



VALIDATION REPORT  
**HEBEI GREEN**  
**AGRICULTURE CO.,LTD.**  
VALIDATION OF THE  
**HEBEI ANIMAL MANURE**  
**MANAGEMENT SYSTEM (AMMS)**  
**GHG MITIGATION PROGRAMME**

REPORT No. **BVC/CHINA-VAL/6077/2011**

REVISION No. **01.1**

**BUREAU VERITAS CERTIFICATION**

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## VALIDATION REPORT



Date of first issue: 05/06/2012	Organizational unit: Bureau Veritas Certification Holding SAS
Client: Hebei Green Agriculture Co., Ltd.	Client ref.: Mr.Lu Junping

Summary:

Bureau Veritas Certification has made the validation of the Hebei Animal Manure Management System (AMMS) GHG Mitigation Programme located in Hebei Province, P.R.China on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

The validation scope is defined as an independent and objective review of the PoA-DD, generic CPA-DD, the baseline study, monitoring plan and other relevant documents, and consisted of the following three phases: i) desk review of the PoA design and the baseline and monitoring plan; ii) follow-up interviews with stakeholders; iii) resolution of outstanding issues and the issuance of the final validation report and opinion. The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the validation process is a list of Clarification and Corrective Actions Requests (CL and CAR), presented in Appendix A. Taking into account this output, the Coordinating/Managing Entity revised its PoA design documents.

In summary, it is Bureau Veritas Certification's opinion that the PoA correctly applies the baseline and monitoring methodologies AMS-III.D, AMS-I.C and AMS-I.F and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria.

Report No.: BVC/China-Val/6077/2011	Subject Group: CDM
Project title: Hebei Animal Manure Management System (AMMS) GHG Mitigation Programme	
Work carried out by: Tim Wang Wei, Team Leader Kathryn Zhang Ying, Team member Wang Zhenning, Technical specialist	
Internal Technical Review carried out by: Jasmine TANG Xuemei(technical reviewer) WANG Zhifeng(external expert)	
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## Indexing terms

Work approved by:

Mattuieu Martini

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## 1 INTRODUCTION

Hebei Green Agriculture Co.,Ltd.(the coordinating/management entity, hereafter called “the CME”) has commissioned Bureau Veritas Certification to validate its CDM programme project Hebei Animal Manure Management System (AMMS) GHG Mitigation Programme (hereafter called “the PoA”) in Hebei Province,P.R.China.

This report summarizes the findings of the validation of the project, performed on the basis of UNFCCC criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

### 1.1 Objective

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

UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

### 1.2 Scope

The validation scope is defined as an independent and objective review of the programme design documents, the PoA's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations.

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 programme design.

### 1.3 Validation team

The validation team and internal technical reviewer consist of the following personnel:

FUNCTION	NAME	CODE HOLDER		TASK PERFORMED*
		TA1.1	TA15.2	
Team Leader	Tim WANG Wei	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> DR <input checked="" type="checkbox"/> SV <input checked="" type="checkbox"/> RI
Team Member	Kathryn ZHANG Ying	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> DR <input checked="" type="checkbox"/> SV <input type="checkbox"/> RI
Technical Specialist	WANG Zhenning	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> DR <input checked="" type="checkbox"/> SV <input type="checkbox"/> RI
Internal Technical Reviewer (ITR)	Ms.Jasmine TANG Xuemei	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> DR <input type="checkbox"/> SV <input type="checkbox"/> RI
Specialist supporting ITR	Mr.WANG Zhifeng	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> DR <input type="checkbox"/> SV <input type="checkbox"/> RI

\*DR = Document Review; SV = Site Visit; RI = Report issuance



## 2 METHODOLOGY

The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

In order to ensure transparency, a validation protocol was customized for the project, according to the version 01.2 of the Clean Development Mechanism Validation and Verification Manual issued by the Executive Board at its 55th meeting on 30/07/2010/Ref-1/, version 04.1 of Procedures for registration of a programme of activities as a single CDM project activity and issuance of certified emission reductions for a programme of activities dated 02/08/2010(EB55 Annex38)/Ref-2/ and version 01.0 of Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities(EB65 Annex3)/Ref-3/. The protocol shows, in a transparent manner, criteria (requirements), means of validation and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organizes, 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 completed validation protocol is enclosed in Appendix A to this report.

### 2.1 Review of Documents

The PoA-DD/1/ and generic CPA-DD/2/ submitted by Institute of Environment and Sustainable Development in Agriculture, Chinese Academy of Agricultural Sciences and additional background documents related to the project design and baseline, i.e. country Law, PoA-DD form, CPA-DD form, Approved methodology, Kyoto Protocol, Clarifications on Validation Requirements to be Checked by a Designated Operational Entity were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests, Institute of Environment and Sustainable Development in Agriculture, Chinese Academy of Agricultural Sciences revised the PoA-DD and generic CPA-DD and resubmitted it on 10/01/2013.

The validation findings presented in this report relate to the project as described in the PoA-DD version 03.1/3/ dated 10/01/2013 and generic CPA-DD version 03.1/4/ dated 10/01/2013.

### 2.2 Follow-up Interviews

On 25-27/07/2011 Bureau Veritas Certification performed interviews with stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of the CME and the consultant were interviewed (see References). The main topics of the interviews are summarized in Table 1.

**Table 1 Interview topics**

Interviewed organization	Interview topics
Hebei Green Agriculture Co. Ltd	<ul style="list-style-type: none"> <li>➤ programme background information and CDM consideration</li> <li>➤ PoA technology, general operating and implementation framework, maintenance and monitoring capability</li> <li>➤ Government policies related to biogas projects</li> <li>➤ Confirmation that the proposed PoA is a voluntary action</li> <li>➤ Operation and management arrangement of the PoA (incl. recording, CPA operation, avoiding double accounting )</li> <li>➤ PoA/CPA monitoring and management plan</li> <li>➤ Stakeholder consultation process</li> <li>➤ PoA/CPA environment impact</li> <li>➤ Biogas projects development in the area</li> </ul>
Stakeholders	<ul style="list-style-type: none"> <li>➤ PoA background in details</li> <li>➤ Stakeholder comments</li> <li>➤ Social and environmental impact of the PoA</li> <li>➤ Baseline information in Hebei Province</li> </ul>
Institute of Environment and Sustainable Development in Agriculture, Chinese Academy of Agricultural Sciences and International Bank of Reconstruction and Development	<ul style="list-style-type: none"> <li>➤ Applicability of selected methodology</li> <li>➤ Baseline determination</li> <li>➤ Eligibility criteria for CPA inclusion</li> <li>➤ Emission reductions calculation</li> <li>➤ Monitoring plan</li> </ul>

## 2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation is to raise the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification positive conclusion on the programme design.

Corrective Action Requests (CAR) is issued, where:

- (a) The CME/project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
- (b) The applicable CDM requirements have not been met;
- (c) There is a risk that emission reductions cannot be monitored or calculated.

The validation team may also use the term Clarification Request (CL), if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

The validation team may also raise a forward action request (FAR) during validation to identify issues related to programme implementation that require review during the first verification of the CPA under the PoA.

To guarantee the transparency of the verification process, the concerns raised are documented in more detail in the verification protocol in Appendix A.



## 2.4 Internal Technical Review

The validation report underwent an Internal Technical Review (ITR) before requesting registration of the programme.

The ITR is an independent process performed to examine thoroughly that the process of validation has been carried out in conformance with the requirements of the validation scheme as well as internal Bureau Veritas Certification procedures.

The Team Leader provides a copy of the validation report to the reviewer, including any necessary validation documentation. The reviewer reviews the submitted documentation for conformance with the validation scheme. This will be a comprehensive review of all documentation generated during the validation process.

When performing an Internal Technical Review, the reviewer ensures that:

The validation activity has been performed by the team by exercising utmost diligence and complete adherence to the CDM rules and requirements.

The review encompasses all aspects related to the project which includes PoA design, baseline, additionality, monitoring plans and emission reduction calculations, internal quality assurance systems of the CME as well as the PoA, review of the stakeholder comments and responses, closure of CARs, CLs and FARs during the validation exercise, review of sample documents.

The reviewer compiles clarification questions for the Team Leader and Validation Team and discusses these matters with Team Leader.

After the agreement of the responses on the 'Clarification Request' from the Team Leader as well as the PP(s) the finalized validation report is accepted for further processing such as uploading on the UNFCCC webpage.

## 3 VALIDATION CONCLUSIONS

In the following sections, the conclusions of the validation are stated.

The findings from the desk review of the original programme design documents and the findings from interviews during the follow up visit are described in the Validation Protocol in Appendix A.

The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Validation Protocol in Appendix A. The validation of the Project resulted in **15** Corrective Action Requests (CARs) and **9** Clarification Requests (CLs).

The CARs and CLs were closed based on adequate responses from the Project Participant(s) which meet the applicable requirements. They have been reassessed before their formal acceptance and closure.

The number between brackets at the end of each section correspond to the VVM paragraph

### 3.1 Approval

The letters of approval have been provided by CME and the following support documentation has been verified by Bureau Veritas Certification.

- ✎ The Designated National Authority (DNA) of China has issued a Letter of Approval (No.3897) in Mar.2012/5/, authorizing Hebei Green Agriculture Co.,Ltd. voluntary participating in the PoA of Hebei Animal Manure Management System (AMMS) GHG Mitigation Programme and confirms the contribution to China's Sustainable development.





Bureau Veritas Certification received the letter of approval from the CME and does not doubt the letter's authenticity.

The letter of approval does not contain a specific version of both the design documents and the validation report.

The title and contents of the letter of approval refer to the precise proposed PoA title and 1<sup>st</sup> CPA in the design documents being submitted for registration.

✎ Bureau Veritas Certification considers the letters of approval are in accordance with **Para. 45 - 48 /VVM** and **Para.10 of EB55 Annex38**.

### 3.2 Participation

The participation for the coordinating/managing entity has been approved by a Party of the Kyoto Protocol.

✎ Complying with **Para.54/VVM**, Bureau Veritas Certification hereby confirms that by referring to the information on UNFCCC website i.e.

<http://maindb.unfccc.int/public/country.pl?country=CN;>

### 3.3 Project design document

✎ Bureau Veritas Certification hereby confirms that the PoA design documents comply with the valid Small-Scale Programme of Activities Design Document Form(CDM SSC-PoA-DD) version 01/Ref-4/ and Small-scale CDM Programme Activity Design Document Form(CDM-SSC-CPA-DD) version 01/Ref-5/

### 3.4 PoA description

The geographical boundary of the PoA is Hebei Province, P.R.China with the geographic coordinates N36° 1' 0.12"-42° 37' 0.12" (36.0167°~42.6167° latitude) E113° 4' 0.12" - 119° 52' 59.88" (113.0667°~119.8833° longitude).

The PoA involves a series of small scale methane recovery and utilization project activities to mitigate GHG emissions by modifying the manure management systems in livestock farms from anaerobic treatment including open lagoons to biogas digesters and utilizing the generated biogas to provide electricity and/or thermal energy for the livestock farms and/or households nearby. CPAs included in this PoA are consisted of installation of biogas digester system to capture biogas, utilization of biogas to provide heat and/or electricity, and the installation of flare system to combust the excess biogas, which will be applied in one or multiple livestock farms within the boundary of the PoA. The CPAs under the PoA include three project scenarios as below:

Scenario A: Biogas will be routed to produce heat for internal use in the farms and/or nearby household

Scenario B: Feed captured biogas to the power generator to produce electricity, which will displace grid electricity, for use of the farm itself or nearby household

Scenario C: Use biogas to provide both thermal and electricity by using boiler/heater and power generator separately for use of the farm itself or nearby household.

This programme is purely a voluntary initiative undertaken by Hebei Green Agriculture Co. Ltd, which is the CME of this PoA. There are no mandatory requirements in China enforcing the use of biogas digesters to treat animal manure produced in livestock farms or the use of biogas digesters to provide thermal energy and/or electricity.





The length of the PoA is 28 years.

The validation team hereby confirms that the programme description in PoA-DD Version03.1 is accurate and complete in all respects.

### 3.5 Operational and management arrangements

A clear and transparent description of the operational and management arrangements have been established by the management/coordinating entity and stated in the PoA-DD. The CME has been interviewed by validation team during the on-site visit. The internal management documents/6/ of the PoA have been provided by the CME, which includes biogas management, monitoring plan, training plan, PoA management and PoA implementation plan. Please refer to Section 6.4.5 of Table 1 in Appendix A for details.

Complying with **para.166/VVM** and **EB65 Annex 3/Ref-3/**, Bureau Veritas Certification hereby concludes that the operational and management arrangements have been established by the coordinating/managing entity and are suitable for the PoA being validated. Bureau Veritas Certification considers that the arrangements are sufficient to ensure that the coordinating/managing entity will have control of all records and information related to the implementation of individual CPAs.

### 3.6 Eligibility criteria for inclusion of a CPA in the PoA

Validation team has assessed the eligibility criteria for inclusion of a CPA in the PoA in accordance with "Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities"/Ref-3/. The eligibility criteria 1-4 fulfills the requirement of Para.14(a-d) of EB65 Annex3/ref-3/. The eligibility criteria 5-7 fulfills the requirement of Para.14(e) of EB65 Annex3 and applied methodologies/Ref-6//Ref-7//Ref-8/. The eligibility criteria 8,10,11, 12,13 fulfills the requirement of Para.14(k,f,g,h,i) and other CDM requirement i.e., Guidelines on assessment of de-bundling for SSC Project activities(EB54 Annex13)/Ref-7/ and Glossary of CDM terms Version 06/Ref-11/. Please refer to Section 12 of Table 1 in Appendix A for details. And the eligibility criteria 9 is required by local regulation and management system of the PoA. Thus validation team is able to conclude that the below eligibility criteria are reasonable and sufficient for CPA inclusion.

1. The project boundary has to be within the geographical territory of Hebei Province. The location will be specified in each CPA –DD.
2. To meet the condition that avoid double counting of emission reductions, the proposed CPA under this PoA has not been and will not be either registered as a single CDM project activity or included as a CPA under another PoA: a unique identification number will be included in the specific CPA-DD for each farm included in the CPA-DD. Geographical coordinates of each farm will be the basis for the unique identification number. In addition, the CME will check the UNFCCC website with the date of access, and a statement from CME will be included in CPA-DD that the specific CPA will not be part of another single CDM project activity or CPA under another POA.
3. The proposed CPAs shall use the same principle technologies, which include the construction of anaerobic biogas digesters instead of open lagoon or other anaerobic animal manure management to treat the manure from confined livestock farms to achieve methane recovery and destruction by flaring/combustion or gainful use of the recovered methane. Open flare system shall be installed to prevent any over pressure and explosion risk. The captured biogas can be used to provide thermal or electrical energy, or both thermal and electrical energy, that displaces fossil fuel. Specific biogas digester



technologies, utilization or flaring of captured biogas, as well as the manure storage time limit and aerobic residues handling measures with the requirement of AMS III. D will be described in specific CPA-DD.

4. The starting date of the CPA is the earliest date at which either the implementation or construction or real action of a CDM project activity, and it cannot be prior to 11 May, 2011, the commencement of validation (date of beginning of the Global Stakeholder Process posted on the UNFCCC website).
5. The proposed CPA meets the applicability condition of applied methodology AMS III.D version 18, The CPA should present the following characteristics:
  - a) The livestock population in the farm is managed under confined conditions;
  - b) Manure or the streams obtained after treatment are not discharged into natural water resources;
  - c) In the baseline scenario the retention time of manure waste in the anaerobic treatment system is greater than one month, and in the case of anaerobic lagoon in the baseline, their depths are at least 1 m;
  - d) No methane recovery and destruction by flaring, combustion or gainful use takes place in the baseline scenario.
  - e) The residual waste from manure management should be handled aerobically. In case of soil application of the final sludge the proper conditions and procedures (not resulting in methane emissions) must be ensured.
  - f) The captured biogas of the CPA should be used for thermal or electricity supply, or both thermal and electricity supply, and flaring system will be installed to ensure that excess biogas produced by the digester is flared.
  - g) The storage time of the manure after removal from the animal barns, including transportation, should not exceed 45 days before being fed into the anaerobic digester when the dry matter content of manure is less than 20%.
  - h) Each livestock farm will use its own livestock manure produced on site to feed the biogas digester. No manure will be collected/processed/transported from off-site.
6. The biogas generated under CPA will be utilized to supply thermal energy and/or electricity to displace fossil fuel, and should meet applicability conditions of one of the two applied methodologies AMS I.C Version 19 and/or AMS I.F version 2, or both; Specifically, Scenario A as described in Stage 3 Biogas Utilization in the section A4.2.1 should meet the application conditions of AMS I.C Version 19. Scenario B should meet the application conditions of AMS I.F Version 2, and Scenario C should meet the applicability conditions of both AMS I.C Version 19 and AMS I.F Version 2. The PoA will not apply biomass co-generation unit. The specific CPA should present following characteristics wherever they are applicable:
  - a) The specific CPA included in the proposed PoA is installation of a new biogas based boiler(s) or/and power generator(s) at a livestock farm where there was no renewable thermal energy supply and no renewable power plant operating prior to the implementation of the project activity. This criterion applies to Scenario A), B) and C).
  - b) The specific CPA supply biogas based electricity to user(s) that would have otherwise been supplied by the North China Power Grid. This criterion applies to Scenario B) and Scenario C).
  - c) If electricity and/or heat produced by the project activity is delivered to a third party i.e. another facility or facilities within the project boundary, a contract between the supplier and consumer(s) of the energy will have to be entered into



- that ensures there is no double-counting of emission reductions. This criterion applies to Scenario A), B) and C).
- d) Each livestock farm to be included in CPA will construct biogas digester and install new energy generating equipment to utilize the biogas. No energy generating equipment is transferred from another activity or outside the project boundary. This criterion applies to Scenario A), B) and C).
  - e) The replaced coal-based boiler, if existing in the baseline, is kept onsite as backup for thermal energy supply. This criterion applies to Scenario A and Scenario C.
  - f) CPAs are only eligible when coal is used as a baseline fuel in the existing farms and nearby households where coal is being displaced. This criterion applies to Scenario A) and Scenario C).
7. The CPA is not new livestock farming facilities (Greenfield projects) nor project activities involving livestock farming capacity additions compared to the baseline scenario.
  8. The proposed CPA meets small scale CDM project applicability conditions. Aggregated emission reductions of the CPA is less than or equal to 60 kt CO<sub>2</sub> equivalent annually; The maximum output capacity equivalent of each CPA should not exceed 15 megawatts or equivalent to 45 MW thermal output of the equipment or the plant.
  9. The proposed project activity has to be voluntary action by the livestock farms involved in one of the CPAs under the PoA and the implementation of the proposed project activity is not to fulfill any mandatory policy or regulation; The statement on voluntary action by the CPA implementer and no requirement or enforcement under existing regulation will be included in the CPA-DD.
  10. Additionality criteria: as per "Guidelines on the demonstration of additionality of small-scale project activities" (version 09), the PoA choose d) other barrier(s) to demonstrate additionality. Due to the other barrier, the investment on biogas technology become financially unviable and the project would not have occurred without carbon finance support. The additionality criteria that demonstrate the existence of the other barrier in an objective manner is defined as that the equity Internal Rate of Return (IRR) after tax, is lower than the defined livestock industry benchmark of 9%.
  11. As the requirement related to undertaking local stakeholder consultations and environmental impact analysis, if the power generation is envisaged as a component of the project, an approved Environmental Impact Assessment is available at the time of inclusion of CPA; The related official EIA document number and major conclusions will be included in CPA-DD.
  12. In case there is funding from annex 1 country, the proposed CPA will provide an affirmation that funding, does not result in a diversion of official development assistance;
  13. The proposed CPA project activity is not a debundled one whose project boundary is not within 1 km of the project boundary of the proposed small-scale activity at the closest point.
- ☞ Complying with **Para.14,15** and **16** of "Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities"/Ref-3/, Bureau Veritas Certification confirms that the eligibility criteria are verifiable and the eligibility criteria are sufficiently objective and comprehensive to permit the assessment of the inclusion of CPAs in the PoA.

Complying with **Para.167/VVM**, Bureau Veritas Certification hereby confirms that the specified



eligibility criteria in the PoA-DD are sufficient to ensure that all CPAs would comply with the CDM requirement applicable to the PoA, which includes the means of demonstrating the additionality of the CPA and the applicability of the applied methodology.

### **3.7 Baseline and monitoring methodology**

#### **3.7.1 Applicability of the selected baseline and monitoring methodology**

The PoA uses the approved simplified baseline and monitoring methodologies AMS-III.D, AMS-I.C and AMS I.F. The combination of AMS-III.D, AMS-I.C and AMS I.F. has been approved by CDM EB at EB61 meeting report.

By reviewing the relevant documentation and interviewing the CME and stakeholders, Bureau Veritas Certification confirms that the CPAs to be included in the PoA will comply with the applicability conditions of combination of methodologies of AMS-III.D. Version18/Ref-6/, AMS-I.C. Version19/Ref-7/ and AMS-I.C. Version02/Ref-8/.

Please refer to Section 10.2 of Table 1 in Appendix A for details.

#### **3.7.2 PoA boundary**

Boundary for the PoA in terms of geographical area is defined as Hebei Province, P.R. China.

Bureau Veritas Certification confirms that in establishing the boundary of the PoA, the project participants have taken into consideration all applicable national and/or sectoral policies and regulations within that chosen boundary.

The project boundary of the typical CPA under the PoA includes:

- The livestock farm;
- Animal manure management systems;
- Facilities which generate, recover and flare/combust or use biogas to generate heat (for scenario A), or power (for scenario B), or both power and heat (for scenario C) located at the project site.
- The spatial extent of the project boundary includes facilities consuming energy generated by the system.
- Project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to (for scenarios B and C)

Validation team here confirms that the defined project boundary of the typical CPA under the PoA is fully consistent with the applied methodologies AMS-III.D Version18, AMS-I.C Version19 and AMS-I.F Version02.

Please refer to Section 10.3 of Table 1 in Appendix A for details.

#### **3.7.3 Baseline identification**

According to methodologies AMS-III.D Version18/Ref-6/, AMS-I.C Version19/Ref-7/ and AMS I.F Version02/Ref-8/, the baseline scenario, which is relevant to the defined project scenario, and validation team's assessment on the identified baseline scenario is identified at PoA level properly as:



Project Scenario	Identified baseline scenario	Validation team's assessment
A	Anaerobic manure treatment, production of heat using fossil fuel	It is consistent with AMS-III.D Version 18 and AMS-I.C. Version 19
B	Anaerobic manure treatment (open anaerobic lagoon), electricity imported from grid	It is consistent with AMS-III.D Version 18 and AMS-I.F. Version 02
C	Anaerobic manure treatment(open anaerobic lagoon), electricity imported from a grid, and thermal energy (steam/heat) produced using fossil fuel as described in the paragraph 19 (a) of AMS I.C (version 19)	It is consistent with AMS-III.D Version 18, AMS-I.F. Version 02 and AMS-I.C. Version19.

Thus the baseline is methane emission from open anaerobic lagoon, steam/heat generated from the fossil fuel fired boilers and/or electricity imported from North China Power Grid(NCPG) for there are no mandatory requirements in China enforcing the use of biogas digesters to treat animal manure produced in livestock farms or the use of biogas digesters to provide thermal energy and/or electricity.

Please refer to Section 10.4 of Table 1 in Appendix A for details.

☞ Complying with **Para. 87 and 88/VVM**, Bureau Veritas Certification hereby confirms that:

- (a) All the assumptions and data used by the project participants are listed in the design documents, including their references and sources;
- (b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the design documents;
- (c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;
- (d) Relevant national and/or sector policies and circumstances are considered and listed in the design documents;
- (e) The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM project activity.

### 3.7.4 Algorithms and/or formulae used to determine emission reductions

The steps taken to assess the requirements outlined in **para.90-91/VVM** are described below:

As per baseline methodologies AMS-III.D. Version 18/Ref-6/, AMS-I.C Version 19/Ref-7/ and AMS I.F Version 02/Ref-8/, the emission reductions  $ER_y$  during the crediting period is the difference between baseline emissions, project emissions and leakage. These are:

#### 1. Baseline emissions

$$BE_y = BE_{CH_4,y} + BE_{Electricity,y} + BE_{thermal,y}$$



Where:

$BE_{CH_4,y}$	Baseline $CH_4$ emissions from anaerobic treatment of manure in year $y$ (t $CO_2e$ )
$BE_{Electricity,y}$	Baseline $CO_2$ emission from displaced electricity use and electricity supply to the grid by the project activity in year $y$ (t $CO_2$ )
$BE_{thermal,y}$	The baseline emissions from displaced steam/heat consumption by the project activity in the year $y$ (t $CO_2$ )

Paragraph 9(a) of methodology AMS III.D. is chosen, i.e. using the amount of the waste or raw material that would decay anaerobically in the absence of the project activity, and the baseline emission are determined as :

$$BE_{CH_4,y} = GWP_{CH_4} * D_{CH_4} * UF_b * \sum_{LT} MCF * B_{0,LT} * N_{LT,y} * VS_{LT,y} * MS\%_{Bl}$$

Where:

$BE_{CH_4,y}$	Baseline $CH_4$ emissions in year $y$ (t $CO_2e$ )
$GWP_{CH_4}$	Global Warming Potential (GWP) of $CH_4$ (25)
$D_{CH_4}$	$CH_4$ density (0.00067 t/m <sup>3</sup> at room temperature (20 °C) and 1 atm pressure)
$LT$	Index for all types of livestock
$MCF$	Annual methane conversion factor (MCF) for the baseline animal manure management system (open lagoon)
$B_{0,LT}$	Maximum methane producing potential of the volatile solid generated for animal type $LT$ (m <sup>3</sup> $CH_4$ /kg dm)
$N_{LT,y}$	Annual average number of animals of type $LT$ in year $y$ (numbers)
$VS_{LT,y}$	Volatile solids for livestock $LT$ entering the animal manure management system in year $y$ (on a dry matter weight basis, kg dm/animal/year)
$MS\%_{Bl}$	Fraction of manure handled in baseline animal manure management system $j$
$UF_b$	Model correction factor to account for model uncertainties (0.94)
	$VS_{LT,y} = \left( \frac{W_{site}}{W_{default}} \right) * VS_{default} * nd_y$
$W_{site}$	Average animal weight of a defined livestock population at the project site (kg)
$W_{default}$	Default average animal weight of a defined population, this data is sourced from IPCC 2006 (kg)
$VS_{default}$	Default value for the volatile solid excretion rate per day on a dry-matter basis for a defined livestock population (kg dm/animal/day)

$nd_y$  Number of days in year  $y$  where the animal manure management system is operational

In accordance with Para.25 of AMS I.C. Version19 and Para.14 of AMS I.F. Version02, Baseline CO<sub>2</sub> emission from displaced electricity consumption ( $BE_{Electricity,y}$ ) is calculated as:

$$BE_{Electricity,y} = EG_{BL,y} * EF_{CO_2,y}$$

Where:

$BE_{Electricity,y}$  Baseline emissions from displaced electricity consumption and electricity supply to the grid in year  $y$  (t CO<sub>2</sub>)

$EG_{BL,y}$  Quantity of net electricity displaced as a result of the implementation of the CDM project activity in year  $y$  (MWh)

$EF_{CO_2,y}$  Emission factor for electricity consumed at the project site in the absence of the project activity. (t CO<sub>2</sub>/MWh). It is the weighted average of  $EF_{OM,y}$ ,  $EF_{BM,y}$

$EF_{OM,y}$ ,  $EF_{BM,y}$  Operating and Build margin emission factor (t CO<sub>2</sub>/MWh) of the North China Grid, which can be obtained from National Development and Reform Commission (NDRC) website ([cdm.ccchina.gov.cn](http://cdm.ccchina.gov.cn)).

In accordance with Para.18 of AMS I.C, Baseline CO<sub>2</sub> emission from displaced fossil fuel ( $BE_{thermal,y}$ ) is calculated as:

$$BE_{thermal,CO_2,y} = BE_{thermal,boiler,CO_2,y} + BE_{thermal,stove,CO_2,y}$$

$BE_{thermal,CO_2,y}$  The total baseline emissions from steam/heat displaced by the project activity during the year  $y$  (tCO<sub>2</sub>)

$BE_{thermal,boiler,CO_2,y}$  The boiler baseline CO<sub>2</sub> emissions from steam/heat displaced by the project activity during the year  $y$  (tCO<sub>2</sub>)

$BE_{thermal,stove,CO_2,y}$  The household stove baseline CO<sub>2</sub> emissions from steam/heat displaced by the project activity during the year  $y$  (tCO<sub>2</sub>)

In accordance with Para.22 of AMS I.C, CO<sub>2</sub> emission from burning of displaced fossil fuel by boiler is calculated as

$$BE_{thermal,boiler,CO_2,y} = (EG_{thermal,boiler,y} / \eta_{b,thermal,boiler}) * EF_{FF,CO_2}$$

Where:  $BE_{thermal,boiler,CO_2,y}$  The boiler baseline CO<sub>2</sub> emissions from steam/heat displaced by the project activity during the year  $y$  (tCO<sub>2</sub>)

$EG_{thermal,boiler,y}$  The net quantity of steam/heat supplied by the project activity to displace steam/heat provided by boiler under baseline scenario during the year  $y$  (TJ)

$EF_{FF,CO_2}$  The CO<sub>2</sub> emission factor of the fossil fuel that would have been used in the baseline plant; tCO<sub>2</sub>/TJ, obtained from reliable local or national data if available, otherwise, IPCC default emission factors are used



$\eta_{b,thermal,boiler}$ 

The efficiency of the boiler using fossil fuel that would have been used in the absence of the project activity

In accordance with Para.43 of AMS I.C, CO<sub>2</sub> emission from burning of displaced fossil fuel by household stove is calculated as

$$BE_{thermal,stove,CO_2,y} = [HG_{p,y} / \eta_{householdstove,b}] * EF_{FF,CO_2}$$

$$= \{ [B_{biogas,p,y} * NCV_{biogas} * \eta_{biogasstove,p}] / \eta_{householdstove,b} \} * EF_{FF,CO_2}$$

 $BE_{thermal,stove,CO_2,y}$ 

The household stove baseline CO<sub>2</sub> emissions from thermal energy displaced by the project activity using biogas during the year y (tCO<sub>2</sub>)

 $HG_{p,y}$ 

The net quantity of thermal energy supplied by the project activity using biogas during the year y (TJ)

 $\eta_{householdstove,b}$ 

Efficiency of the baseline equipment (household stove) being replaced

 $\eta_{biogasstove,p}$ 

Efficiency of the project equipment (biogas stove) measured using representative sampling methods or based on referenced literature values. The efficiency tests shall be conducted following the guidance provided in the relevant national/international standards

 $EF_{FF,CO_2}$ 

The CO<sub>2</sub> emission factor of the fossil fuel that would have been used in the baseline (tCO<sub>2</sub>/TJ)

 $B_{biogas,p,y}$ 

The net quantity of the biogas consumed in year y (m<sup>3</sup>)

 $NCV_{biogas}$ 

The net calorific value of the biomass (TJ/m<sup>3</sup>)

Validation team has validated the equations for baseline emissions calculation as above and is able to conclude that all equations are consistent with the methodologies.

✚ Baseline CH<sub>4</sub> emission from the open anaerobic lagoon (  $BE_{CH_4,y}$  ) is calculated in accordance with Para.10 of AMS III.D. Version18

✚ Baseline CO<sub>2</sub> emission from displaced electricity consumption (  $BE_{Electricity,y}$  ) is calculated in accordance with Para.25 of AMS I.C. Version19 and Para.14 of AMS I.F. Version02.

✚ Baseline CO<sub>2</sub> emission from displaced fossil fuel (  $BE_{thermal,y}$  ) is calculated in accordance with Para.18 of AMS I.C.

## 2. Project emissions

$$PE_y = PE_{PL,y} + PE_{flare,y} + PE_{power,y} + PE_{transp} + PE_{storage,y}$$

Where:

 $PE_y$ 

Project emissions in year y (t CO<sub>2</sub>e)

 $PE_{PL,y}$ 

Emissions due to physical leakage of biogas in year y (t CO<sub>2</sub>e)

 $PE_{flare,y}$ 

Emissions from flaring or combustion of the biogas stream in the year y (t CO<sub>2</sub>e)

$PE_{power,y}$  Emissions from the use of fossil fuel or electricity for the operation of the installed facilities in the year  $y$  (t CO<sub>2</sub>e)

$PE_{transp}$  Emissions from incremental transportation in the year  $y$  (t CO<sub>2</sub>e)

$PE_{storage,y}$  Emissions from the storage of manure (t CO<sub>2</sub>e)

$$PE_{PL,y} = 0.10 * GWP_{CH_4} * D_{CH_4} * \sum_{LT} B_{0,LT} * N_{LT,y} * VS_{LT,y} * MS\%_y$$

Where:

0.10 10% of the maximum methane producing potential (Bo) for the physical leakages from anaerobic digesters

$MS\%_y$  Fraction of manure handled in biogas digester in year  $y$   
(Please refer to the above BE section for other Parameters in the equation )

$$PE_{flare,y} = \sum_{h=1}^{8760} TM_{RG,h} \times (1 - \eta_{flare,h}) \times \frac{GWP_{CH_4}}{1000}$$

Where:

$PE_{flare,y}$  Project emissions from flaring of the residual gas stream in year  $y$ , t CO<sub>2</sub>e

$TM_{RG,h}$  Mass flow rate of methane in the residual gas in the hour  $h$

$\eta_{flare,h}$  Flare efficiency in hour  $h$ . In this project, fixed value of 0% for the flare efficiency will be applied, and this is for conservative.

$$PE_{power,y} = EG_{P,y} * EF_{CO_2,y}$$

Where:

$PE_{power,y}$  Emissions from the use of electricity for the operation of the installed facilities in the year  $y$  (t CO<sub>2</sub>e)

$EG_{P,y}$  Quantity of electricity consumed under project activity in year  $y$  (MWh). equals to quantity of electricity consumed by the project activity adjusted by average technical transmission and distribution losses.  
 $EG_{P,y} = EC_{PJ,y} \times (1 + TDL_y)$ , according to "Tool to calculate baseline, project and/or leakage emissions from electricity consumption"

$EF_{CO_2,y}$  Emission factor for electricity consumed at the project site in the absence of the project activity. (t CO<sub>2</sub>/MWh)..

$$PE_{storage,y} = GWP_{CH_4} * D_{CH_4} * \sum_{LT,d} \left[ \frac{365}{AI_l} \sum_{d=1}^{AI_l} (N_{LT,y} * VS_{LT,d} * MS\%_l * (1 - e^{-k(AI_l-d)}) * MCF_l * B_{0,LT}) \right] \quad (11)$$

Where:



$PE_{storage,y}$	Project emissions on account of manure storage in year y (t CO <sub>2</sub> e)
$AI_l$	Annual average interval between manure collection and delivery for treatment at a given storage device l (days)
$VS_{LT,d}$	Amount of volatile solid production by type of animal LT in a day (kg VS/head/d)
$MS\%_l$	Fraction of volatile solids (%) handled by storage device l
k	Degradation rate constant (0.069)
d	Days for which cumulative methane emissions are calculated; d can vary from 1 to 45 and to be run from 1 up to $AI_l$
$MCF_l$	Annual methane conversion factor for the project manure storage device l from Table 10.17, Chapter 10, Volume 4

Validation team has validated the equations for project emissions calculation as above and is able to conclude that:

- ✚ Project CH<sub>4</sub> emissions from physical leakage ( $PE_{PL,y}$ ) is calculated in accordance with Para. 13(a)(i) of AMS III.D. Version18./Ref-4/
- ✚ CH<sub>4</sub> emission from flaring/combustion of biogas ( $PE_{flare,y}$ ) is calculated in accordance with “Tool to determine project emissions from flaring gases containing methane” (EB 28 Ann13)/Ref-14/
- ✚ CO<sub>2</sub> emissions from the use of electricity for the operation of the installed ( $PE_{electricity,y}$ ) is calculated in accordance with AMS I.C Version19/Ref-5/ and AMS I.F.Version02/Ref-6/
- ✚ CH<sub>4</sub> emissions from manure storage ( $PE_{storage,y}$ ) is calculated in accordance with AMS.III.D. Version18./Ref-4/

### 3. Leakage

No leakage is required to be considered by AMS-III.D. Version 18.

No energy generating equipment will be transferred from outside the project boundary or another project activity and no manure will be collected/processed/transported from off-site, which have all been defined in the eligibility criteria. Thus no leakage needs to be considered as per AMS-I.C Version19/Ref-5/ and AMS-I.F. Version02./Ref-6/

### 4. Emission reductions

$$ER_y = BE_y - PE_y - L_y$$

Furthermore, Validation team has also validated the values of parameters ex ante determined in the equations and confirms that they are fully consistent with the requirements of the applied methodologies and reasonably applied. Please refer to the below table 2 for details.

Table 2 DOE's assessment on the parameters ex ante determined

Parameter	Value	DOE's Assessment
$D_{CH_4}$	0.00067t/m <sup>3</sup>	They are fully consistent with the applied methodology AMS-III.D Version18 and fourth Assessment Report of IPCC/14/
$GWP_{CH_4}$	25	
$UF_b$	0.94	
MCF	-	Validation team has validated the MCF against the annual average temperature from county meteorological station/11/ and 2006 IPCC Guidelines/13/ and is able to confirm that MCF is taken from 2006 IPCC Guidelines based on the local annual average temperature.
$W_{default}$	-	They are taken from 2006 IPCC Guidelines, Table 10A-4, 10A-5, 10A-7, 10A-8,10A-9./13/
$B_{0,LT}$	-	
$VS_{default}$	-	
$TDL_y$	20	It is taken from Tool to calculate baseline, project and/or leakage emissions from electricity consumption./Ref-17/
$\eta_{flare,h}$	0	It is a conservative value taken from Tool to determine project emissions from flaring gases containing Methane./Ref-14/
$\eta_{b,thermal,boiler}$	-	It is taken from Tool to determine the baseline efficiency of thermal or electric generation systems. /Ref-15/
$\eta_{householdstove,b}$	-	Project proponents can choose either the highest of the efficiency values provided by two or more manufacturers for household stove with similar specifications using the baseline fuel or the highest efficiency from referenced literature values. If both options are not available, the project proponents can use default efficiency of 100%, which is considered conservative.
$W_{CH_4,y}$	60%	It is a default value taken from AMS-III.D Version18.

Complying with **para.92-93/VVM**, based on the above assessment, Bureau Veritas Certification hereby confirms that:

- (a) All assumptions and data used by the project participants are listed in the PoA-DD, including their references and sources;
- (b) All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PoA-DD;



(c) All values used in the PoA-DD are considered reasonable in the context of the proposed CDM project activity;

(d) The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions;

(e) All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PoA-DD.

### 3.8 Start date of the PoA/CPA

The eligibility criteria of the start date of CPA has been set as the starting date of the CPA is defined as 'the earliest date at which either the implementation or construction or real action of a CDM project activity or PoA begins', and it cannot be prior to the commencement of validation (date of beginning of the Global Stakeholder Process posted on the UNFCCC website).

Bureau Veritas Certification confirms that the defined start date is in accordance with the latest CDM glossary version 06/Ref-16/

Bureau Veritas Certification confirms that the start date of any CPA is not prior to the commencement of the validation of the PoA, which is the date of the CDM-PoA-DD is first published for global stakeholder consultation.

### 3.9 Addtionality of a PoA

There is no mandatory policy or regulation for the treatment of manure by biogas digesters, which has been confirmed by validation team via interviewing with stakeholders, document review on the national and provincial regulations/policies/laws and validation team's local expertise.

As per the Guidelines On the Demonstration of Additionaloty of Small-Scale Project Activities Version 9.0(EB68 Ann27)/Ref-9/, other barrier was adopted to demonstrate the additionality and the benchmark analysis was applied to demonstrate the investment barrier, which is in accordance with "Guidelines on the Assessment of Investment Analysis" version 05/Ref-10/.

The eligibility criteria of the additionality was set as the after-tax equity IRR lower than 9%. The benchmark of 9% is for animal industry sector and taken from "Economic Evaluation for Construction Project: Methods and Parameters version 3"/7/, issued by NDRC and Ministry of Construction, which is widely used in China.

The typical CPA under the PoA will financial unattractive without CDM with the post-tax equity IRR lower than 9%

Validation team has assessed the additionality of a PoA in accordance with "Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities" and confirms that none of the implemented CPA would occur in the absence of CDM.

### 3.10 Monitoring plan

The CME has opted for verification of each CPA by DOE. Monitoring plan for each CPA will be developed according to the applied baseline and monitoring methodologies. The transparent system will be developed for monitoring, data collection and storage at PoA level.

The steps taken to assess whether the monitoring arrangements described in the monitoring Bureau Veritas Certification hereby confirms that the monitoring plan complies with the requirements of the methodologies.

The monitoring plan are feasible within the project design are described below.

Table 2 DOE's Assessment on the parameters to be monitored

Parameter	Data source and measurement methods	Assessment
$VS_{LT,y}$	Calculated according to equation $VS_{LT,y} = \left( \frac{W_{site}}{W_{default}} \right) * VS_{default} * nd_y$ $VS_{default}$ will be obtained from 2006 IPCC Guidelines, Table 10A-4, 10A-5, 10A-7,10A-8,10A-9 $W_{default}$ obtained from 2006 IPCC Guidelines, Table 10A-4, 10A-5, 10A-7,10A-8,10A-9	The monitoring of the parameters complies with the requirements of AMS-III.D.Version18.
$MS\%_y$	Daily measurement and Monthly recorded by Livestock farms	
$T_{air}$	Monthly average ambient temperature at weather station nearby project site sourced from county meteorological station	
$W_{site}$	Regular record(monthly/weekly) by livestock farms and sampled as per EB65 Ann2	
$N_{p,y}$	Monthly recorded by the livestock farm. Checking consistency between the population value and indirect information	
$N_{da,y}$	Monitoring frequency for swine and cattle: monthly; Monitoring frequency for broilers and layers: weekly. Annual average livestock population will be check based on monthly count and record number of livestock in stock by type. Checking consistency between the population value and indirect information	
$AI$	When the storage time of the manure after removal from the animal barns, including transportation, exceeds 24 hours before being fed into the anaerobic digester; and the dry matter content of the manure when removed from the animal barns is less than 20%, then record $AI$ . Annual amount based on record of $AI$	
$FFR$	Project proponent, recorded amounts of FFR for farm and the ingredient of FFR	
Genetic source	Originate from an Annex I Party	
$BG_{burnt,y}$	Continuously measured and daily recorded by flow meters	
$T_{biogas}$		
$P_{biogas}$		
$EG_{BL,y}$	Continuously measurement and monthly recorded by electricity meters	The monitoring of the parameters complies with the requirements of AMS-I.C. Version19 and AMS-I.F. Version02.
$EG_{BL,grid,y}$	Continuously measurement and monthly recorded by electricity meters	
$EC_{PJ,y}$	Continuously measurement and monthly recorded by electricity meters	
$EG_{thermal,boiler,y}$	Monitored by flow meters and temperature	





	meters at the outlet and returning point in order to measure the difference in the enthalpy.	parameters complies with the requirements of AMS-I.C. Version19
B <sub>biogas,y</sub>	Continuously measured and adjusted for the moisture content in order to determine the quantity of dry biomass	

The QA/QC procedures have been available in the PoA DD and all monitoring equipments will be calibrated in accordance to appropriate national or international standards, or manufactures' recommendation. All the records will be kept electronically during the crediting period plus 2 years. Validation team is of the opinion that the monitoring plan complies with the requirements of the methodologies.

Operational management for the project activity is comprehensively detailed in PoA-DD and it includes description of the responsibility, procedure reference, calibration frequency, maintenance needs, QA/QC procedure and data management system.

The steps taken to assess whether the monitoring arrangements described in the monitoring plan are feasible within the programme design.

### 3.11 Environmental impacts

The CME will undertake an analysis of environmental impacts at CPA level.

Only biogas projects with power generation component are required an Environmental Impact Assessment as per Chinese environmental legislation "Categorization of construction project and the requirement for environmental impact assessment"/8/, which has been validated by validation team. Thus the eligibility criteria was set as "the proposed CPA prepares Environmental Impact Assessment which is approved by relevant authority if the power generation is envisaged as a component of the project."

### 3.12 Local stakeholder consultation

The CME has undertaken the local stakeholder consultation at PoA level.

The program stakeholder consultations have been conducted by the CME with the assistant of Hebei Green Agricultural Co.,Ltd. through issuing holding consultation meeting/9/ and collecting questionnaires/10/.

Public notification were prepared and posted on the website of Hebei Renewable Energy Network (<http://www.hbxny.org/shownews>) to solicit the public comments on the program from 15/03/2011. A consultant meeting was held by Hebei Renewable Office and Hebei Green Agricultural Co.,Ltd. on 26/03/2011. Total 59 participants attended the meeting including Governmental Official and environment experts, animal operation owner, village leaders and households. Local stockholders considers that the program will play a critical role in rural energy saving and environmental conditions improvement as per the questionnaires received.

The meeting records/9/ and the questionnaires/10/ have been provided by the CME and validated by validation team. Furthermore, Bureau Veritas Certification has conducted an interview with local stakeholders and confirms that the stakeholders affected had been invited in a transparent manner. Bureau Veritas Certification hereby confirms that the process of local stakeholder consultation is observed to be adequate.

☞ Complying with **Para.130VVM**, Bureau Veritas Certification hereby confirms that the local stakeholder consultation was performed and the process of local stakeholder consultation is observed to be adequate. The Project will be beneficial to the local sustainable development without negative effect on the local stakeholders.





#### **4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS**

The PoA-DD using methodologies AMS-III.D. ver.17, AMS-I.C. ver.18 and AMS-I.F. ver.01 was webhosted on the UNFCCC for global stakeholders comments as per CDM requirements. The programme was webhosted from 11/05/2011 to 09/06/2011.

No comments were received.



## 5 VALIDATION OPINION

Bureau Veritas Certification has performed a validation of the PoA Hebei Animal Manure Management System (AMMS) GHG Mitigation Programme in China. The validation was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

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

By reviewing VVM, Procedures for registration of a programme of activities as a single CDM project activity and issuance of certified emission reductions for a programme of activities, Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities etc, Bureau Veritas Certification is of the opinion that management system of CME is robust and efficient to ensure eligibility and quality of CPAs. Eligibility criteria are sufficient so that the inclusion of CPAs could fulfill all requirements of EB rules. Emission reductions attributable to the CPA under the PoA are additional to any that would occur in the absence of the PoA, and hence are likely to be achieved.

The review of the PoA-DD (03.1) and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the PoA correctly applies and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria. Bureau Veritas Certification concludes Hebei Animal Manure Management System (AMMS) GHG Mitigation Programme meets all stated criteria and thus requests registration of Hebei Animal Manure Management System (AMMS) GHG Mitigation Programme as PoA.



## 6 REFERENCES

### Category 1 Documents:

Documents provided by Hebei Green Agriculture Co. Ltd that relate directly to the GHG components of the PoA.

- /1/ PoA DD Version01 dated 20/04/2011 for GSP
- /2/ Generic CPA DD Version 01 dated 20/04/2011 for GSP
- /3/ PoA DD Version03.1 dated 10/01/2013
- /4/ Generic CPA DD Version03.1 dated 10/01/2013
- /5/ Letter of approval(LoA) issued by China's DNA in Mar.2012(No.3897)
- /6/ Internal Management Documents of the PoA provided by the CME
- /7/ "Economic Evaluation for Construction Project: Methods and Parameters version 3", issued by NDRC and Ministry of Construction
- /8/ Categorization of construction project and the requirement for environmental impact assessment issued by Ministry of Environmental Protection of P.R. China
- /9/ Consultation meeting records
- /10/ Questionnaires
- /11/ Evidence of average temperature in all counties of Hebei Province
- /12/ MoC of the PoA signed by Hebei Green Agriculture Co.,Ltd. and China's DNA dated 29/09/2012
- /13/ 2006 IPCC Guidelines,
- /14/ Fourth Assessment Report of IPCC

### Category 2 Documents:

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

- Ref-1 VVM Version01.2 dated 30/07/2010(EB55 Annex02)
- Ref-2 Procedures for registration of a programme of activities as a single CDM project activity and issuance of certified emission reductions for a programme of activities dated 02/08/2010(EB55 Annex38)
- Ref-3 Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities(EB65 Annex03)
- Ref-4 CDM-SSC-PoA-DD form(EB33 Annex43)
- Ref-5 CDM-SSC-CPA-DD form(EB33 Annex44)
- Ref-6 AMS-III.D Version18
- Ref-7 AMS-I.C Version19
- Ref-8 AMS-I.F. Version02
- Ref-9 Guidelines On the Demonstration of Additionalty of Small-Scale Project Activities Version 9.0(EB68 Ann27)
- Ref-10 Guidelines on the Assessment of Investment Analysis(EB62 Annex5)
- Ref-11 Guidelines on assessment of de-bundling for SSC Project activities(EB54 Annex13)
- Ref-12 General Guidelines to SSC CDM methodologies(EB66 Annex23)
- Ref-13 Tool to determine project emissions from flaring gases containing methane (version 1)
- Ref-14 Tool to determine project emissions from flaring gases containing methane(EB 28 Ann13)
- Ref-15 Tool to determine the baseline efficiency of thermal or electric energy generation systems(EB48 Ann12)
- Ref-16 CDM glossary version 06
- Ref-17 Tool to calculate baseline, project and/or leakage emissions from electricity



consumption

**Persons interviewed:**

List persons interviewed during the validation or persons that contributed with other information that are not included in the documents listed above.

- /1/ Mr. Li Zijun, CDM Manager of World Bank
- /2/ Mr. Liu Jin, Project Manager of World Bank
- /3/ Mr. Lu Junping, General manager of the CME
- /4/ Ms. Hu Yan, Engineer of the CME
- /5/ Ms. Li Yu'e, consultant
- /6/ Ms. Dong Hongmin, consultant
- /7/ Ms. Zhu Yanmei, Office of Hebei Renewable Office
- /8/ Mr. Zhou Suyin, Officer of Environment Protection Bureau of Hebei Province
- /9/ Mr. Liu Suozhu, Animal operation owner in Hebei Province
- /10/ Mr. Jia Guojie, Animal operation owner in Hebei Province
- /11/ Mr. Zhang Zeng, Animal operation owner in Hebei Province
- /12/ Mr. Zhang Ruize, Animal operation owner in Hebei Province

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## 7 CURRICULA VITAE OF THE DOE'S VALIDATION TEAM MEMBERS

Mr. Tim Wang Wei	Bureau Veritas Certification, China	<p>Team Leader, Climate Change Lead Verifier.</p> <p>He holds a Master Degree in Environmental Science. Before joining BV in Feb.2009, he gained 4 and a half years of working experience in engineering and EIA for manufacturing enterprise in P.R. China. He obtained the certificates of CDM Lead Verifier and ISO14001 Lead Auditor in Bureau Veritas and received training in ISO 14064.</p>
Ms. Kathryn Zhang	Bureau Veritas Certification, China	<p>Team Member, Climate Change Verifier</p> <p>She holds a Master Degree in Environmental Engineering. Before join BV in 2010, She gained over two years of CDM technical experience in energy and waste handling &amp; disposal sector in P. R. China. She obtained the certificate of CDM verifier.</p>
Mr. WANG Zhenning	External expert	<p>Technical specialist</p> <p>He holds an MSc Degree in Environmental Technology and Bachelor Degree in Environmental Engineering. Before joining BV in 2010, he gained 4 years of technical experiences in the CDM industry in P.R China.</p>
Ms.Jasmine TANG xuemei	Bureau Veritas Certification, China	<p>Independent Technical Reviewer, Climate Change Lead Verifier.</p> <p>She holds a Master Degree in Environmental Engineering. Before joining BV in 2008, she gained two years of CDM technical working experience in P.R China. She obtained the certificate of CDM Lead Verifier, Lead Auditor for ISO 14001 and ISO 14064.</p>
Mr.WANG Zhifeng	External expert	<p>Technical specilist</p> <p>He was engaged in study on forage cultivation and grassland ecology for more than 20 years. He has lead or participated in more than 20 research projects including 12 nation level research projects, and received 7 awards for his research achievements.</p>

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## VALIDATION REPORT



## APPENDIX A: COMPANY CDM PROGRAMME VALIDATION PROTOCOL

**Table 1 Validation requirements of PoA**

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
<b>1. Global Stakeholder Consultation</b>					
1.1. Is there any comment on the SSC-PoA-DD of the proposed project activity received during Global Stakeholder Consultation process?	VVM	43	No.	OK	OK
1.2. If yes, have all comments been taken into account during the validation of the proposed project activity?	VVM	43	N.A.	OK	OK
1.3. If comments indicate that the proposed project activity does not comply with the CDM requirements and are not substantiated, is there any further clarification from the entity providing the comment?	VVM	42	N.A.	OK	OK
1.3.1. If yes, how comments received have been taken due account?	VVM	42	N.A.	OK	OK
1.3.2. If no, are the comments as originally provided proceeded to assess?	VVM	42	N.A.	OK	OK
<b>2. Approval</b>					
2.1. Have the letters of approval obtained from each host	VVM	45	<del>CAR-1</del>	<del>CAR-2</del>	<del>CAR-1</del> OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
Party and Annex I Party which wishes to be involved in the PoA?	EB55 Ann38	9	<del>LoA from China has not been provided.</del> CAR-1 was closed out after LoA from DNA of China was provided by the PP and validated by validation team.	<del>LoA from Spain has not been provided.</del> CAR-2 was closed out after the Project was changed to an unilateral project and the LoA from DNA of China has been provided.	<del>CAR-2</del>	
2.2. Are letters of approval issued in accordance with the guidance provided by the Board (EB 16 report, Annex 6)?  - The Party is a Party of the Kyoto Protocol - The participation is voluntary - In the case of the host Party, the proposed CDM programme contributes to the sustainable development of the country - Refers to the precise proposed CDM project activity title in the SSC-PoA-DD being submitted for registration	VVM EB55 Ann38 EB16 Ann6	45 9 1	<del>Pending on CAR-1</del> The Party is a Party of the Kyoto Protocol The participation is voluntary The Project contributes to the sustainable development of the country The LoA refers to the precise title of the PoA and 1 <sup>st</sup> CPA of Hebei Animal Manure Management System (AMMS) .GHG	<del>Pending on CAR-2</del> N.A.	<del>Pending</del>	OK





## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
			Mitigation Programme.			
2.3. Is(are) the letter(s) of approval unconditional with respect to (2.2) above?	VVM	46	<del>Pending on CAR-1</del> It is unconditional in China.	<del>Pending on CAR-2</del> N.A.	<del>Pending</del>	OK
2.4. Has(ve) the letter(s) of approval been issued by the respective Party's designated national authority (DNA) and is valid for the CDM project activity under validation?	VVM	47	<del>Pending on CAR-1</del> Yes.	<del>Pending on CAR-2</del> N.A.	<del>Pending</del>	OK
2.5. Is there doubt with respect to the authenticity of the letter of approval?	VVM	48	<del>Pending on CAR-1</del> No.	<del>Pending on CAR-2</del> N.A.	<del>Pending</del>	OK
2.6. If yes, was verified with the DNA that the letter of approval is authentic?	VVM	48	<del>Pending on CAR-1</del> N.A.	<del>Pending on CAR-2</del> N.A.	<del>Pending</del>	OK
<b>3. Authorization</b>						
3.1. Is CDM project participation recorded only at the PoA level while the operators of individual CPAs are not considered as project participants?	EB55 Ann38	8	Yes.  CDM project participant is only recorded at the PoA level while the operators of individual CPAs are not considered as project participants.		OK	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
3.2. Has the coordinating/managing entity obtained letters of authorization of its coordination of the PoA from each host Party?	EB55 Ann38	10	<del>Pending on CAR-1 &amp; CAR-2</del> Yes.	<del>Pending</del>	OK
3.3. Has the approval of participation issued from the relevant DNA?	VVM	53	<del>Pending on CAR-1 &amp; CAR-2</del> Yes.	<del>Pending</del>	OK
3.4. Is there doubt with respect to (3.3) above?	VVM	53	<del>Pending on CAR-1 &amp; CAR-2</del> No.	<del>Pending</del>	OK
3.5. If yes, was verified with the DNA that the approval of participation is valid for the proposed project participant?	VVM	53	<del>Pending on CAR-1 &amp; CAR-2</del> N.A.	<del>Pending</del>	OK
<b>4. Modalities of Communications (MoC)</b>					
4.1. Is the CME the sole or a joint focal point for each scope of authority?	EB55 Ann38	11	<del>CAR-3</del> <del>MoC has not been provided.</del> CAR-3 was closed out after the MoC was provided.	<del>CAR-3</del>	OK
4.2. Is the number of joint focal points limited to five, or equal to the number of host parties if greater than five?	EB55 Ann38	11	<del>Pending on CAR-3</del> Yes.	<del>Pending</del>	OK

## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
5. PoA design					
5.1. Is the SSC-PoA-DD completed using valid version of the CDM SSC-PoA-DD form appropriate to the type of project activity?	VVM	55	Yes, Programme of Activities Design Document Form (CDM-SSC-PoA-DD) version 01 (EB33 Ann 43) was used.	OK	OK
6. General description of PoA (corresponding to section A of CDM SSC-PoA-DD s)					
6.1. In Section A.1 of CDM-SSC-PoA-DD, is a title for the PoA provided?	EB33	Ann43	Yes. Hebei Animal Manure Management System (AMMS) GHG Mitigation Programme	OK	OK
6.2. Description of programme of activities(Section A.2 of CDM-SSC-PoA-DD)	EB33	Ann43			
6.2.1. Is a framework developed for the implementation of the proposed CDM PoA and inclusion of CPAs under the PoA?	EB33 EB55 Ann38	Ann43 6	Yes. A series of small scale methane recovery and utilization project activities would be developed by modifying the manure management systems in livestock farms from anaerobic open lagoons to biogas digesters and the generated biogas would be utilized to provide electricity and/or thermal energy, aiming at mitigate the GHG emissions.	OK	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			Hebei Green Agriculture Co. Ltd will coordinate the Small-Scale Programme of Activities (SSC-PoA) and will support the project implementer(s) in implementing the CDM Programme Activities (CPAs) in Hebei Province in assistance with local governments.		
6.2.2. Is Policy/measure or stated goal that the proposed PoA provided?	EB33 EB55 Ann38	Ann43 6(c)	Yes. The program aims to establish a sustainable livestock waste management model that would significantly improve rural environment and reduce greenhouse gas emissions, through the use of a programmatic approach for biogas digester activities.	OK	OK
6.2.3. Is it confirmed that the proposed PoA is a voluntary action by the coordinating/managing entity?	EB33 EB55 Ann38	Ann43 6(d)	Yes. It has been confirmed that the PoA is a voluntary action by Hebei Green Agriculture Co. Ltd	OK	OK
6.3. Coordinating/managing entity and participants of PoA(Section A.3 of CDM-SSC-PoA-DD)	EB33	Ann43			
6.3.1. Coordinating or managing entity	EB33 EB55	Ann43 6(a)	Yes. Hebei Green Agriculture Co. Ltd.	OK	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
	Ann38				
6.3.2. Host Party(ies)	EB33 EB55 Ann38	Ann43 6(a)	Yes. P.R.China.	OK	OK
6.3.3. PoA participants	EB33 EB55 Ann38	Ann43 6(a)	Yes. Hehei Green Agriculture Co.,Ltd.	OK	OK
6.4. Technical description of the programme of activities(Section A.4 of CDM-SSC-PoA-DD)	EB33	Ann43			
6.4.1. In Section A.4.1 of CDM-SSC-PoA-DD, is location of the programme of activities defined?	EB33	Ann43	Yes. Hebei Province, P.R.China	OK	OK
6.4.1.1. Host Party(ies)	EB33	Ann43	Yes. P.R.China	OK	OK
6.4.1.2. Definition of the boundary for the PoA in terms of a geographical area(e.g., municipality, region within a country, country or several countries) within which all CPAs included in the PoA will be implemented, taking into consideration the requirement that all applicable national and/or sectoral	EB33 EB55 Ann38	Ann43 6(b)	Hebei Province, P.R. China <del>CL-1</del> The geographical coordinates of the boundary of the PoA has not been specified in the PoA DD CL-1 was closed out after the geographical	<del>CL-1</del>	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
policies and regulations of each host country within that chosen boundary.			coordinates of the PoA boundary was added in Section A.4.1.2 of PoA DD.		
6.4.2. In Section A.4.2.1 of CDM-SSC-PoA-DD, is(are) technology or measures to be employed by the CPA provided?	EB33 EB55 Ann38	Ann43 6(f)	<del>CL-2</del> <del>Clarification is required on the detailed technology/measures to be employed by the SSC-CPA.</del> CL-2 was closed out after the detailed technology/measures to be employed by each SSC-CPA was specified in Section A.4.2 of PoA DD.	<del>CL-2</del>	OK
6.4.3. In Section A.4.2.2 of CDM-SSC-PoA-DD, is eligibility criteria for inclusion of a CPA in the PoA provided?	EB33 EB55 Ann38	Ann43 6(g)	Yes. The eligibility criteria for inclusion of a CPA in the PoA have been provided in Section A.4.2.2 of PoA-DD.	OK	OK
6.4.4. In Section A.4.3 of CDM-SSC-PoA-DD, is additionality assessed and demonstrated as following?	EB33	Ann43			
6.4.4.1. Is the proposed PoA a voluntary coordinated action?	EB33 EB55 Ann38	Ann43 6(e)	Yes.	OK	OK
6.4.4.2. If the PoA is implementing a voluntary	EB33	Ann43	It has been demonstrated that in the	<del>CL-3</del>	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
coordinated action, would it be implemented in the absence of the PoA?	EB55 Ann38	6(e)	absence of the CDM, the proposed voluntary measure would not be implemented.  <del>CL-3</del> <del>As stated in section A.2, Hebei Green Agriculture Co., Ltd has rich experience in destining and constructing biogas digesters. Thus further clarification on the technical barrier</del>  CL-3 was closed out after the description related to technical barrier was deleted.		
6.4.4.3. If the PoA is implementing a mandatory policy/regulation, is this enforced?	EB33 EB55 Ann38	Ann43 6(e)	N.A. as no mandatory policy/regulation is implemented.	OK	OK
6.4.4.4. If mandatory a policy/regulation is enforced, will the PoA lead to a greater level of enforcement of the existing mandatory?	EB33 EB55 Ann38	Ann43 6(e)	N.A.	OK	OK
6.4.5. In Section A.4.4.1 of CDM-SSC-PoA-DD, is the following description of the operational and management arrangement established by the coordinating/managing entity for the implementation of the PoA included?	EB33	Ann43			





## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
6.4.5.1. A record keeping system for each CPA under the PoA	EB33	Ann43	Yes. A record keeping system for each CPA under the CPA has been designed in Section 4.4.1 of PoA DD	OK	OK
6.4.5.2. A system/procedure to avoid double accounting e.g. to avoid the case of including a new CPA that has been already registered either as a CDM project or as a CPA of another PoA	EB33 EB65 Ann3	Ann43 17	Yes. At time of CPA eligibility check, CME will use the below methods to avoid double counting. 1. CME would Check the public information sources to confirm no double counting 2. CME would sign agreement with each livestock farm that is willing to participate in the PoA 3. CME would publish the unique identification information of each livestock farm involved in the PoA on the CME website.	OK	OK
6.4.5.3. The SSC-CPA included in the PoA is not a de-bundled component of another CDM programme activity (CPA) or CDM project activity	EB33 EB65 Ann3	Ann43 17	<del>CL-4</del> <del>Further clarification is required on how to assure that the SSC-CPA included in the PoA would not a de-bundled component of another CPA or CDM project activity</del> CL-4 was closed out after the de-bundled	<del>CL-4</del>	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			check procedure to be conducted was validated and is consistent with Para. 8 of EB54 Ann13 and the relevant eligibility criteria have been included.		
6.4.5.4. The provisions to ensure that those operating the CPA are aware of and have agreed that their activity is being subscribed to the PoA	EB33	Ann43	Yes. CME will sign agreement with each livestock farm that is willing to participate in the PoA.	OK	OK
6.4.5.5. A clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies	EB65 Ann3	17	Yes.	OK	OK
6.4.5.6. Records of arrangements for training and capacity development for personnel	EB65 Ann3	17	<del>CAR-4</del> The records of internal management of CME have not been provided. CAR-4 was closed out after internal management of CME were provided.	<del>CAR-4</del>	OK
6.4.5.7. Procedures for technical review of inclusion of CPAs	EB65 Ann3	17	<del>CL-5</del> Clarification is required on the procedures for technical review of inclusion of CPAs. CL-5 was closed out after the procedures for technical review of inclusion of CPAs were	<del>CL-5</del>	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			included in the PoA management document.		
6.4.5.8. Records and documentation control process for each CPA under the PoA	EB65 Ann3	17	<del>Pending on CAR-4</del> The records and documentation control process for each CPA under the PoA have been provided and validated.	<del>Pending</del>	OK
6.4.5.9. Measures for continuous improvements of the PoA management system	EB65 Ann3	17	<del>Pending on CAR-4 and CL-5</del> Yes. Measures for continuous improvements of the PoA management system have been included.	<del>Pending</del>	OK
6.4.5.10. Any other relevant elements	EB65 Ann3	17	N.A.	OK	OK
6.4.6. In Section A.4.4.2 of CDM-SSC-PoA-DD, is the following information regarding monitoring plan provided?	EB33	Ann43			
6.4.6.1. Description of the proposed statistically sound sampling method/procedure to be used by DOEs for verification of the amount of reductions of anthropogenic emissions by sources or removals by sinks of greenhouse gases achieved by CPAs under the PoA	EB33 EB55 Ann38	Ann43 6(k)	Yes. The CME has opted for verification of each CPA.	OK	OK

## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
6.4.6.2. In case the coordinating/managing entity opts for a verification method that does not use sampling but verifies each CPA(whether in groups or not, with different or identical verification periods), a transparent system is to be defined and described that ensures that no double accounting occurs and that the status of verification can be determined anytime for each CPA	EB33 EB55 Ann38	Ann43 6(k)	Yes. A transparent system is defined and described in Section A.4.4.1. of PoA_DD	OK	OK
6.4.7. In Section A.5 is information regarding public funding of the programme activities provided?	EB33 EB55 Ann38	Ann43 6(n)	Yes. No public funding involved.	OK	OK
7. Duration of the programme of activities(Section B of CDM-SSC-PoA-DD)	EB33	Ann43			
7.1. In Section B.1 of CDM-SSC-PoA-DD, is starting date of the PoA defined?	EB33	Ann43	Yes. The start date of the PoA is 11/05/2011, when the PoA is published for GSC. The start date of the crediting period is 01/02/2013,	OK	OK
7.2. In Section B.2 of CDM-SSC-PoA-DD, is length of the PoA defined with a maximum total length of 28 years?	EB33 EB55	Ann43 6(h)	Yes. 28 years	OK	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
	Ann38				
8. Environmental Analysis(Section C of CDM-SSC-PoA-DD)	EB33	Ann43			
8.1. In Section C.1 of CDM-SSC-PoA-DD, is environmental analysis conducted at PoA level or CPA level?	EB33 EB55 Ann38	Ann43 6(l)	Yes. The environmental analysis is undertaken at SSC-CPA level.	OK	OK
8.2. If environmental analysis is conducted at PoA level, is the documentation on the analysis of the environmental impacts, including transboundary impacts provided in Section C.2 of CDM-SSC-PoA-DD	EB33	Ann43	N.A.	OK	OK
8.3. In Section C.3 of CDM-SSC-PoA-DD, is it stated that whether in accordance with the host Party laws/regulations, an environmental impact assessment is required for a typical CPA included in the PoA?	EB33	Ann43	<p><del>CL-6</del></p> <p>Evidence is required to support that an Environmental Impact Assessment (EIA) is required for biogas projects with power generation component, but is not required for biogas project for thermal energy application.</p> <p>CL-6 was closed out after The evidence "classification list of environmental impact assessment for Construction project management" has been provided and</p>	<p><del>CL-6</del></p>	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			validated.		
9. Stakeholders' comments(Section D of CDM-SSC-PoA-DD)					
9.1. In Section D.1 of CDM-SSC-PoA-DD, is the local stakeholder consultation process done at PoA level or CPA level?	EB33 EB55 Ann38	Ann43 6(m)	Yes. Local stakeholder comments are invited at PoA level.	OK	OK
9.2. If local stakeholders comments were invited at the PoA level,					
9.2.1. In Section D.2 of CDM-SSC-PoA-DD, how these comments were invited and compiled?	EB33 EB55 Ann38	Ann43 6(m)	Yes. Public notifications introducing program objective, main activities, expected benefits and modalities of the P-CDM farm-level biogas project were prepared and posted on the website of Hebei Renewable Energy Network to solicit the public comments on the program from March 15, 2011.  A consultation meeting was organized by Hebei Renewable Office and Hebei Green Agricultural Co.,Ltd. on March 26, 2011. A total of 59 participants attended the meeting. The representatives from provincial government rural energy management and environmental agencies, county rural energy	OK	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			management agency, livestock farms, communities and farmers participated in the meeting. Questionnaires were distributed to the participants, in an attempt to make the survey as comprehensive as possible.		
9.2.2. In Section D.3 of CDM-SSC-PoA-DD, is the summary of the comments received provided?	EB33 EB55 Ann38	Ann43 6(m)	Yes.	OK	OK
9.2.3. In Section D.4 of CDM-SSC-PoA-DD, how due account was taken of all comments received?	EB33 EB55 Ann38	Ann43 6(m)	Yes.  No negative comments have been received on the Project. There has therefore been no need to modify the project due to comments received.	OK	OK
<b>10. Application of a baseline and monitoring methodology (Section E of CDM-SSC-PoA-DD)</b>					
10.1. In Section E.1 of CDM-SSC-PoA-DD, are title and reference of the approved methodology (including any other methodologies or tools) applied to each CPA included in the PoA provided?	EB33	Ann43	Yes.  AMS-III.D: Methane recovery in animal manure management systems (version 18)  AMS-I.C: Thermal energy production with or without electricity (version 19)  AMS-I.F: Renewable electricity generation	OK	OK





## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			for captive use and mini-grid (version 02)		
10.2. Justification of the choice of the methodology and why it is applicable to each CPA (E.2 of CDM-SSC-PoA-DD)					
10.2.1. Is choice of an approved baseline and monitoring methodology (or combination of approved methodologies) justified?	EB33 EB55 Ann38	Ann43 6(f)	Yes. The combination of AMS-III.D, AMS-I.C and AMS I.F. has been approved by CDM EB.	OK	OK
10.2.2. For PoAs applying large scale CDM methodologies or combination of multiple large scale and small-scale CDM methodologies in a PoA, are combinations explicitly permitted in the methodologies?	EB65 Ann3	32&33	N.A.	OK	OK
10.2.3. If not, has a clarification for the eligibility of the proposed combination sought by following the latest version of the "Procedure for the submission and consideration of queries regarding the application of approved methodologies and methodological tools by designated operational entities to the Meth Panel" ?	EB65 Ann3	32&33	N.A.	OK	OK
10.2.4. Is each of the applicability conditions of the approved methodology or other methodology component referred to therein met?	EB33 EB55	Ann43 6(f)	<del>CAR-5</del> The application conditions of each methodologies have not been justified	<del>CAR-5</del>	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
	Ann38		<del>adequately in Section E.2 of PoA DD.</del> CAR-5 was closed out after the application conditions of each methodologies were justified in Section E,2 of PoA DD, and the justification is in accordance with the eligibility criteria and applied methodologies.		
10.2.4.1. This methodology covers project activities involving the replacement or modification of anaerobic animal manure management systems in livestock farms to achieve methane recovery and destruction by flaring/combustion or gainful use of the recovered methane for thermal and electrical energy supply. It also covers treatment of manure collected from several farms in a centralized plant. This methodology is only applicable under the following conditions:  a) The livestock population in the farm is managed under confined conditions; b) Manure or the streams obtained after treatment are not discharged into natural water resources (e.g. river or estuaries), otherwise AMS-III.H .Methane recovery in wastewater treatment shall be applied; c) The annual average temperature of baseline site where anaerobic manure treatment facility is located is higher than 5°C;	AMS-III.D Ver.18	1	<del>Pending on CAR-5</del> a) The livestock population in the farm of the CPAs under the PoA will be managed under confined conditions. It has been included in the eligibility criteria. b) Manure or the streams obtained after treatment are not changed into natural resources. It has been included in the eligibility criteria. c) The average temperature of in all counties of Hebei Province is higher than 5°C. The relevant evidence has been provided and validated. d) The retention time will be over one month and depth is at least 1m. It has been included in the eligibility criteria e) No methane recovery and destruction by	<del>Pending</del>	OK

## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
d) In the baseline scenario the retention time of manure waste in the anaerobic treatment system is greater than one month, and in case of anaerobic lagoons in the baseline, their depths are at least 1 m; e) No methane recovery and destruction by flaring, combustion or gainful use takes place in the baseline scenario.			flaring, combustion or gainful use will take place. It has been included in the eligibility criteria		
10.2.4.2. The project activity shall satisfy the following conditions: a) The residual waste from the animal manure management system shall be handled aerobically, otherwise the related emissions shall be taken into account as per relevant procedures of AMS-III.AO .Methane recovery through controlled anaerobic digestion.. In case of soil application, proper conditions and procedures (not resulting in methane emissions) must be ensured b) Technical measures shall be used (including a flare for exigencies) to ensure that all biogas produced by the digester is used or flared c) The storage time of the manure after removal from the animal barns, including transportation, should not exceed 45 days before being fed into the anaerobic digester. If the project proponent can demonstrate that the dry matter content of	AMS-III.D Ver.18	2	<del>Pending on CAR-5</del> a) The final residue will be handled aerobically. b) The captured biogas in all farms under this PoA will be used for electricity and/or thermal supply, and flaring system will be installed in all farms to ensure that the excessive biogas produced by the digester is flared. c) The storage time of the manure after removal from the animal barns, including transportation, should not exceed 45 days before being fed into the anaerobic digester.	<del>Pending</del>	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
the manure when removed from the animal barns is larger than 20%, this time constraint will not apply					
10.2.4.3. Projects that recover methane from landfills shall use AMS-III.G "Landfill methane recovery" and projects for wastewater treatment shall use AMS-III.H. Project for composting of animal manure shall use AMS-III.F "Avoidance of methane emissions through composting. Project activities involving co-digestion of animal manure and other organic matters shall use the methodology AMS-III.AO "Methane recovery through controlled anaerobic digestion"	AMS-III.D Ver.18	3	<del>Pending on CAR-5</del> N.A. as The manure from each CPA under the PoA will be treated by biodigester , which is different technology from landfill or compost. And the manure will not be co-treated with other organic matters.	<del>Pending</del>	OK
10.2.4.4. Different options to utilize the recovered biogas as detailed in paragraph 3 of AMS-III.H are also eligible for use under this methodology. The respective procedures in AMS-III.H shall be followed in this regard.	AMS-III.D Ver.18	4	<del>Pending on CAR-5</del> N.A. as it is manure treatment by bio-digesters not related to waste water treatment.	<del>Pending</del>	OK
10.2.4.5. New facilities (Greenfield projects) and project activities involving capacity additions compared to the baseline scenario are only eligible if they comply with the related and relevant requirements in the .General Guidelines to SSC CDM methodologies.	AMS-III.D Ver.18	5	<del>Pending on CAR-5</del> CPA with new livestock farming facilities (Greenfield projects) and project activities involving livestock farming capacity additions compared to the baseline scenario are only eligible if they comply with the related and relevant requirements in the "General	<del>Pending</del>	OK

## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			Guidelines to SSC CDM methodologies” Version 17. It has been included in the eligibility criteria.		
10.2.4.6. The requirements concerning demonstration of the remaining lifetime of the replaced equipment shall be met as described in the .General Guidelines to SSC CDM methodologies.	AMS-III.D Ver.18	6	<del>Pending on CAR-5</del> N.A. as there will be no replaced equipment.	<del>Pending</del>	OK
10.2.4.7. Measures are limited to those that result in aggregate emission reductions of less than or equal to 60 kt CO <sub>2</sub> equivalent annually from all Type III components of the project activity	AMS-III.D Ver.18	7	<del>Pending on CAR-5</del> Each CPA to be included in the PoA will get emission reductions of no more than 60kt CO <sub>2</sub> from all type III components It has been included in the eligibility criteria.	<del>Pending</del>	OK
10.2.4.8. The following conditions apply for use of this methodology in a project activity under a programme of activities: In case the project activity involves the replacement of equipment, and the leakage effect of the use of the replaced equipment in another activity is neglected, because the replaced equipment is scrapped, an independent monitoring of scrapping of replaced equipment needs to be implemented. The monitoring should include a check if the number of project activity equipment distributed by the	AMS-III.D Ver.18	27	<del>Pending on CAR-5</del> N.A. as the open lagoon as the baseline AMMS will be replaced by biodigester system. Open lagoon is a concrete structure rather than equipment and will continue to be used as aerobic lagoon before the digested slurry goes to land application.	<del>Pending</del>	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
project and the number of scrapped equipment correspond with each other. For this purpose scrapped equipment should be stored until such correspondence has been checked. The scrapping of replaced equipment should be documented and independently verified.					
10.2.4.9. This category comprises renewable energy technologies that supply users with thermal energy that displaces fossil fuel use. These units include technologies such as solar thermal water heaters and dryers, solar cookers, energy derived from renewable biomass and other technologies that provide thermal energy that displaces fossil fuel	AMS I.C. Ver.19	1	<del>Pending on CAR-5</del> The proposed PoA comprises biogas digesters that supply thermal and /or electrical energy to displace fossil fuel.	<del>Pending</del>	OK
10.2.4.10. Biomass-based cogeneration systems consisting of steam generator(s) and steam turbine(s) are included in this category. For the purpose of this methodology .cogeneration. shall mean the simultaneous generation of thermal energy and electrical energy in one process. Project activities that produce heat and power in separate element processes (for example, heat from a boiler and electricity from biogas engine) do not fit under the definition of cogeneration project	AMS I.C. Ver.19	2	<del>Pending on CAR-5</del> Biomass-based cogeneration systems will not be included in the PoA.	<del>Pending</del>	OK

## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
10.2.4.11. Emission reductions from a biomass cogeneration system can accrue from one of the following activities: a) Electricity supply to a grid; b) Electricity and/or thermal energy (steam or heat) production for on-site consumption or for consumption by other facilities; c) Combination of (a) and (b).	AMS I.C. Ver.19	3	<del>Pending on CAR-5</del> According to the description of the technology in the PoA, biogas will be used to generate thermal and/or electricity for on-site consumption or for consumption by other facilities that electricity would otherwise be imported from the grid.	<del>Pending</del>	OK
10.2.4.12. The total installed/rated thermal energy generation capacity of the project equipment is equal to or less than 45 MW thermal	AMS I.C. Ver.19	4	<del>Pending on CAR-5</del> The total installed thermal energy generation capacity of the project equipment will be no more than 45 MW thermal for each CPA to be included in the PoA. It has been included in the eligibility criteria.	<del>Pending</del>	OK
10.2.4.13. For co-fired systems, the total installed thermal energy generation capacity of the project equipment, when using both fossil and renewable fuel shall not exceed 45 MW thermal	AMS I.C. Ver.19	5	<del>Pending on CAR-5</del> N.A. the PoA will not apply co-fired system.	<del>Pending</del>	OK
10.2.4.14. The following capacity limits apply for biomass cogeneration units: a) If the project activity includes emission reductions from both the thermal and electrical energy components, the total installed energy	AMS I.C. Ver.19	6	<del>Pending on CAR-5</del> The energy generation capacity for all CPA included in the PoA will be no more than 45 MW thermal or 15MW electricity energy.	<del>Pending</del>	OK





## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
<p>generation capacity (thermal and electrical) of the project equipment shall not exceed 45 MW thermal. For the purpose of calculating this capacity limit the conversion factor of 1:3 shall be used for converting electrical energy to thermal energy (i.e. for renewable project activities, the maximal limit of 15 MW(e) is equivalent to 45 MW thermal output of the equipment or the plant);</p> <p>b) If the emission reductions of the cogeneration project activity are solely on account of thermal energy production (i.e. no emission reductions accrue from electricity component), the total installed thermal energy production capacity of the project equipment of the cogeneration unit shall not exceed 45 MW thermal;</p> <p>c) If the emission reductions of the cogeneration project activity are solely on account of electrical energy production (i.e. no emission reductions accrue from thermal energy component), the total installed electrical energy generation capacity of the project equipment of the cogeneration unit shall not exceed 15 MW.</p>			It has been included in the eligibility criteria.		
10.2.4.15. The capacity limits specified in the above paragraphs apply to both new facilities and retrofit projects. In the case of project activities that involve the addition of renewable energy	AMS I.C. Ver.19	7	<p><del>Pending on CAR-5</del></p> <p>Total capacity of CPA under this POA will be less than 45 MW thermal or 15 MW electricity energy. No retrofit project is</p>	<del>Pending</del>	OK

## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
units at an existing renewable energy facility, the total capacity of the units added by the project should comply with capacity limits in paragraphs 4 to 6, and should be physically distinct from the existing units.			envisaged. If it is an addition to an existing biodigester, it should be physically distinct from the existing units.  It has been included in the eligibility criteria.		
10.2.4.16. Project activities that seek to retrofit or modify an existing facility for renewable energy generation are included in this category.	AMS I.C. Ver.19	8	<del>Pending on CAR-5</del>  N.A. No retrofit or modification of an existing facility for renewable energy generation is included in the PoA. All CPAs under this POA will be new biodigester or addition of existing biodigester for thermal and/or electricity generation. Addition to an existing biodigester should be physically distinct from the existing units	<del>Pending</del>	OK
10.2.4.17. New Facilities (Greenfield projects) and project activities involving capacity additions compared to the baseline scenario are only eligible if they comply with the related and relevant requirements in the .General Guidelines to SSC CDM methodologies.	AMS I.C. Ver.19	9	<del>Pending on CAR-5</del>  It has been included in the eligibility criteria.	<del>Pending</del>	OK
10.2.4.18. If solid biomass fuel (e.g. briquette) is used, it shall be demonstrated that it has been produced using solely renewable biomass and all project or leakage emissions associated with its production shall be taken into account in	AMS I.C. Ver.19	10	<del>Pending on CAR-5</del>  N.A.  This PoA doesn't involve solid biomass fuel	<del>Pending</del>	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
emissions reduction calculation					
10.2.4.19. Where the project participant is not the producer of the processed solid biomass fuel, the project participant and the producer are bound by a contract that shall enable the project participant to monitor the source of the renewable biomass to account for any emissions associated with solid biomass fuel production. Such a contract shall also ensure that there is no double-counting of emission reductions.	AMS I.C. Ver.19	11	<del>Pending on CAR-5</del> N.A. This PoA doesn't involve solid biomass fuel	<del>Pending</del>	OK
10.2.4.20. If electricity and/or steam/heat produced by the project activity is delivered to a third party i.e. another facility or facilities within the project boundary, a contract between the supplier and consumer(s) of the energy will have to be entered into that ensures there is no double-counting of emission reductions.	AMS I.C. Ver.19	12	<del>Pending on CAR-5</del> If electricity and/or steam/heat produced by the project activity is delivered to a third party i.e. another facility or facilities within the project boundary, a contract between the supplier and consumer(s) of the energy will have to be entered into that ensures there is no double-counting of emission reductions. It has been included in the eligibility criteria.	<del>Pending</del>	OK
10.2.4.21. If the project activity recovers and utilizes biogas for power/heat production and applies this methodology on a standalone basis i.e. without using a Type III component of a SSC methodology, any incremental emissions	AMS I.C. Ver.19	13	<del>Pending on CAR-5</del> NA. In this PoA, this methodology will be applied together with AMS III.D.	<del>Pending</del>	OK

## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
occurring due to the implementation of the project activity (e.g. physical leakage of the anaerobic digester, emissions due to inefficiency of the flaring), shall be taken into account either as project or leakage emissions.					
10.2.4.22. Charcoal based biomass energy generation project activities are eligible to apply the methodology only if the charcoal is produced from renewable biomass sources provided: (a) Charcoal is produced in kilns equipped with methane recovery and destruction facility; or (b) If charcoal is produced in kilns not equipped with a methane recovery and destruction facility, methane emissions from the production of charcoal shall be considered. These emissions shall be calculated as per the procedures defined in the approved methodology AMS-III.K. Alternatively, conservative emission factor values from peer reviewed literature or from a registered CDM project activity can be used, provided that it can be demonstrated that the parameters from these are comparable e.g. source of biomass, characteristics of biomass such as moisture, carbon content, type of kiln, operating conditions such as ambient temperature.	AMS I.C. Ver.19	14	<del>Pending on CAR-5</del> N.A. This PoA doesn't involved charcoal based biomass.	<del>Pending</del>	OK
10.2.4.23. The following conditions apply for use of this methodology in a project activity under a	AMS I.C.	51	<del>Pending on CAR-5</del> (a). The biogas produced in this PoA is a	<del>Pending</del>	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
<p>programme of activities:</p> <p>(a) In the specific case of biomass project activities the applicability of the methodology is limited to either project activities that use biomass residues or processed biomass (e.g. briquette) only or biomass from dedicated plantations complying with the applicability conditions of AM0042;</p> <p>(b) In the specific case of biomass project activities the determination of leakage shall be done following the general guidance for leakage in small-scale biomass project activities (attachment C of Appendix B18 of simplified modalities and procedures for small-scale clean development mechanism project activities; decision 4/CMP.1) or following the procedures included in the leakage section of AM0042;</p> <p>(c) In case the project activity involves the replacement of equipment, and the leakage from the use of the replaced equipment in another activity is neglected, because the replaced equipment is scrapped, an independent monitoring of scrapping of replaced equipment needs to be implemented. The monitoring should include a check if the number of project activity equipment distributed by the project and the number of scrapped equipment correspond with each other. For this purpose scrapped equipment should be stored until such correspondence has been checked. The scrapping of replaced equipment should be documented and independently verified.</p>	Ver.19		<p>biomass residue , therefore the methodology is applicable.</p> <p>(b). The CPA will only use its own livestock manure produced on site to feed the biogas digester. No manure will be collected/processed/transported from off-site. Therefore leakage is not expected.</p> <p>It has been included in the eligibility criteria.</p> <p>(c) The replaced boiler, if existing in the baseline, will continue to be used onsite as a backup for thermal energy supply. The leakage effect of the use of the replaced equipment in another activity can be avoided.</p> <p>It has been included in the eligibility criteria.</p>		



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
10.2.4.24. This category comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass that supply electricity to user(s). The project activity will displace electricity from an electricity distribution system that is or would have been supplied by at least one fossil fuel fired generating unit i.e., in the absence of the project activity, the users would have been supplied electricity from one or more sources listed below:  (a) A national or a regional grid (grid hereafter); (b) Fossil fuel fired captive power plant;1 (c) A carbon intensive mini-grid.	AMS I.F. Ver01	1	<del>Pending on CAR-5</del> The PoA comprises biogas digesters that supply biogas based electricity to user(s) that would have otherwise been supplied by fossil-fuel dominated regional grid- the North China Power Grid(NCPG)	<del>Pending</del>	OK
10.2.4.25. For the purpose of this methodology, a mini-grid is defined as small-scale power system with a total capacity not exceeding 15 MW which is not connected to a national or a regional grid.	AMS I.F. Ver02	2	<del>Pending on CAR-5</del> N.A. as All the electricity that the biogas generation will replace are from the regional grid, no mini-grid is involved.	<del>Pending</del>	OK
10.2.4.26. Project activities or project activity components supplying electricity to a grid shall apply AMS-I.D. Project activities for standalone off-the-grid power systems supplying electricity to households/users included in the boundary are eligible under AMS-I.A.	AMS I.F. Ver02	3	<del>Pending on CAR-5</del> N.A. as no hydropower plants will be included.	<del>Pending</del>	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
<p>10.2.4.27. Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology:</p> <ul style="list-style-type: none"> <li>• The project activity is implemented in an existing reservoir with no change in the volume of reservoir;</li> <li>• The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the Project Emissions section, is greater than 4 W/m<sup>2</sup>;</li> <li>• The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the Project Emissions section, is greater than 4W/m<sup>2</sup>.</li> </ul>	AMS I.F. Ver02	4	<p><del>Pending on CAR-5</del></p> <p>N.A. as no hydro power units will be included.</p>	<del>Pending</del>	OK
10.2.4.28. For biomass power plants, no other biomass other than renewable biomass are to be used in the project plant	AMS I.F. Ver02	5	<p><del>Pending on CAR-5</del></p> <p>The CPA will only use biogas in the project plant, no other biomass other than biogas is to be used.</p>	<del>Pending</del>	OK
10.2.4.29. This methodology is applicable for project activities that (a) install a new power plant at a site where there was no renewable energy power plant operating prior to the implementation of the project activity (Greenfield plant); (b) involve a	AMS I.F. Ver02	6	<p><del>Pending on CAR-5</del></p> <p>Each CPA included in the proposed PoA will (a)install a new biogas based power generator(s) at a livestock farm where there was no renewable energy power plant</p>	<del>Pending</del>	OK





## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
capacity addition,3 (c) involve a retrofit4 of (an) existing plant(s); or (d) involve a replacement5 of (an) existing plant(s).			operating prior to the implementation of the project activity, or (b) Involve a capacity addition and the addition should be physically distinct from the existing unit.		
10.2.4.30. In the case of project activities that involve the capacity addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct from the existing units.	AMS I.F. Ver02	7	<del>Pending on CAR-5</del> In case of capacity addtion, the added capacity, the added capacity will be lower than 15MW.	<del>Pending</del>	OK
10.2.4.31. In the case of retrofit or replacement, to qualify as a small-scale project, the total output of the retrofitted or replacement unit shall not exceed the limit of 15 MW.	AMS I.F. Ver02	8	<del>Pending on CAR-5</del> N.A. as the PoA doesn't involve retrofit or replacement.	<del>Pending</del>	OK
10.2.4.32. If the unit added has both renewable and non-renewable components (e.g., a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component. If the unit added co-fires fossil fuel7, the capacity of the entire unit shall not exceed the limit of 15 MW	AMS I.F. Ver02	9	<del>Pending on CAR-5</del> N.A. as the thermal and/or electricity supply will be all biogas based. No non-renewable component or co-fired system is to be involved.	<del>Pending</del>	OK
10.2.4.33. Combined heat and power (co-generation) systems are not eligible under this category	AMS I.F.	10	<del>Pending on CAR-5</del> The CPA will combine AMS III.D Version 18	<del>Pending</del>	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
	Ver02		with AMS I.C Version 19 and/or AMS I.F Version 2, co-generation systems are eligible under AMS I.C Version 19.		
10.2.4.34. In case electricity produced by the project activity is delivered to another facility or facilities within the project boundary, a contract between the supplier and consumer(s) of the electricity will have to be entered into specifying that only the facility generating the electricity can claim emission reductions from the electricity displaced	AMS I.F. Ver02	11	<del>Pending on CAR-5</del> It has been included in the eligibility criteria.	<del>Pending</del>	OK
10.2.4.35. In case the project activity involves the replacement of equipment, and the leakage from the use of the replaced equipment in another activity is neglected, because the replaced equipment is scrapped, an independent monitoring of scrapping of replaced equipment needs to be implemented. The monitoring should include a check if the number of project activity equipment distributed by the project and the number of scrapped equipment correspond with each other. For this purpose scrapped equipment should be stored until such correspondence has been checked. The scrapping of replaced equipment should be documented and independently verified.	AMS I.F. Ver02	26	<del>Pending on CAR-5</del> It has been included in the eligibility criteria	<del>Pending</del>	OK

## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
10.3. Description of the sources and gases included in the CPA boundary(Section E.3 of CDM-SSC-PoA-DD)	EB33	Ann43			
10.3.1. Is the boundary of the PoA including the physical delineation of the project activity defined?	VVM	79	<del>CL-7</del> Clarification is required on the physical project boundary of the PoA. CL-7 was closed out after the physical boundary of CPAs under the PoA was defined in the PoA-DD, in accordance with the applied methodologies.	<del>CL-7</del>	OK
10.3.2. Are sources and GHGs included in CPA boundary in accordance with the selected methodology(ies)?	EB33 VVM	Ann43 79	Yes.	OK	OK
10.3.3. In cases where the selected methodology(ies) allows project participants to choose whether a source or gas is to be included in the project or CPA boundary, is the choice explained and justified?	VVM	79	N.A. as no alternatives need be chosen as per the applied methodologies.	OK	OK
10.4. Description of how the baseline scenario is identified and description of the identified baseline scenario(Section E.4 of CDM-SSC-PoA-DD)	EB33	Ann43			
10.4.1. Is description of how the baseline scenario is identified provided?	EB33	Ann43	Yes. The small scale methodologies and the	OK	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			eligibility criteria defined the baseline scenario.		
10.4.2. Does the selected methodology require use of tools (such as the “Tool for the demonstration and assessment of additionality” or the “Combined tool to identify the baseline scenario and demonstrate additionality”) to establish the baseline scenario?	VVM	82	No.	OK	OK
10.4.3. Do the project participants take into account national and/or sectoral policies and circumstances?	VVM	85	<del>CL-8</del> Clarification is required on whether the national and/or sectoral policies have been taken into account.  CL-8 was closed after it was clarified that no national or local requirement need to be considered	<del>CL-8</del>	OK
10.4.4. Is the description of the identified baseline scenario provided and consistent with the applied methodology?	EB33 VVM	Ann43 86	<del>CAR-6</del> The description of the identified baseline scenario has not been correctly provided and is not consistent with the applied methodologies.  CAR-6 was closed out after the baseline scenario for CPAs under the PoA was correctly identified and described as per the applied methodologies.	<del>CAR-6</del>	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
10.5. Assessment and demonstration of additionality for a typical CPA(Section E.5 of CDM-SSC-PoA-DD)	EB33	Ann43			
10.5.1. In Section E.5.1 of CDM-SSC-PoA-DD, have the PPs demonstrated additionality of a typical CPA using the procedure provided in the baseline and monitoring methodology applied?	EB33	Ann43	<del>Pending on CL-3</del> Investment barrier in Guidelines On the Demonstration of Additionality of Small-Scale Project Activities(version 9.0) It is consistent with the applied methodologies.	<del>Pending</del>	OK
10.6. In Section E.5.2 of CDM-SSC-PoA-DD, have the PPs provided the key criteria for assessing additionality of a CPA when proposed to be included in the registered PoA?	EB33	Ann43	Yes. The key criteria is defined as “financial analysis to support CPA additionality” If “the CPA equity IRR is lower than the benchmark 9%(after-tax equity IRR) without CDM revenues”, the SSC-CPA is additional.	OK	OK
10.6.1. Have the PPs justified the choice of criteria based on the analysis in Section E.5.1 of CDM-SSC-PoA-DD?	EB33	Ann43	Yes.	OK	OK
10.6.2. Is it demonstrated how these criteria would be applied to the additionality of a typical CPA at the time of inclusion.	EB33	Ann43	Yes.	OK	OK
10.7. Are the eligibility criteria for inclusion of a CPA in the	EB65	Ann3			



## VALIDATION REPORT

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PoA in accordance with the "Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities?"					
10.7.1. PoAs that consist of one or more small-scale projects as CPAs shall include eligibility criteria derived from all the relevant requirements of attachment A of Appendix B of the "Simplified modalities and procedures for small-scale CDM project activities".	EB65 Ann3	10	Yes.	OK	OK
10.7.2. Has the CME demonstrated that compliance with the additionality-related eligibility criteria set in the PoA design document will ensure that all the relevant additionality-related guidelines, tools or any requirements embedded in the methodologies are met?	EB65 Ann3	11	Yes.	OK	OK
10.7.3. For PoAs involving combinations of technologies/ measures and/ or methodologies, are the eligibility criteria relative to each of them proposed to demonstrate additionality.	EB65 Ann3	12	Yes.  The combinations of AMS-III.D. AMS-I.F and AMS-I.C, have been approved by CDM EB in EB61 report.	OK	OK
10.8. Estimation of Emission reductions of a CPA(Section E.6 of CDM-SSC-PoA-DD)					



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
10.8.1. In Section E.6.1 of CDM-SSC-PoA-DD, are methodological choices provided in the approved baseline and monitoring methodology applied, selected for a typical CPA explained and justified?	EB33 VVM	Ann43 90	Yes.  The parameters of methodological choices have been explained in CDM-SSC-PoA-DD section E.6.1	OK	OK
10.8.2. In Section E.6.2 of CDM-SSC-PoA-DD, are equations including fixed/default parametric values to be used for calculations of emission reductions of a CPA provided and justified?	EB33 VVM	Ann43 90			
10.8.2.1. Baseline emissions?	VVM	89	<del>CAR-7</del>  <del>The equations used for calculation of <math>BE_{thermal,y}</math> are not consistent with the applied methodology AMS. I.C.</del> Furthermore, no methodological choice is discussed to estimate ERs from biogas supplied to nearby households for heat purposes.  CAR-7 was closed out after the equations used for calculation of $BE_{thermal,y}$ were updated and are consistent with AMS I.C. version19 and the CO <sub>2</sub> emission from burning of displaced fossil fuel by household stove has been included in the ER estimation.	<del>CAR-7</del>	OK
10.8.2.2. Project emissions?	VVM	89	<del>CAR-8</del>  <del>The equations used for calculation of <math>PE_{PLY}</math></del>	<del>CAR-8</del>	OK



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			are not in accordance with the applied methodology. CAR-8 was closed out after the equations used for calculation of $PE_{PL,y}$ were updated and are consistent with AMS III.D. version18.		
10.8.2.3. Leakage?	VVM	89	<del>CL-9</del> Clarification is required on why the leakage is not considered. CL-9 was closed out after the conditions that the leakage is not considered were included in the eligibility criteria.	<del>CL-9</del>	OK
10.8.2.4. Emission reductions?	VVM	89	Yes. $ER_y = BE_y - PE_y - Ly$	OK	OK
10.8.3. In Section E.6.3 of CDM-SSC-PoA-DD, are data and parameters that are to be reported in CDM-CPA-DD provided?	EB33 VVM	Ann43 91	Yes.	OK	OK
10.8.4. In cases where the selected methodology(ies) allows the use of sampling for the determination of parameter values for calculating GHG emission reductions, do project participants develop and describe the sampling plan in accordance with	EB65	Ann2	N.A.	OK	OK



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
"Standard for sampling and surveys for CDM project activities and programme of activities"?					
10.9. Application of the monitoring methodology and description of the monitoring plan					
10.9.1. In Section E.7.1 of CDM-SSC-PoA-DD, are data and parameters to be monitored by each CPA provided in accordance with the CDM-SSC-PoA-DD form?	EB33	Ann43	Yes.	OK	OK
10.9.2. In Section E.7.2 of CDM-SSC-PoA-DD, is a detailed description of the monitoring plan provided?	EB33	Ann43	Yes.	OK	OK
10.9.3. Is the monitoring plan for a CPA in accordance with the approved monitoring methodology, including applicable tool(s)?	EB55 Ann38	6(j)	<p><del>CAR-9</del></p> <p>The monitoring of <math>EG_{thermal,y}</math> is not in line with the applied methodology AMS I.C and the parameters required to be monitored by the methodologies are not entirely included in the monitoring plan.</p> <p>CAR-9 was closed out after The flow and temperature of hot water generated from the boilers will be monitored at the outlet and returning point in order to measure the difference in the enthalpy, which is consistent with AMS I.C.</p>	<p><del>CAR-9</del></p> <p>OK</p>	OK



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10.10. In Section E.8 of CDM-SSC-PoA-DD, is the following provided?	EB33	Ann43			
10.10.1. Date of completion of the application of the baseline study and monitoring methodology	EB33	Ann43	Yes. The baseline study and monitoring methodology has been determined on 18/04/2011.	OK	OK
10.10.2. The name of responsible person(s)/entity(ies)	EB33	Ann43	Yes. Institute of Environment and Sustainable Development in Agriculture, Chinese Academy of Agricultural Sciences	OK	OK
<b>11. Other information(Annex of CDM-SSC-PoA-DD)</b>					
11.1. In Annex 1 of CDM-SSC-PoA-DD, is contact information on coordinating /managing entity and participants in the Programme of Activities provided as following?	EB33	Ann43	Yes.	OK	OK
11.1.1. Contact information on CME and participants in the PoA provided?	EB33	Ann43	Yes.	OK	OK
11.1.2. For each organization listed in section A.3, the following mandatory fields: Organization, Name of contact person, Street, City, Postfix/ZIP, Country,	EB33	Ann43	Yes.	OK	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
Telephone and Fax or e-mail					
11.2. In Annex 2 of CDM-SSC-PoA-DD, is the background information regarding public funding provided?	EB33	Ann43	N.A.	OK	OK
11.3. In Annex 3 of CDM-SSC-PoA-DD, is the background information used in the application of the baseline methodology provided	EB33	Ann43	N.A.	OK	OK
11.4. In Annex 4 of CDM-SSC-PoA-DD, is the background information used in the application of the monitoring methodology provided	EB33	Ann43	N.A.	OK	OK
<b>12. Eligibility criteria for inclusion of a CPA in the PoA</b>					
12.1. Do the eligibility criteria cover as a minimum the following?	EB65 Ann3	14			
12.1.1. The geographical boundary of the CPA including any time-induced boundary consistent with the geographical boundary set in the PoA	EB65 Ann3	14(a)	Yes.  The project boundary has to be within the geographical territory of Hebei Province.	OK	OK
12.1.2. Conditions that avoid double counting of emission reductions like unique identifications of product and end-user locations (e.g. programme logo)	EB65 Ann3	14(b)	<del>CAR-10</del> <del>It is not included in the specified eligibility criteria that how the proposed procedures</del>	<del>CAR-10</del>	OK



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			<del>eliminate double counting of Emission Reductions.</del> CAR-10 was closed out after the The proposed procedures and eligibility criteria to eliminate double counting were included in the PoA-DD		
12.1.3. The specifications of technology/measure including the level and type of service, performance specifications including compliance with testing/certifications	EB65 Ann3	14(c)	Yes. The proposed CPA shall follow same technology, which includes the construction of biogas digester and use the captured biogas to provide thermal and electrical forms of energy	OK	OK
12.1.4. Conditions to check the start date of the CPA through documentary evidence	EB65 Ann3	14(d)	<del>CAR-11</del> <del>The start date limit of the CPA is not correct, i.e. 15/04/2011 is not the date of commencement of DOE validation.</del> CAR-11 was closed out after the start date limit of the CPAs has been updated to be 11/05/2011, which has been verified to be the GSP date. And the start date was defined as "the earliest date at which either the implementation or construction or real action of a CDM project activity", which is consistent with the latest CDM glossary.	<del>CAR-11</del>	OK

## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
12.1.5. Conditions that ensure compliance with applicability and other requirements of single or multiple methodologies applied by CPAs	EB65 Ann3	14(e)	<del>CAR-12</del> <del>The applicability of applied methodologies has not been included in the eligibility criteria.</del> CAR-12 was closed out after the applicability of applied methodologies has been included in the eligibility criteria.	<del>CAR-12</del>	OK
12.1.6. The conditions that ensure that CPAs meet the requirements pertaining to the demonstration of additionality as specified in 10.6 above.	EB65 Ann3	14(f)	The CPA is not financially viable without CDM revenue, demonstrating through investment analysis of individual livestock farms included in CPA and its Internal Rate of Return that is lower than the defined industry benchmark. <del>CL-10</del> <del>Clarification is required on the defined industry benchmark for CPAs.</del> CL-10 was closed out after it was clarified that the defined benchmark is after-tax equity IRR of 9%	<del>CL-10</del>	OK
12.1.7. The PoA-specific requirements stipulated by the CME including any conditions related to undertaking local stakeholder consultations and	EB65 Ann3	14(g)	The local stakeholder consultations were conducted at PoA level, while the environmental impact analysis will be conducted at CPA level.	<del>CAR-13</del>	OK

## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
environmental impact analysis			<p><del>CAR-13</del></p> <p><del>Environmental impact analysis at CPA level is not included in the specified eligibility criteria</del></p> <p>CAR-13 was closed out after The eligibility criteria regarding EIA at CPA level was in the PoA DD, which is based on the local regulations</p>		
12.1.8. Conditions to provide an affirmation that funding from Annex I parties, if any, does not result in a diversion of official development assistance	EB65 Ann3	14(h)	<p><del>CAR-14</del></p> <p><del>Conditions to provide an affirmation that funding from Annex I parties are not included in the specified eligibility criteria.</del></p> <p>CAR-14 was closed out after the eligibility criteria regarding ODA at CPA level was included.</p>	<del>CAR-14</del>	OK
12.1.9. Where applicable, target group (e.g. domestic/commercial/industrial, rural/urban, grid connected/ off-grid) and distribution mechanisms (e.g. direct installation);	EB65 Ann3	14(i)	N.A.	OK	OK
12.1.10. Where applicable, the conditions related to sampling requirements for a PoA in accordance with the approved guidelines/standard from the	EB65 Ann3	14(j)	N.A.	OK	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
Board pertaining to sampling and surveys					
12.1.11. Where applicable, the conditions that ensure that every CPA in aggregate meets the small-scale or micro-scale threshold criteria and remains within those thresholds throughout the crediting period of the CPA	EB65 Ann3	14(k)	<del>CAR-15</del> <del>The small-scale threshold criteria is not fully consistent with the General guidelines for SSC CDM methodologies.</del> CAR-15 was closed out after the small-scale threshold criteria was updated and is in accordance with the general guidelines for SSC CDM methodologies.	<del>CAR-15</del>	OK
12.1.12. Where applicable, the requirements for the debundling check, in case CPAs belong to small-scale (SSC) or microscale project categories	EB65 Ann3	14(l)	Yes. The proposed CPA is not de-bundling for SSC project activities. It has been included in the eligibility criteria	OK	OK
12.1.13. Other criteria	EB65 Ann3	14	Yes, The proposed project activity has to be voluntary action by the livestock farms involved in one of the CPAs under the PoA and the implementation of the proposed project activity is not to fulfill any mandatory policy or regulation; The statement on voluntary action by the CPA implementer and no requirement or enforcement under existing regulation will be included in the CPA-DD	OK	OK





## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
12.2. Are the eligibility criteria verifiable?	EB65 Ann3	15	<del>Pending on CAR-12</del> Yes.	<del>Pending</del>	OK
12.3. Are the eligibility criteria sufficiently objective and comprehensive to permit the assessment of the inclusion of CPAs in the PoA?	EB65 Ann3	16	<del>Pending on CAR-10, CAR-11, CAR-12, CAR-13, CAR-14, CAR-15 and CL-11</del> Yes.	<del>Pending</del>	OK

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

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project owner response	Validation team conclusion
<b>CAR-1:</b> LoA from DNA of China has not been provided.	2.1	LoA from DNA of China has been provided to DOE.	LoA from DNA of China has been provided by the PP and validated by validation team.  Hence CAR-1 is closed.
<b>CAR-2:</b> LoA from DNA of Annex I Party has not been provided	2.1	The proposed PoA has been changed to an unilateral project and the LoA from DNA of Annex I Party is not applicable.	The PoA has been changed to an unilateral project, which has been demonstrated by LoA from DNA of China.



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project owner response	Validation team conclusion
			Hence CAR-2 is closed.
<b>CAR-3:</b> MoC has not been provided	4.1	The MoC has been provided to DOE.	The MoC signed by the CME and China's DNA has been provided and verified. Hence CAR-3 is closed.
<b>CAR-4:</b> The records of internal management of CME have not been provided.	6.4.5.6	The CME's internal management documents have been provided to DOE.	Internal management of CME, i.e. procedures, records, measures, have been provided and validated. Hence CAR-4 is closed.
<b>CAR-5:</b> The application conditions of each methodologies have not been justified adequately in Section E.2 of PoA DD	10.3.3	The application conditions of each applied methodologies(AMS III.D. Version18, AMS I.C. Version19, AMS I.F Version02) have been justified. Section E.2 of PoA DD has been updated.	The application conditions of each methodologies have been justified, which is in accordance with the defined eligibility criteria and the applied methodologies. Hence CAR-5 is closed.
<b>CAR-6:</b> The description of the identified baseline scenario has not been correctly provided and is not consistent with the applied methodologies	10.5.4	The approved small scale methodologies that are selected by the proposed PoA prescribe the baseline scenario as following:  According to the AMS III.D. Version 18, the baseline scenario for animal waste management is the situation where, in the absence of the project	The baseline scenario has been correctly identified and described in Section E.4 of PoA DD, which is consistent with the applied methodologies.



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project owner response	Validation team conclusion
		<p>activity, animal manure is left to decay anaerobically within the project boundary and methane is emitted to the atmosphere.</p> <p>Accordingly to the AMS I.C. Version 19 and AMS. I.F. Version 2, for biogas technologies that displace coal-dominated grid electricity and/or thermal energy, the simplified baseline is the fossil fuel consumption of the grid electricity and/or thermal energy that would have been used in the absence of the projects activities.</p>	Hence CAR-6 is closed.
<p><b>CAR-7:</b> The equations used for calculation of <math>BE_{thermal,y}</math> are not consistent with the applied methodology AMS. I.C. Furthermore, no methodological choice is discussed to estimate ERs from biogas supplied to nearby households for heat purposes.</p>	10.9.2.1	<p>The equation used for calculation of <math>BE_{thermal,y}</math> was changed according to methodology AMS I.C version19.</p> <p>CO<sub>2</sub> emission from burning of displaced fossil fuel by household stove shall be calculated according to paragraph 43 and equation (9) of AMS I.C. version 19. Please refer to the updated PoA-DD</p>	<p>The equations used for calculation of <math>BE_{thermal,y}</math> have been updated and are consistent with AMS I.C. version19.</p> <p>CO<sub>2</sub> emission from burning of displaced fossil fuel by household stove has been included in the ER estimation.</p> <p>Hence CAR-7 is closed.</p>
<p><b>CAR-8:</b> The equations used for calculation of <math>PE_{PL,y}</math> are not in accordance with the applied methodology</p>	10.9.2.2	<p>The equation used for calculation of <math>PE_{PL,y}</math> was changed according to AMS III. D version 18 para. 10 (b).</p>	<p>The equations used for calculation of <math>PE_{PL,y}</math> have been updated and are consistent with AMS III.D. version18.</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project owner response	Validation team conclusion
			Hence CAR-8 is closed.
<b>CAR-9:</b> The monitoring of $EG_{thermal,y}$ is not in line with the applied methodology AMS I.C and the parameters required to be monitored by the methodologies are not entirely included in the monitoring plan	10.10.3	.The monitoring of $EG_{thermal,y}$ was revised to comply with the methodology AMS I.C's requirement	The flow and temperature of hot water generated from the boilers will be monitored at the outlet and returning point in order to measure the difference in the enthalpy. It is consistent with AMS I.C.  Hence CAR-9 is closed.
<b>CAR-10:</b> It is not included in the specified eligibility criteria that how the proposed procedures eliminate double counting of Emission Reductions.	12.1.2	The related procedures on eliminating double counting was included in revised POA.  The defined eligibility CPA criteria ensure that the eligible CPAs must be fully in line with the applicability of applied CDM methodologies and PoA guidance.  The CME will develop a database that will record: 1) similar registered projects which apply one or some of the three methodologies in Hebei Province 2) Similar CPAs included in other PoA in Hebei Province 3) CPAs included in this PoA	The proposed procedures to eliminate double counting have been included in the PoA-DD.  Hence CAR-10 is closed.



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project owner response	Validation team conclusion
		Any new incoming CPA will be examined against the above mentioned information in the database therefore double counting can be eliminated	
<b>CAR-11:</b> The start date limit of the CPA is not correct, i.e. 15/04/2011 is not the date of commencement of DOE validation	12.1.4	The start date limit of the CPA was changed to 11/05/2011 in the revised POA-DD. It is the GSP commencement date, which is defined as the start date of DOE validation.	The start date limit of the CPAs has been updated to be 11/05/2011, which has been verified to be the GSP date. It is consistent Para.7(c) of EB55 Ann38. Hence CAR-11 is closed.
<b>CAR-12:</b> The applicability of applied methodologies has not been included in the eligibility criteria	12.1.5	The eligibility criteria have been updated and included the applicability conditions of applied methodologies. Please refer to Section 4.2.2 of PoA DD.	The applicability conditions of applied methodologies have been included in the eligibility criteria, which has been validated by the validation team. Hence CAR-12 is closed.
<b>CAR-13:</b> Environmental impact analysis at CPA level is not included in the specified eligibility criteria	12.1.7	The eligibility criteria regarding EIA at CPA level has been defined in the PoA-DD, i.e. "the proposed CPA prepares Environmental Impact Assessment which is approved by relevant authority if the power generation is envisaged as a component of the project"	The eligibility criteria regarding EIA at CPA level has been defined in the PoA DD, which is based on the local regulations. Hence CAR-13 is closed



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project owner response	Validation team conclusion
<b>CAR-14:</b> Conditions to provide an affirmation that funding from Annex I parties are not included in the specified eligibility criteria	12.1.8	The relevant eligibility criteria has been added in PoA DD, i.e. "the proposed CPA can provide an affirmation that funding from Annex I parties, if any, does not result in a diversion of official development assistance."	The eligibility criteria regarding ODA at CPA level has been included. Hence CAR-14 is closed.
<b>CAR-15:</b> The small-scale threshold criteria is not fully consistent with the General guidelines for SSC CDM methodologies	12.1.11	The eligibility criteria have been updated and the small-scale threshold criteria has been updated as per the General guidelines for SSC CDM methodologies. Please refer to Section A.4.2.2 of PoA DD.	The updated SSC threshold criteria has been validated and is considered consistent with the General guidelines for SSC CDM methodologies. Hence CAR-15 is closed.
<b>CL-1:</b> The geographical coordinates of the boundary of the PoA has not been specified in the PoA DD.	6.4.1.2	The geographical coordinates of the boundary of the PoA has been added in the revised PoA-DD	The geographical coordinates of PoA boundary has been added in Section A.4.1.2 of PoA DD and verified by the validation team. Hence CL-1 is closed.
<b>CL-2:</b> Clarification is required on the detailed technology/measures to be employed by the SSC-CPA	6.4.2	The proposed activity for all CPAs in this PoA is to construct anaerobic biogas digesters to capture biogas. The captured biogas will be utilized to provide thermal and/or electrical energy. The PoA will replace baseline manure management system (open anaerobic lagoons) with advanced biogas	The detailed technology/measures to be employed by each SSC-CPA have been included in Section A.4.2 of PoA DD. Hence CL-2 is closed.



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project owner response	Validation team conclusion
		<p>digester systems and energy supply system(s). Technology or measures to be employed in the PoA will comprise of four stages, which are biogas production in anaerobic digesters, biogas collection and purification, biogas utilization, and land application of biogas residue.</p> <p>The diagram and the detailed technology/measures have been employed in the revised PoA-DD.</p>	
<b>CL-3:</b> As stated in section A.2, Hebei Green Agriculture Co., Ltd has rich experience in destining and constructing biogas digesters. Thus further clarification on the technical barrier.	6.4.4.2	The paragraph related to Technical barrier was deleted	<p>The description related to technical barrier has been deleted.</p> <p>Hence CL-3 is closed.</p>
<b>CL-4:</b> Further clarification is required on how to assure that the SSC-CPA included in the PoA would not a de-bundled component of another CPA or CDM project activity	6.4.5.3	<p>The CME will check if a proposed small-scale CPA satisfies both conditions (a) and (b) below:</p> <p>(a) Has the same activity implementer as the proposed small scale CPA or has a coordinating or managing entity, which also manages a large scale PoA of the same technology/measure, and;</p> <p>(b) The boundary is within 1 km of the boundary of the proposed small-scale CPA, at the closest</p>	<p>The de-bundled check procedure to be conducted has been validated and is consistent with Para. 8 of EB54 Ann13. The relevant eligibility criteria has been included.</p> <p>Hence CL-4 is closed.</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project owner response	Validation team conclusion
		point. If the proposed small-scale CPA satisfies both conditions, it is a debundled component of large scale project.	
<b>CL-5:</b> Clarification is required on the procedures for technical review of inclusion of CPAs	6.4.5.7	The procedures for technical review of inclusion of CPAs have been included in Section A.4.4.1 of PoA DD.	The procedures for technical review of inclusion of CPAs in Section A.4.4.1 of PoA DD have been validated by validation team. Hence CL-5 is closed.
<b>CL-6:</b> Evidence is required to sustain that an Environmental Impact Assessment (EIA) form is required for biogas projects with power generation component, but is not required for biogas project for thermal energy application	8.3	The evidence “classification list of environmental impact assessment for Construction project management” is provided that EIA form is only required for biogas project with power generation component	The evidence “classification list of environmental impact assessment for Construction project management” has been provided and validated. Validation team can confirm that EIA form is only required for biogas project with power generation component. The EIA will be conducted as CPA level. Hence CL-6 is closed.
<b>CL-7:</b> Clarification is required on the physical project boundary of the	10.3.1	The physical boundary has been added in the PoA DD.	The description of the CPA boundary under the PoA has been





## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project owner response	Validation team conclusion
PoA		<p>The SSC-CPA boundary included in the PoA is</p> <p>The livestock farm (for scenario A, B, and C);</p> <p>·Animal manure management systems (for scenario A, B, and C);</p> <p>·Facilities which generate, recover and flare/combust or use biogas to generate heat (for scenario A), or power (for scenario B), or both power and heat (for scenario C) located at the project site.</p> <p>·The spatial extent of the project boundary includes facilities consuming energy generated by the system (for scenario A, B, and C).</p> <p>·The boundary also extends to the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to (for scenario B and C).</p>	<p>available in the PoA DD, which is in accordance with the applied methodologies,</p> <p>Hence CL-7 is closed.</p>
<b>CL-8:</b> Clarification is required on whether the national and/or sectoral policies have been taken into account	10.5.3	<p>There is no national or local requirement to control GHG emissions of agricultural industrial operations, including husbandry industry in China. Current domestic policies and regulations in China do not stipulate the treatment of manure by biogas digester.</p>	<p>No national or local requirement need to be considered.</p> <p>Hence CL-8 is closed.</p>
<b>CL-9:</b> Clarification is required on why the leakage is not considered	10.9.2.3	<p>Each livestock farm to be included in CPA will construct energy generating equipment to utilize</p>	<p>It has been included in the eligibility criteria that no manure will be</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project owner response	Validation team conclusion
		<p>biogas. No energy generating equipment is currently utilized in livestock farm.</p> <p>Each livestock farm will use its own livestock manure produced on site to feed the biogas digester. No manure will be collected/processed/transported from off-site.</p> <p>It has been included in the eligibility criteria.</p> <p>Each livestock farm to be included in CPA will construct biogas digester and install energy generating equipment to utilize the biogas. No energy generating equipment is transferred from another activity.</p> <p>It has been included in the eligibility criteria</p>	<p>collected/processed/transported from off-site and that no energy generating equipment will be transferred from another activity.</p> <p>According to the applied methodologies AMS III.D. Version 18, AMS I.C Version 19, AMS I.F. Version 02, the leakage will be zero.</p> <p>Hence CL-9 is closed.</p>
<b>CL-10:</b> Clarification is required on the defined industry benchmark for CPAs	12.1.6	After-tax equity IRR of 9% is set as the benchmark. It is based on Economic Evaluation Method and Parameters for Project Construction (version 3).	<p>After-tax equity IRR of 9% is included in the eligibility ceriteria.</p> <p>Hence CL-10 is closed.</p>