.1.4.Is information provided whether this person / entity is also considered a project participant?  | 1,2,4 | Yes, information is provided. The experts / institutions that elaborated the study are not participants.   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| <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?   | 1,2,4 | Yes, operational life time and starting date are reasonable.<br>The starting date (24 Nov 2006) coincides approximately with the date when TÜV SÜD received the mandate to validate the project. TÜV SÜD compiled and offer for validation the 7 <sup>th</sup> of November 2006. The latter underlines that CDM was considered at project start.<br>During the first onsite visit it was clarified that construction of the digesters was yet to be started. | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

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| CHECKLIST TOPIC / QUESTION   | Ref.  | COMMENTS  | PPD in GSP                          | Final PDD                           |
|--|-------|---|-------------------------------------|-------------------------------------|
| <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)?  | 1,2,4 | The chosen crediting period is 10 years.  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| <b>D. Environmental impacts</b>  |       |   |                                     |                                     |
| <b>D.1. Documentation on the analysis of the environmental impacts, including transboundary impacts</b>  |       |   |                                     |                                     |
| D.1.1. Has the analysis of the environmental impacts of the project activity been sufficiently described?  | 1,4,9 | The environmental impacts are described.  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| D.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, has an EIA been approved?   | 1,4,9 | An environmental impact study was carried out and has been approved by the Province administration. | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| D.1.3. Will the project create any adverse environmental effects?  | 1,4,9 | No adverse effects are to be expected.  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| D.1.4. Were transboundary environmental impacts identified in the analysis?  | 1,4,9 | No transboundary effects have been identified.  | <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?  | 1,4,9 | No negative impacts have been identified.   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| D.2.2. Does the project comply with environ-   | 1,4,7 | Yes, approvals have been obtained.  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

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| CHECKLIST TOPIC / QUESTION  | Ref.                            | COMMENTS  | PPD in GSP                          | Final PDD                           |
|---|---------------------------------|---|-------------------------------------|-------------------------------------|
| mental legislation in the host country?   | ,9                              |   |                                     |                                     |
| <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?   | 1,4,<br>16,<br>17,<br>18,<br>19 | Yes, a complete stakeholder process is deemed to have been carried out.                         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| E.1.2. Have appropriate media been used to invite comments by local stakeholders?   | 1,4,<br>16,<br>17,<br>18,<br>19 | A survey was carried out. A wide selection of stakeholders and institutions (50) was consulted. | <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 regulations/laws? | 1,4,<br>16,<br>17,<br>18,<br>19 | Beyond the requirement of an EIA, no specific stakeholder process is necessary.                 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| E.1.4. Is the undertaken stakeholder process that was carried out described in a complete and transparent manner?   | 1,4,<br>16,<br>17,<br>18,<br>19 | Yes, the description of the stakeholder process is considered complete.                         | <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?  | 1,4,<br>16,<br>17,<br>18,       | Yes, a summary of the comments is received.   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

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|--|--------------------------------|--|-------------------------------------|-------------------------------------|
|  | 19                             |  |                                     |                                     |
| <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?  | 1,4<br>16,<br>17,<br>18,<br>19 | Only supportive comments have been received.   | <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?  | 1                              | <b><u>Corrective Action Request No.11.</u></b><br>The contact details of the Netherlands are not provided.<br><b><u>Corrective Action Request No.12.</u></b><br>Title / Contact details for IBRD (WB) should be in line with table in section A.3. | CAR<br>11 + 12                      | <input checked="" type="checkbox"/> |
| F.1.2. Is the information on all private participants and directly involved Parties presented?   | 1                              | See F.1.1  | <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? | 1                              | According to the information provided, no public funding / ODA from Annex 1 countries is used.   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| F.2.2. If necessary: Is an affirmation available that any such funding from Annex-I-countries  | 1                              | <b><u>Outstanding Issue:</u></b>   | OI                                  | <input checked="" type="checkbox"/> |

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| CHECKLIST TOPIC / QUESTION   | Ref. | COMMENTS  | PPD in GSP                          | Final PDD                           |
|--|------|---|-------------------------------------|-------------------------------------|
| does not result in a diversion of ODA?   |      | A confirmation by the Netherlands that no ODA is used for the project remains to be submitted.            |                                     |                                     |
| <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? | 1    | See comments on section A of the PDD in regard to consistency with Annex data. Enumeration of farms, etc. | <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?  | 1    | Onsite visits have provided sufficient evidence on the data included to Annex 3.                          | <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?   | 1    | Yes, further details are provided by Annex 3.   | <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?    | 1    | Key information on monitoring is included to the PDD, section B.7.2                                       | <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?   | 1    | Yes, information is sufficient.   | <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?                  | 1    | The Monitoring Plan / section B.7.2 indicates responsibilities to be with Minhe.                          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |



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|   |   |
|---|---|
| <b><u>Outstanding Issue:</u></b><br>Letters of Approval for the project issued by China and the Netherlands remain to be submitted.   | Letter of approval have been provided.  |
| <b><u>Outstanding Issue:</u></b><br>IBRD and The Netherlands need to confirm their participation.   | Netherlands has confirmed to be considered also participant (in LoA). IBRD as trustee of CDFC has confirmed participation with MoC. |
| <b><u>Outstanding Issue:</u></b><br>Provincial approval of the project activity is pending. Corresponding information remains to be delivered to the auditor.                                     | Evidence on approval by provincial authorities has been provided.   |
| <b><u>Outstanding Issue:</u></b><br>A confirmation by the Netherlands that no ODA is used for the project remains to be submitted.  | Evidence was received that the Netherlands has not provided ODA to the project.   |
| <b><u>Outstanding Issue:</u></b><br>The “Modalities of Communication” document needs to be delivered once the project requests registration. The document needs to be signed by all participants. | MoC signed by all participants have been received.  |

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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   |
|---|-----------------|--|--|
| <b><u>Corrective Action Request No.1.</u></b><br>Consistency of the company name should be assured (title/table A-1 vs. Annex 1)  | A.3.3           | The company name was checked. It is "Shandong Minhe Livestock Co. Ltd."  | <input checked="" type="checkbox"/><br>Name of the company was corrected.  |
| <b><u>Corrective Action Request No.2.</u></b><br>The technology layout under the project scenario is considered to require flaring (due to risk aspects when generator does not work, and as indicated by methodology).<br>The described technology to be applied and monitoring aspects should be adapted (compare also section 6.1./ parameters). The flaring tool needs to be applied for monitoring flare efficiency. | A.4.3.2         | The Flaring parts was described in A4.3, B6.1 and inserted In Figure B1, and Figure B3. The monitoring parameters was added in monitoring plan.<br>However, because the flare was installed just for the preventing any over pressure and explosion risk when generator does not work because of the maintenance or any other emergency situation. The ER is assumed to be very small.<br>Auditor 17. Oct 2007<br>As it has been decided that flaring is scheduled also for the generation of Emission reductions (open flare at 50% default), the relevant parameters of the flaring tool need to be considered.<br>Compare <a href="http://cdm.unfccc.int/methodologies/Tools/eb28_repan13.pdf">http://cdm.unfccc.int/methodologies/Tools/eb28_repan13.pdf</a> , consider at last two parameters of section V. Flare specific parameter needs to be completed in line with technical requirements of chosen flare.<br>Replace / Adapt the current parameter "flare operation | <input checked="" type="checkbox"/><br><br>Corresponding adaptations on the installation of an open flare have been made in the PDD. An open flare will be installed for safety reasons. Emissions reductions via flaring will not be accounted for, flare efficiency has been set zero. |

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|---|-------|--|--|
|   |       | accordingly"   |  |
| <b><u>Corrective Action Request No.3.</u></b><br>In Annex 3, first table the LT number provided does not correspond with the unit description in the table. | B.2.2 | The table was revised; there is type error for the unit of chicken number.   | <input checked="" type="checkbox"/> LT units have been corrected.                        |
| <b><u>Corrective Action Request No.4.</u></b><br>The number of farms indicated throughout the PDD is not consisted with Annex 3. (29 vs. 30)                | B.2.2 | <p>There are 29 chicken farms, but No. of farms are 1, 2,3,.....30 except No. 14. . A footnote was added in the A4.2 to explain that there is no Farm14.</p> <p>Auditor 23 June 2008:</p> <p>The number of farms included to the project has been reduced. The included farms (individual stables within once complex) by the end of validation process are:</p> <p>Farm 1 and Farm 15-29. Initially included farms 1-13 have been excluded (as they would have included the transport of effluent). Changes in regard to the considered chicken population have gone along with this reduction. While the number of Broilers stayed the same, the number of layers was reduced to 637638 heads (previous all included farms had a total of 1353608 heads). Thus the total considered is 4263930 broilers and layers (vs. 4979900 in previous PDD versions)</p> <p>It was underlined by the project team that the project will not include transport of effluent. The farms 16-19 will be connected to the existing draining system are through a sealed pipeline (E-mail confirmation by project developer 20 June 2008).</p> | <input checked="" type="checkbox"/> Enumeration of farms is correctly included.          |
| <b><u>Corrective Action Request No.5.</u></b><br>The operating hours of the generators and the electricity produced require revision. The cur-              | B.4.6 | The PDD developer talked this issues with Minhe, Minhe will replace the 2 power generator with 1260 KW capacity to 6 the generator with 500 KW capacity. For   | <input checked="" type="checkbox"/> The number of generators was changed and load factor |

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|---|----------|---|--|
| rently used 100% operating time is not considered feasible.   |          | the power generators, The loading factor of 75 % was applied.<br>In addition, according to the discussion with the generator supplier. The power generator supplier will provide backup generator to keep the project operation during the maintenance period.  | has been considered.   |
| <b><u>Corrective Action Request No.6.</u></b><br>The amount of electricity produced (EG <sub>d,y</sub> ) is considered to need adaptation in line with capacities and maintenance requirements.   | B.6.2.17 | See above (CAR 5)   | <input checked="" type="checkbox"/><br>The energy produced has been adapted in line with design changes.   |
| <b><u>Corrective Action Request No.7.</u></b><br>In regard to EF <sub>om</sub> /section B.6.2, inconsistencies exist with values provide in Section B.6.1 of the PDD. These should be corrected. The background data and the calculations of EF <sub>Bm</sub> and EF <sub>om</sub> should be provided in an Annex to the PDD. | B.6.3.3  | The values (1.026) of EF <sub>om</sub> in section B6.2 was changed to 1.0585 which is consistencies with values provide in Section B.6.1<br>The calculation procedure was included in the PDD. The background data was provided in PDD an Annex the original document can be found in the China DNA website | <input checked="" type="checkbox"/><br>EF is correct for the indicated source and date of publication.<br>Recently newer values have been published for China. However the used values in the PDD for EF are conservative. |
| <b><u>Corrective Action Request No.8.</u></b><br>Consistency of table B 8 with excel calculations in regard to the used value for CO <sub>2</sub> emissions needs to be assured.  | B.6.3.3  | The PDD was checked, there are consistence values of Table B8 and the values in Excel calculation.  | <input checked="" type="checkbox"/><br>Data is consistent.   |
| <b><u>Corrective Action Request No.9.</u></b><br>In section 5.4. of the MP it is indicated that a CH <sub>4</sub> flowmeter will be installed. It is deemed, as indicated also in the diagram, that this is a regular biogas flowmeter. Thus correction on termi-   | B.7.1.26 | CH <sub>4</sub> flow meter in the MP was changed to biogas flow-meter. And the same time, the Biogas flow rate in the diagram was also changed to biogas flow meter.  | <input checked="" type="checkbox"/><br>Terminology on CH <sub>4</sub> and biogas flow has been adapted.  |

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| nology is requested.  |          |   |  |
| <b><u>Corrective Action Request No.10.</u></b><br>The proposed number of gas samples is not considered adequate in order to reflect the expected variability in methane content. E.g. several measurements should be envisioned in the first months in order to define an acceptable number of measurements per time unit. The chosen approach should be justified. The flaring tool is to be considered. | B.7.1.26 | In the revised PDD, gas sample and flaring will be continuously measured.   | <input checked="" type="checkbox"/><br>In the final PDD it has been indicated that a flare will be installed but Emission reductions will not be accounted for.<br>Operation of flare is not monitored. Gas stream going to flare is monitored with a biogas flow meter.<br>For the methane fraction, the first verification shall reconfirm and fix the chosen calculation approach according to methodology requirements and based on continuous metering. |
| <b><u>Corrective Action Request No.11.</u></b><br>The contact details of the Netherlands are not provided.  | F.1.1    | Added in the revised PDD.   | <input checked="" type="checkbox"/><br>Contact details are complete  |
| <b><u>Corrective Action Request No.12.</u></b><br>Title / Contact details for IBRD (WB) should be in line with table in section A.3.  | F.1.1    | Added in the revised PDD  | <input checked="" type="checkbox"/><br>Contact details are complete  |
| <b><i>Corrective Action Request 13 (added after submission of revised PDDs)</i></b><br><i>If continuous measurements of volume flow of biogas are foreseen, measurements of pressure</i>  | n/a      | Monitoring of biogas temperature and pressure were included in section B7.1 in revised PDD.<br><br>Auditor 11 November 2007 | <input checked="" type="checkbox"/><br>Section 5.4 in B.7.2 has indicated the concrete installation of further devices needed (p,t) for normalization  |

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| <i>(p) and temperature (t) need to be incorporated to B.7 of the PDD for normalization of measurements. Adapt parameter pressure currently included to B.7</i>   |         | It remains to be indicated that the metering devices are installed before each flow meter (and after CH <sub>4</sub> meter). Each separate instrument needs calibration, if the flow meter model used does not delivers corresponding data atomically. | of biogas metering.   |
| <b>Corrective Action Request 14 (added after submission of revised PDDs)</b><br><i>Complete QA / QC measures for all parameters in B.7: <math>F_{AD}</math>, <math>FA_{ER}</math>, <math>N_{DM}</math>, <math>Q_{DM}</math>, <math>MS\% j</math></i><br><i>Complement Monitoring frequency for <math>F_{AD}</math>, <math>FA_{ER}</math>, <math>N_{DM}</math> and <math>Q_{DM}</math> (seasonally is not a frequency), NEXLt (annually), and sustain in the PDD why CP is not considered for calculations.</i> | n/a     | $F_{AD}$ and $FA_{ER}$ will be measured quarterly. NDM and QDM are not applicable. MSj has been adapted.<br>Annual monitoring should be included, also in order to review the IPCC data.<br>For NEX see CR 27.   | <input checked="" type="checkbox"/><br>The parameters have been adapted and are in line with the methodology requirements.      |
| <b>Corrective Action Request 15 (added after submission of revised PDDs)</b><br>In regard to Leakage (formula 21) and EF1; EF4 EF5, sustain the choice of IPCC defaults instead of other site specific regional or national data.  | n/a     | No site specific regional or national data is available, so IPCC defaults are used.  | <input checked="" type="checkbox"/><br>It has been credibly indicated that better data than the IPCC defaults is not available. |
|  |         |  |   |
| <b>Clarification Request No. 1.</b><br>Extract of financial/business report for Minhe remains to be delivered.   | A.3.1   | Already submitted to the DOE by WB on May 8 <sup>th</sup> 2008.  | <input checked="" type="checkbox"/><br>Financial analysis and summary was provided.   |
| <b>Clarification Request No. 2.</b><br>An overview map of smaller scale (expanded)   | A.4.1.1 | Revised in PDD   | <input checked="" type="checkbox"/><br>Maps with concrete geo-  |

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| and with English references (esp. farm numbers) should be integrated to PDD (Figure A3, alternatively as annex).<br>GPS coordinates should be indicated for three compound areas. Point of GPS coordinate should be marked on map / Fig A3)   |         |   | graphic location are included to PDD.  |
| <b><u>Clarification Request No. 3.</u></b><br>Overview sketches with scale should be delivered for the different compounds. Individual farms and all relevant installations such as lagoons should be included.<br>A sketch of the area of the project activity (construction site) should be elaborated.   | A.4.1.1 | Already submitted to the DOE  | <input checked="" type="checkbox"/><br>The sketches have been included to the PDD, by this each farm is clearly geographically identifiable. |
| <b><u>Clarification Request No. 4.</u></b><br>Further details of the gas tanks (stage 2) to be installed shall be indicated and a risk assessment shall be indicated (also in PDD).   | A.4.3.2 | Description on gas tanks was provided in A4.3 of PDD<br>Gas tank is defined as 2000 m3 size for safety reason | <input checked="" type="checkbox"/><br>It was clarified that gas tanks will be installed according to national fire and safety standards.    |
| <b><u>Clarification Request No. 5.</u></b><br>A detailed technical map / layout of the technology to be installed including all stages (1-4) and its technical details should be provided. Beyond the information provided in the feasibility study, the sketch should be specific for the project site (and the area foreseen for construction (see also CR on A.4.1). | A.4.3.2 | Will be presented in second on-site visit.  | <input checked="" type="checkbox"/><br>Technology layout has been provided in revised feasibility study.                                     |
| <b><u>Clarification Request No. 6.</u></b>  | A.4.3.2 | The heat from the biogas power generator will be used   | <input checked="" type="checkbox"/>  |



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| The used term “co-generation” for the generators type is requested to be specified or changed – if actually no thermal energy is produced.  |         | to heat the biogas digesters and is excluded for simplification. This is conservative.   | No co-generation occurs.  |
| <b><u>Clarification Request No. 7.</u></b><br>It should be indicated how potential times for equipment maintenance or other non-operation time could impact / are considered for plant management and specifically in the calculation of GHG emission reductions (reactor, tanks, and generators; relevance for monitoring / metering). | A.4.3.2 | The biogas digesters was a continuous biological reaction system, once the system starts operation, there will be no non-operation time.<br>For the maintenance of generators was described in the revised PDD.  | <input checked="" type="checkbox"/><br>Description is satisfactory.   |
| <b><u>Clarification Request No. 8.</u></b><br>For the project scenarios the availability of cropland should be indicated.   | A.4.3.2 | In current open lagoon practices, cropland application of effluent from lagoon is included. And the effluent from biogas digesters in project activity will be applied in same cropland. The effluent from biogas digesters will be more than welcome by farmers, so, there are enough cropland to apply effluent.<br>Auditor 11 November 2007<br>Please detail the process of land application.<br>Project developer:<br>In B.4 of revised PDD, further explanation on anaerobic lagoon not hampered by cropland application was added: “The effluent from lagoon can be pumped out for foliar fertilizer or irrigation water. In order to keep the anaerobic lagoon are not hampered by cropland application, the pumping point is located at the furthest location from the inlet of the lagoon. “<br>Section D1 was revised. | <input checked="" type="checkbox"/><br>It is considered feasible that the same areas are used.<br>A confirmation was provided that no income was or will be generated by applying effluents / slurry. |



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| <b><u>Clarification Request No. 9.</u></b><br>A document / plan in regard the scheduled training of Minhe's technical staff should be provided to the audit team.   | A.4.3.9 | The international training program on the biogas technology in Germany and Denmark already implemented. The document will be provided to the audit team on its site visit.                    | <input checked="" type="checkbox"/><br>Documentation on training program has been received.                 |
| <b><u>Clarification Request No. 10.</u></b><br>Foreseen maintenance activities for the different technical elements/stages of the project and its infrastructure should be explained.   | A.4.3.9 | Once the construction of project system starts, maintenance activities will be included in the manual. Minhe will provide management plan including maintenance activities on the site visit. | <input checked="" type="checkbox"/><br>Documentation on management plan has been received.                  |
| <b><u>Clarification Request No. 11.</u></b><br>The "project developer" as indicated in A.4.3 should be referenced and it should be made clear if the participant is considered project developer.   | A.4.3.9 | The company on the system construction will not considered as project developer.  | <input checked="" type="checkbox"/>   |
| <b><u>Clarification Request No. 12.</u></b><br>Beyond the indications of the feasibility study, a revised /adapted document with the specific timeline for project installation should be delivered.  | B.2.2   | In the revised feasibility study, timetable for main milestones of the project preparation and construction and installation was provided.  | <input checked="" type="checkbox"/><br>The starting date has been defined based on contracting. See report. |
| <b><u>Clarification Request No. 13.</u></b><br>The data on Livestock / baseline contained in the Annex to the PDD should be clearly referenced. It should be indicated if this is average LT data per year, and based on which timeframe the average LT data has been calculated. | B.2.2   | Indicated in Annex 3 of PDD   | <input checked="" type="checkbox"/><br>The relevant calculation path has been included.                     |
| <b><u>Clarification Request No. 14.</u></b>   | B.2.6   | Minhe has prepared the sketch of the internal architec-   | <input checked="" type="checkbox"/>   |

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| A sketch of the internal architecture of the barns is requested, which clarifies the process that the manure stays within the barns. For Scraper and manual cleaning the process of flushing with water should be described.<br>Photos should be delivered in case that visits inside the farms are not possible. |        | ture of the barn included into the package submmited in August.   | Sketches and photos underline the onsite visit.  |
| <b><u>Clarification Request No. 15.</u></b><br>It should be demonstrated / explained that the installed lagoons and their volume are sufficient to assure the indicated retention time of min. 1 month.   | B.2.6  | From Annex 2 of PDD, the total volume of lagoon is 80360 m3. If no waste water extract, the average retention time will be 53 days.<br>Auditor 1 April 2008:<br>The retention time was recalculated according to dimension of lagoon and animal load.<br>Auditor 23 June 2008:<br>The PDD was adapted to reduced number of farms. | <input checked="" type="checkbox"/><br>Individual retention times have been defined per lagoon. They are beyond one month. |
| <b><u>Clarification Request No. 16.</u></b><br>The technical details of the electric meters need to be indicated (national standards).  | B.3.6  | In China all the meters need to meet the requirements of national standards.  | <input checked="" type="checkbox"/><br>Technical specifications of common electric meters.                                 |
| <b><u>Clarification Request No. 17.</u></b><br>In Annex 4 / Monitoring Plan, the indications of calibration (4) should also include other remaining technical equipment (flowmeters, flare, etc.)   | B.3.6  | There are national standard for the calibration of equipment which will provide the data, calibration need to be implemented periodically by an officially accredited entity. Equipment calification will follow national standard and requirement. Calibration for all others was described in Revised PDD .                     | <input checked="" type="checkbox"/><br>Monitoring plan takes also reference to manufacturer requirements.                  |
| <b><u>Clarification Request No. 18.</u></b><br>The diagrammatic presentation of the project   | B.3.11 | REVISED. Insert figure B1-1, and revised figure B1-2.   | <input checked="" type="checkbox"/><br>The revised diagrams are  |

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| boundaries needs to be complemented with another diagrammatic indication of the pre-project conditions within the boundary (acc. to methodology). Furthermore the following aspects need to be covered:<br>a) the fraction of degraded volatile solids degraded in the system, b) the final disposal of methane, if any captured, and c) the use of auxiliary energy |       |  | included to the PDD.  |
| <b><u>Clarification Request No. 19.</u></b><br>The aspects<br>- Composting in vessel<br>- Aerobic treatment<br>should be elaborated with some further detail.<br>Relevant references / sources should be given.  | B.4.4 | <p>The detail of those technology was described in 2006 IPCC guideline, Compost is suitable to the Solid manure. It is not applicable to project which produce liquid manure.</p> <p>Via e-mail the following was added on 28 Feb 2008:<br/> Composting system can suit to treat solid manure. If it is necessary, we can provide the books: "On Farm Composting Handbook and Liquid Manure Application System Design Manual". These book explained the manure treatment systems for solid and liquid, respectively.</p> <p>In addition, one photo for Minhe manure collection system is provided. In Minhe system, the depth of scraper and flushing gutter is less than 0.5m. the manure need be removed by flushing water.</p> <p>You can find that Minhe manure collection system is not typical poultry manure without litter. Typical poultry manure without litter is in solid , however. Minhe manure is in liquid, so it is not applicable.</p> | <input checked="" type="checkbox"/> It is considered credible that a complete switch to another waste management system would (e.g. liquid to solid) is not considered feasible as this would mean complete redesign of the farm. |

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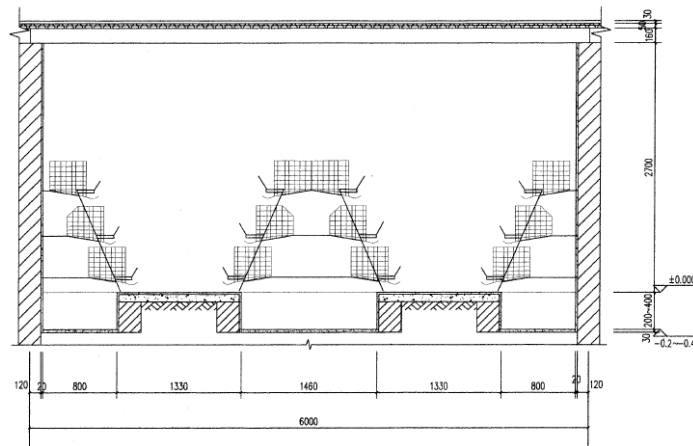
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| <p><b>Clarification Request No. 20.</b></p> <p>In addition to the approval for grid connection provided by the electricity company, a verification (evidence by company) of the price (0,35 yuan) that is going to be paid should be provided.</p> | B.4.6 | <p>The Average price of grid electricity was 0.35 yuan/kwh, the subsidy for biogas based electricity would be 0.25 yuan/kwh, so the price of 0.6 yuan/kwh was applied in revised PDD .</p> | <p><input checked="" type="checkbox"/></p> <p>The energy price and subsidy has been confirmed. The feed in subsidy is published in the China Renewable Energy Law.</p> |
| <p><b>Clarification Request No. 21.</b></p> <p>The rationale of choosing a 25 year project life-time should be included to the PDD.</p>  | B.4.6 | <p>That is a typical period for the biogas digesters.</p>  | <p><input checked="" type="checkbox"/></p> <p>The latter is considered applicable.</p>   |
| <p><b>Clarification Request No. 22.</b></p> <p>In a revised secondary document (excel spreadsheet) on finances, the included data should be briefly referenced (in an extra column), so that the calculated figure becomes clear (e.g. indi-</p>   | B.4.6 | <p>All the data are from feasibility study, Additional two Excel sheets were added to provide background data in Finances analysis excel.</p>  | <p><input checked="" type="checkbox"/></p> <p>Secondary documents have been reviewed and are considered consistent.</p>  |

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| cate used operating hours etc). Where the data is only indirectly deductible from the feasibility study (e.g. table 9.7), the included figures should be explained by including a list of concrete items and individual costs so that the accumulated values are self-explanatory.   |          |  |  |
| <b><u>Clarification Request No. 23.</u></b><br>Further information / evidence of the baseline energy consumption (E <sub>GBI,y</sub> ) should be provided, and values should be incorporated to the PDD (e.g. operating hours of pumps etc).   | B.6.1.8  | Indicated in PDD B6.1  | <input checked="" type="checkbox"/><br>Total electricity consumption under baseline, considering pumps for effluent, is indicated. |
| <b><u>Clarification Request No. 24.</u></b><br>Concrete calculations / corresponding documentation on EF <sub>Bm</sub> and BF <sub>OM</sub> remain to be submitted.<br>Corresponding information should be included to the PDD as Annex.   | B.6.1.10 | The calculation approach was included in B6.1 of revised PDD, Corresponding information on background data was included in PDD as Appendix. The website address was provided in PDD.   | <input checked="" type="checkbox"/><br>The annex 3 in PDD is correct, data is conservative.  |
| <b><u>Clarification Request No. 25.</u></b><br>The source for RVs needs to be justified in regard to why test values are or are not used. If Annex I values are applied clear referencing is requested.<br>Reference/source should be provided for the methane content in biogas (0,67), applied in the context of the 0,15 leakage factor for the digester. | B.6.1.12 | Using default data from Annex I of ACM0010. It is indicated in PDD B6.2: "Data and parameters not monitored"<br>Methane content was changed from 0.67 to 0.60 in revised PDD.<br>For leakage factor for the digester 0,15, using default data provided by ACM0010. | <input checked="" type="checkbox"/>  |
| <b><u>Clarification Request No. 26.</u></b><br>It should be indicated / documented in the excel  | B.6.1.14 | PEsl are considered in the leakage section, Please find Row 111 in Leakage and ER sheet of Emission reduc-   | <input checked="" type="checkbox"/>  |

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| sheet how it is dealt with the necessary parameter of $PE_{SI}$ of formula (11) of the methodology. In general, the excel sheet with ER calculations units and sources (e.g. no. of IPCC table) should be given for all values. |          | tion calculation.   |   |
| <p><b><u>Clarification Request No. 27.</u></b></p> <p>Following the indications of Annex 2, it should be clarified in detail how NEX was elaborated and – if applicable - the use of IPCC defaults should be justified.</p>     | B.6.1.18 | <p>The IPCC default was applied</p> <p>Auditor:</p> <p>Choice of defaults to be justified.</p> <p>If option 2 for NEXsite is used, then non-adaptation /direct use of defaults remains to be explained.</p> <p>Project Developer:</p> <p>PDD was revised to justify IPCC default value about NEX for developed country was applicable.</p> <p>Extract B.6.1:</p> <p>The annual average nitrogen excretion per head of a defined livestock population in kg N/animal/day. According to scientific publication database (www.cnki.org.cn), there are no project protein intake data available, no published country-specific data on NEX data available. There is also no enteric model for gross energy intake which will be used for calculating nitrogen feed intake. So, the default value in volume 4, chapter 10, table 10.19 in 2006 IPCC Guidelines will be applied. Because the genetic source of chicken is from the developed country, the FFR was used as chicken feed, and animal weight are similar to developed country IPCC default value, the IPCC default values about NEX are applied.</p> | <p><input checked="" type="checkbox"/></p> <p>The justification on the IPCC default use for NEX has been presented.</p> <p>Based on a Request for Review, NEX was scaled by weight.</p> |

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| <b><u>Clarification Request No. 28.</u></b><br>CH4 emissions due to inefficient combustion are set to zero, which is considered to need revision / further clarification.  | B.6.1.22 | Revised in PDD B6.1, and figure B3  | <input checked="" type="checkbox"/>  |
| <b><u>Clarification Request No. 29.</u></b><br>The data presented as electricity consumed in the project case requires further specification. A list of included equipment should be provided (equipment list, including e.g. details aerobic lagoon, pumps, digester, etc. .)         | B.6.1.23 | The auxiliary electricity use is included in excel file named Minhe final model which is provided to the DOE in the package submitted in Aug.   | <input checked="" type="checkbox"/>  |
| <b><u>Clarification Request No. 30.</u></b><br>The chosen value 0,4 for Reduced NEX fraction / RN,n should be referenced in further detail.  | B.6.1.26 | This data was chosen from Annex ACM0010. This is indicated in PDD.  | <input checked="" type="checkbox"/>  |
| <b><u>Clarification Request No. 31.</u></b><br>The process of manure transport should be described in detail (e.g. with or without water, impacts on emissions and further calculations due to transport form, etc).<br>Calculations should be part of one complete excel spreadsheet. | B.6.1.29 | <p>The emission from transportation is very small. As discussed between Ms. Tao and TUV team, as the emission from transportation is very small and no requirements in ACM0010, thus negligible, In the revised PDD, the calculation process on emission from transportation was described, but no monitoring plan was added because it was excluded in sources of emission.</p> <p>Auditor 18.Oct. 2007:<br/> Emissions of transport will not be considered. However, as there is other (new) farms in the area, please clarify how it is made sure that the animal waste used in the biodigester is provided exclusively by the 29 farms included to the project. An additional monitoring parameter on transport trips should be included, indicating ori-</p> | <input checked="" type="checkbox"/><br>Design adapted: No transport of manure included to project. |



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|   |         | <p>gin (farm) and destination of transported manure for each trip carried out.</p> <p>Please specify the data recorded as part of the transportation log, such as: Date, source, volume, driver</p> <p>Monitoring frequency should be each trip. Consider to supply template.</p> <p>Project Developer:</p> <p>In B7.1, for transportation to PDD was revised to justify IPCC default value about NEX for developed country was applicable.</p> <p>See section B6.1., we inserted "Transportation log will be developed and recorded. The recorded parameters for each trip will include date, original farm number, capacity of truck, driver name destination of transported manure."</p> <p>Auditor 23 June 2008:</p> <p>All farms that would have included the transport of effluent have been excluded from the PDD.</p> <p>The monitoring parameters for transport which were included in previous PDD versions have been excluded.</p> |   |
| <p><b><u>Clarification Request No. 32.</u></b></p> <p>Relevant parameters in regard to flaring remain to be incorporated to the list of parameters (B.6.2. u. B.7.1).</p> | B.6.2.1 | Inserted in PDD.  | <p><input checked="" type="checkbox"/></p> <p>Covered with CAR 2.</p> |
| <p><b><u>Clarification Request No. 33.</u></b></p> <p>The fact that precipitation is lower than evapora-</p>  | B.6.2.6 | The precipitation and evaporation is provided in PDD B6.2.  | <p><input checked="" type="checkbox"/></p>                            |



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| tion needs to be sustained.   |          |   |   |
| <b><u>Clarification Request No. 34.</u></b><br>On MS % incomplete data / explanations is provided in corresponding PDD table (B.6.2)  | B.6.2.11 | Revised in PDD B6.2   | <input checked="" type="checkbox"/><br>All manure is channelled to lagoons. No indications have been found that any other use of manure occurs. |
| <b><u>Clarification Request No. 35.</u></b><br>In line with the monitoring diagram template as provided by the ADM0010 further details of the individual measurement activities should be included to the diagram (in addition to the requested flaring). If abbreviations are used in the diagram, they should be referenced.<br>For different elements of monitoring, details should be given on the measurement procedures for <ul style="list-style-type: none"> <li>▪ N concentration</li> <li>▪ COD.</li> <li>▪ Quantity of effluent</li> </ul> The latter aspects should be integrated to the monitoring plan. | B.7.1.1  | The N concentration and Quantity of effluent was integrated. COD is not related.  | <input checked="" type="checkbox"/><br>An adapted diagram has been incorporated / B.3.  |
| <b><u>Clarification Request No. 36.</u></b><br>The monitoring of applicability criteria in regard to BO and VS defaults (record keeping on genetic source, FFR, animal weights similar to industrialized countries) should be included explicitly to the MP.  | B.7.1.6  | Revised PDD included the record of genetic. FFR and weight.<br>Auditor 18.Oct. 2007:<br>Information on genetic sources and FFR as well as weights (consistency with CR 38) are to be incorporated to the monitoring plan either through new parameter, or | <input checked="" type="checkbox"/><br>The corresponding Parameters have been updated.  |

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|  |          | <p>include corresponding indications to comment line for BO and VS. Compare requirements on VSLt, y in Methodology.</p> <p>Project developer:</p> <p>Revised in PDD section B7.1 and B7.2 .</p> <p>Minhe will record the genetic sources for each population and use of FFR as well as the ingredient of FFR.</p> <p>0.2% of broiler and layers (about 10,000) will be weighed weekly to obtain average site weight.</p> |  |
| <p><b><u>Clarification Request No. 37.</u></b></p> <p>The project participants need to revise as indicated for the parameter “regulations”, if any (general) change in the legal framework during implementation affects the project. Due action would need to be taken if that is the case. The latter should be clearly indicated.</p> | B.7.1.18 | Revised in PDD B7.1  | <p><input checked="" type="checkbox"/></p> <p>Phrasing as per methodology.</p>   |
| <p><b><u>Clarification Request No. 38.</u></b></p> <p>It is stated that the animal weight will not be monitored. However, registry of animal weights is necessary in order to document that IPCC defaults can be used.</p>   | B.7.1.20 | <p>Weight will be calculated according to the chicken ages and growth curves.</p> <p>The PDD was revised at parameters monitored in B7.1, 0.2% of broiler and layers (about 10,000) will be weighed weekly to obtain average site weight.</p> <p>The PDD was also revised in B7.2</p>  | <p><input checked="" type="checkbox"/></p> <p>Wsite is used in order to sustain use of IPCC default for VS, and to scale IPCC defaults for NEX on site specifics, if applicable.</p> |
| <p><b><u>Clarification Request No. 39.</u></b></p> <p>In regard to metering, the technical specifications / the applied industry standards for the flow meter should also be indicated in the PDD / Monitoring Plan (accuracies, details in regard to normalization (pressure / temp) of measured</p>                                    | B.7.1.25 | <p>According to china regulation, all the flow meters have to meet the requirement of National standard. Indicated in revised PDD</p> <p>Auditor:</p> <p>Calibration of metered will also need to occur according to technical specifications of manufacturer of the meter-</p>  | <p><input checked="" type="checkbox"/></p> <p>In the Monitoring Plan it is indicated that all calibrations will comply with the requirements of the meter manufacturer.</p>          |

## Validation Protocol

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|   |          |  |   |
|---|----------|--|---|
| volume).  |          | ing devices (not only standards)<br>Project developer:<br>Revised in 4. Calibration of meters and metering of B7.2           |   |
| <b><u>Clarification Request No. 40.</u></b><br>Monitoring procedures / activities for $N_{DM}$ should be clarified and incorporated to the PDD / Monitoring Plan.                                     | B.7.1.28 | Ndm measurement was described in B7.2 of revised PDD   | <input checked="" type="checkbox"/><br>Parameter not applicable   |
| <b><u>Clarification Request No. 41.</u></b><br>Monitoring procedures / activities for $Q_{DM}$ should be clarified and incorporated to the PDD / Monitoring Plan.                                     | B.7.1.29 | Qdm measurement was described in B7.2 of revised PDD   | <input checked="" type="checkbox"/><br>Parameter not applicable   |
| <b><u>Clarification Request No. 42.</u></b><br>It should be clarified / evidenced if the power company will provide (and monitor) the corresponding feed-in meter (beyond the permit for connection). | B.7.2.2  | Minhe will provide evidence in TUV's second site visit. (request has been made to Minhe and will be provided to TUV auditor) | <input checked="" type="checkbox"/><br>Power purchase agreement received by Penglei Power on second onsite visit. |

**Table 3 Unresolved Corrective Action and Clarification Requests (in case of denials) and Forward Action Requests**

| Clarifications and / or corrective action requests by validation team             | Id. of CAR/CR | Explanation of Conclusion for Denial            |
|---|---------------|---|
| <b>Forward Action Request:</b><br>It shall be reconfirmed at verification that no | -             | No denial; FAR to be revisited at verification. |

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| other fuels can be used in the project activity. |  |  |
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Validation of the CDM Project:  
Animal Manure Management System (AMMS) GHG mitigation project,  
Shandong Minhe Livestock Co. Ltd., Penglai, Shandong Province, PR  
of China.




Industrie Service


## **Annex 2: Information Reference List**

|                   |            |  |                |   |
|-------------------|------------|--|----------------|---|
| Validation Report | 2009-04-15 | Validation of the “Animal Manure Management System (AMMS) GHG mitigation project , Shandong MinHe Livestock Co. Ltd., Penglai, Shandong Province, P.R. of China”<br><br>Information Reference List | Page<br>1 of 4 |  |
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| Reference No.       | Document or Type of Information   |                     |                                |                 |                                |               |                                   |                |                                   |                |                                   |                  |   |            |   |              |                                     |                    |                                |                |                                |
|---------------------|---|---------------------|--------------------------------|-----------------|--------------------------------|---------------|-----------------------------------|----------------|-----------------------------------|----------------|-----------------------------------|------------------|---|------------|---|--------------|-------------------------------------|--------------------|--------------------------------|----------------|--------------------------------|
| 1.                  | Project Design Document for CDM project “Animal Manure Management System (AMMS) GHG mitigation project , Shandong MinHe Livestock Co. Ltd., Penglai, Shandong Province, P.R. of China”, initial version (as included to GSP) and final version dated 16 June 2008   |                     |                                |                 |                                |               |                                   |                |                                   |                |                                   |                  |   |            |   |              |                                     |                    |                                |                |                                |
| 2.                  | Consolidated baseline methodology for GHG emission reductions from manure management systems, ACM0010-Version 01 and Version 02   |                     |                                |                 |                                |               |                                   |                |                                   |                |                                   |                  |   |            |   |              |                                     |                    |                                |                |                                |
| 3.                  | Participant list of on-site interview, signed on December 15 <sup>th</sup> , 2006 and list of on-site interview, signed on August 28 <sup>th</sup> , 2007.  |                     |                                |                 |                                |               |                                   |                |                                   |                |                                   |                  |   |            |   |              |                                     |                    |                                |                |                                |
| 4.                  | <p>On-site interviews at the project site in Penglai, Yantai City, Shandong Province, conducted on December 15-16, 2006 by auditing team of TÜV SÜD:</p> <p>Validation team:</p> <table> <tr> <td>Mr. Martin Schröder</td><td>TUV SÜD Industrie Service GmbH</td></tr> <tr> <td>Ms. Liu Xiaoyan</td><td>TUV SÜD Industrie Service GmbH</td></tr> </table> <p>Interviewed persons:</p> <table> <tr> <td>Mr. Qu Hongbo</td><td>Shandong Minhe Livestock Co., Ltd</td></tr> <tr> <td>Mr. Sun Ximing</td><td>Shandong Minhe Livestock Co., Ltd</td></tr> <tr> <td>Ms. Dong Taili</td><td>Shandong Minhe Livestock Co., Ltd</td></tr> <tr> <td>Ms. Dong Hongmin</td><td>Institute of Environment and Sustainable Development in Agriculture, Chinese Academy of Agricultural Sciences</td></tr> <tr> <td>Ms. Li Yue</td><td>Institute of Environment and Sustainable Development in Agriculture, Chinese Academy of Agricultural Sciences</td></tr> <tr> <td>Ms. Chenzhuo</td><td>Carbon Finance Unit, the World Bank</td></tr> </table> <p>On-site interviews at the project consultants office in Penglai, Shandong province, P.R China., conducted on Aug. 28th, 2007 by auditing team of TÜV SÜD:</p> <p>Validation team:</p> <table> <tr> <td>Mr. Abhishek Goyal</td><td>TUV SÜD Industrie Service GmbH</td></tr> <tr> <td>Mr. Li Ruifeng</td><td>TUV SÜD Industrie Service GmbH</td></tr> </table> | Mr. Martin Schröder | TUV SÜD Industrie Service GmbH | Ms. Liu Xiaoyan | TUV SÜD Industrie Service GmbH | Mr. Qu Hongbo | Shandong Minhe Livestock Co., Ltd | Mr. Sun Ximing | Shandong Minhe Livestock Co., Ltd | Ms. Dong Taili | Shandong Minhe Livestock Co., Ltd | Ms. Dong Hongmin | Institute of Environment and Sustainable Development in Agriculture, Chinese Academy of Agricultural Sciences | Ms. Li Yue | Institute of Environment and Sustainable Development in Agriculture, Chinese Academy of Agricultural Sciences | Ms. Chenzhuo | Carbon Finance Unit, the World Bank | Mr. Abhishek Goyal | TUV SÜD Industrie Service GmbH | Mr. Li Ruifeng | TUV SÜD Industrie Service GmbH |
| Mr. Martin Schröder | TUV SÜD Industrie Service GmbH  |                     |                                |                 |                                |               |                                   |                |                                   |                |                                   |                  |   |            |   |              |                                     |                    |                                |                |                                |
| Ms. Liu Xiaoyan     | TUV SÜD Industrie Service GmbH  |                     |                                |                 |                                |               |                                   |                |                                   |                |                                   |                  |   |            |   |              |                                     |                    |                                |                |                                |
| Mr. Qu Hongbo       | Shandong Minhe Livestock Co., Ltd   |                     |                                |                 |                                |               |                                   |                |                                   |                |                                   |                  |   |            |   |              |                                     |                    |                                |                |                                |
| Mr. Sun Ximing      | Shandong Minhe Livestock Co., Ltd   |                     |                                |                 |                                |               |                                   |                |                                   |                |                                   |                  |   |            |   |              |                                     |                    |                                |                |                                |
| Ms. Dong Taili      | Shandong Minhe Livestock Co., Ltd   |                     |                                |                 |                                |               |                                   |                |                                   |                |                                   |                  |   |            |   |              |                                     |                    |                                |                |                                |
| Ms. Dong Hongmin    | Institute of Environment and Sustainable Development in Agriculture, Chinese Academy of Agricultural Sciences   |                     |                                |                 |                                |               |                                   |                |                                   |                |                                   |                  |   |            |   |              |                                     |                    |                                |                |                                |
| Ms. Li Yue          | Institute of Environment and Sustainable Development in Agriculture, Chinese Academy of Agricultural Sciences   |                     |                                |                 |                                |               |                                   |                |                                   |                |                                   |                  |   |            |   |              |                                     |                    |                                |                |                                |
| Ms. Chenzhuo        | Carbon Finance Unit, the World Bank   |                     |                                |                 |                                |               |                                   |                |                                   |                |                                   |                  |   |            |   |              |                                     |                    |                                |                |                                |
| Mr. Abhishek Goyal  | TUV SÜD Industrie Service GmbH  |                     |                                |                 |                                |               |                                   |                |                                   |                |                                   |                  |   |            |   |              |                                     |                    |                                |                |                                |
| Mr. Li Ruifeng      | TUV SÜD Industrie Service GmbH  |                     |                                |                 |                                |               |                                   |                |                                   |                |                                   |                  |   |            |   |              |                                     |                    |                                |                |                                |


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| Reference No.    | Document or Type of Information  |               |  |                |                                  |                  |  |
|------------------|--|---------------|--|----------------|----------------------------------|------------------|--|
|                  | <p>Interviewed persons:</p> <table> <tr> <td>Mr. Qu Hongbo</td><td>General manager of Shandong Minhe Livestock Co. Ltd.</td></tr> <tr> <td>Mr. Dong Taili</td><td>Shandong Minhe Livestock Co. Ltd</td></tr> <tr> <td>Mr. Dong Hongmin</td><td>The Chinese Academy of Agricultural Sciences</td></tr> </table> | Mr. Qu Hongbo | General manager of Shandong Minhe Livestock Co. Ltd. | Mr. Dong Taili | Shandong Minhe Livestock Co. Ltd | Mr. Dong Hongmin | The Chinese Academy of Agricultural Sciences |
| Mr. Qu Hongbo    | General manager of Shandong Minhe Livestock Co. Ltd.   |               |  |                |                                  |                  |  |
| Mr. Dong Taili   | Shandong Minhe Livestock Co. Ltd   |               |  |                |                                  |                  |  |
| Mr. Dong Hongmin | The Chinese Academy of Agricultural Sciences   |               |  |                |                                  |                  |  |
| 5.               | Feasibility study report for “Animal Manure Management System (AMMS) GHG Mitigation Project”, issued by Hangzhou environmental engineering Co., LTD, dated Sept. 2006.   |               |  |                |                                  |                  |  |
| 6.               | Revised Feasibility study report for “Animal Manure Management System (AMMS) GHG Mitigation Project”, issued by Hangzhou environmental engineering Co., LTD, dated Sept. 2006.   |               |  |                |                                  |                  |  |
| 7.               | Approval of Feasibility Study Report, issued by Penglai City Development Reformation Bureau, file no. Peng Fa Gai[2006]102, dated November 27 <sup>th</sup> , 2006   |               |  |                |                                  |                  |  |
| 8.               | EIA of “Animal Manure Management System (AMMS) GHG Mitigation Project”, issued by State Environmental Protection Administration of China, dated Oct. 2006.   |               |  |                |                                  |                  |  |
| 9.               | Approval of EIA of Animal Manure Management System (AMMS) GHG Mitigation Project, issued by Shandong EPB, dated 24 <sup>th</sup> Sept. 2006.   |               |  |                |                                  |                  |  |
| 10.              | Average air temperature per year from 1996 to 2005, data from Weather Bureau of Penglai City   |               |  |                |                                  |                  |  |
| 11.              | Approval of CDM project connection to the grid, issued by Electricity Company of Penglai City, dated October 19 <sup>th</sup> , 2006   |               |  |                |                                  |                  |  |
| 12.              | Economic evaluation methods and parameters from construction projects, version 3, issued by NDRC and Ministry of Construction, P.R.China, dated August 2006  |               |  |                |                                  |                  |  |
| 13.              | Electricity Purchasing invoice, dated November 2006(heating: 0.6661RMB/kWh; motor usage: 0.6170RMB/ kWh)   |               |  |                |                                  |                  |  |
| 14.              | Letter of intent with agriculture bank, dated August 16 <sup>th</sup> , 2006   |               |  |                |                                  |                  |  |
| 15.              | Profile folder of Shandong Minhe Livestock Co., Ltd  |               |  |                |                                  |                  |  |
| 16.              | Posting of collecting local stakeholder comments, dated August 9 <sup>th</sup> , 2006  |               |  |                |                                  |                  |  |
| 17.              | Penglai EPB Advise about trying for local stakeholder comments, dated July 20 <sup>th</sup> , 2006   |               |  |                |                                  |                  |  |
| 18.              | Participant list of local stakeholders comments investigation, total 50 persons, <i>dated 28<sup>th</sup> Aug. 2006.</i>   |               |  |                |                                  |                  |  |
| 19.              | Questionnaires sample of local stakeholders comment, dated August 28 <sup>th</sup> , 2006  |               |  |                |                                  |                  |  |

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| Reference No. | Document or Type of Information   |
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| 20.           | Certificate of birds provider-Shandong Yishengzongxuqin Co., Ltd and birds supply contract  |
| 21.           | Feeding composition manual for the company plant for feeding production   |
| 22.           | Template of weekly animal stock per farm.   |
| 23.           | Confirmation letter from Feeding Plant of Shandong Minhe Livestock Co., Ltd.  |
| 24.           | Business plan, issued by Shandong Minhe Livestock Co. Ltd   |
| 25.           | Construction contract, signed with Hangzhou environmental engineering Co., LTD, dated Jul. 2007   |
| 26.           | Business License of Shandong Minhe Livestock Co. Ltd  |
| 27.           | Financial analysis and report on Minhe Livestock Co. Ltd, submitted 20 June 2008  |
| 28.           | Investment analysis based on Excel spreadsheet, revised version submitted 20 June 2008  |
| 29.           | Excel file on Emission reductions, final version submitted 20 June 2008   |
| 30.           | Letter of Approval by China   |
| 31.           | Letter of Approval by Netherlands   |
| 32.           | Confirmation by the Netherlands that no ODA has been diverted.  |
| 33.           | Modalities of Communication signed by all participants  |
| 34.           | Letter of confirm Shandong Minhe Livestock Co. Ltd confirming that no income is generated by selling effluent, 28.2.2008  |
| 35.           | Document on reduced farms considered and layout of farms 16-19, supplied by project developer, dated 20 June 2008   |
| 36.           | Methodologies and parameters for economic Assessment of construction ( translation), NDRC July 2006   |
| 37.           | The PE and the Community Development Carbon Fund that the World Bank act as trustee and the PE signed Letter of Intent to seek CDM support (Appendix 1 to response on Request for Review) October 17, 2006; |
| 38.           | The PE obtained domestic approval of Environmental Impact Assessment (Appendix 2 to response on Request for Review) Nov 24, 2006;   |
| 39.           | The PE signed construction contract with Hangzhou Environment and Energy Company to start civil work construction (Appendix 3 to response on Request for Review) July 16, 2007;                             |
| 40.           | The PE signed generator supply contract with GE, (Appendix 4 to response on Request for Review): November 2007  |
| 41.           | Updated ER Excel spreadsheet, submitted 30.3.2009   |
| 42.           | Updated PDD, version 08, dated 30.3.2009  |
| 43.           | Chicken Weight calculation, Appendix 5 of Response to Request for Review19.11.2008  |



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| Reference No. | Document or Type of Information                |
|---------------|--|
| 44.           | Updated financial calculations dated 30.3.2009 |