SSC PoA Validation Report

PEAR Carbon Offset Initiative, Ltd.

“Programme for Promotion of Access to Domestic Biogas in Rural Bangladesh”

Project No. JQA-C0192

(No. 1812000327-329)

Date: 22 January 2014

JAPAN QUALITY ASSURANCE ORGANIZATION

Report Title:	PoA Title:
SSC PoA Validation Report	Programme for Promotion of Access to Domestic Biogas in Rural Bangladesh
Date of first issuance: 30/12/2013	Project No: JQA-C0192 (No. 1812000327-329)
Date of this revision: 22/01/2014 (Version 2.0)	Applied Methodology: AMS-I.E. / Version 5.0 (Sectoral Scope: 1)
Coordinating/Managing Entity: Infrastructure Development Company Limited (IDCOL)	Project Participants: - Infrastructure Development Company Limited (IDCOL) - Grameen Shakti (GS) - PEAR Carbon Offset Initiative, Ltd. (PEAR)
Approved by:  Tadayuki Yano	Client: PEAR Carbon Offset Initiative, Ltd. (PEAR)

Summary:

This is the Validation Report for the small-scale (SSC) programme of activities (PoA) "Programme for Promotion of Access to Domestic Biogas in Rural Bangladesh". Infrastructure Development Company Limited (IDCOL) is the Coordinating/Managing Entity (CME) of the proposed PoA. Grameen Shakti (GS) and PEAR Carbon Offset Initiative, Ltd. (PEAR) are the project participants (PPs) of the proposed PoA.

The purpose of the PoA is to disseminate biogas digester system fed by cow dung or poultry litter to replace fuel wood used for cooking in households, which will reduce GHG emissions from the use of non-renewable biomass. The approved methodology, AMS-I.E. "Switch from non-renewable biomass for thermal applications by the user" (Version 05), is applied to CPAs included in the PoA.

JQA, as a DOE, has performed the validation on the basis of the relevant decisions of UNFCCC, Kyoto Protocol, COP/MOP and CDM-EB under the contract with PEAR.

Through the resolution of 1 CAR and 24 CLs, JQA confirms that the proposed PoA meets all the relevant UNFCCC and Host Party requirements. JQA determines that the project activity is valid as a CDM Programme of Activities (PoA).

Validation Team:	Technical Reviewer:
Team Leader: Shigenari Yamamoto Member: Jun Takata Member: Akiko Furuya Member (Technical Expert): Hiroshi Kobayashi	Tadashi Yoshida

Abbreviations

AMS	Approved Small-scale Methodology
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM-EB	CDM Executive Board
CER	Certified Emission Reduction
CL	Clarification Request
CME	Coordinating / Managing Entity
COP	Conference of the Parties
COP/MOP	Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol
CPA	Component Project Activity
CPA-DD	Component Project Activity Design Document
DNA	Designated National Authority
DOE	Designated Operational Entity
EF	Emission Factor
EIA	Environmental Impact Assessment
GHG	Greenhouse Gas
GWP	Global Warming Potential
GS	Grameen Shakti
ICS	Improved Cook Stove
ID	Identification
IDCOL	Infrastructure Development Company Limited
ISO	International Organization for Standardization
JQA	Japan Quality Assurance Organization
KfW	Kreditanstalt für Wiederaufbau (German government-owned development bank)
LDCs	Least Developed Countries
LoA	Letter of Approval
LSC	Local Stakeholder Consultation
MoC	Modalities of Communication
MoU	Memorandum of Understanding
NCV	Net Calorific Value
NDBMP	National Domestic Biogas and Manure Program
NGO	Non-governmental Organization
OA	On-site Assessment
ODA	Official Development Assistance
PEAR	Pear Carbon Offset Initiative, Ltd.
PDD	Project Design Document
PO	Partner Organization
PoA	Programme of Activities
PoA-DD	Programme of Activities Design Document
PP	Project Participant
QA/QC	Quality Assurance and Quality Control
SD	Sustainable Development
SHS	Solar Home System
SNV	Stichting Nederlandse Vrijwilligers (Netherlands Development Organization)
SV	Site-visit
UNFCCC	United Nations Framework Convention on Climate Change
VVM	CDM Validation Verification Manual (Version 02.1)
VVS	CDM Validation Verification Standard (Version 05.0)

Table of Contents

1 . INTRODUCTION

Japan Quality Assurance Organization (hereinafter JQA) has performed the validation of the PoA “Programme for Promotion of Access to Domestic Biogas in Rural Bangladesh”. The Coordinating/Managing Entity (CME) for the proposed PoA, Infrastructure Development Company Limited (hereinafter IDCOL) (Bangladesh), plans to reduce GHG emissions in rural Bangladesh through the promotion of the installation of domestic biogas digesters. Grameen Shakti (hereinafter GS) and PEAR Carbon Offset Initiative, Ltd. (hereinafter PEAR) also participate in the PoA as project participants (hereinafter PPs). This report summarizes the findings obtained through the validation process and the validation opinion of JQA.

1.1. Objective

Validation is a thorough and independent assessment of proposed PoA against the applicable CDM requirements defined by the UNFCCC, the Kyoto Protocol, CDM Modalities and Procedures and relevant decisions by COP/MOP and CDM-EB. According to Para 20 of VVS, in carrying out its validation work, the DOE shall:

(a) Determine whether the proposed project activity complies with the requirements of paragraph 37 of the CDM M&Ps, the applicability conditions of the selected methodology and guidance issued by the Board;

(b) Assess the claims and assumptions made in the project design document (PDD). The evidence used in this assessment shall not be limited to that provided by the project participants.

1.2. Scope

The scope of the assessment is defined by the relevant standards including applied methodologies and tools, procedures, guidelines, clarifications, forms and information notes issued by the CDM-EB. The project documentation prepared by the CME/PPs includes:

- CDM-SSC-PoA-DD “Programme for Promotion of Access to Domestic Biogas in Rural Bangladesh” (Version 2.0, 12/12/2011 and Version 5.0, 15/01/2014) (hereinafter “PoA-DD”) **(Ref. 1)**
- Generic CDM-SSC-CPA-DD “Domestic Biogas CPA-[ID number of CPA] in Rural Bangladesh ([period of the starting date of operation of the biogas digesters covered by the CPA specified as D1/M1/Y1–D2/M2/Y2])” (Note that this document was published for global stakeholder consultation, but then been consolidated to the PoA-DD Version 5.0 **(Ref. 1)** as a result of the switching from the VVM track rules to the VVS track rules)
- Specific CDM-SSC-CPA-DD “Domestic Biogas CPA-1.12.2011 in Rural

Bangladesh (13/12/2011–31/01/2012)" (Version 2.0, 12/12/2011 and Version 5.0, 15/01/2014) (hereinafter "specific CPA-DD") **(Ref. 2)**

Validation of the proposed PoA is based on the VVS Track rules including PoA-DD form of F-CDM-SSC-PoA-DD (Version 2.0) and AMS-I.E. (Version 05). On the other hand, when it was published for global stakeholder consultation on 13/12/2011, it was based on the VVM Track rules including the PoA-DD form of CDM-SSC-PoA-DD (Version 2.0) and AMS-I.E. (Version 04). This modification is made because the proposed PoA cannot complete request for registration within the transition period from the VVM track rules to VVS track rules by 31/01/2013[1], and also cannot be submitted for request for registration within the grace period of application of AMS-I.E. (Version 04) by 03/05/2013[2].

The scope of PoA validation is defined by the relevant standards including applied methodologies and tools, procedures, guidelines, clarifications, forms and information notes issued by the CDM-EB, including;

- UNFCCC;
- Kyoto Protocol;
- Clean Development Mechanism Validation and Verification Standard (VVS) (Version 05.0);
- Clean Development Mechanism Project Standard (PS) (Version 05.0);
- AMS-I.E. "Switch from non-renewable biomass for thermal applications by the user" (Version 05) (Sectoral Scope: 1);
- Standard for the application of the global warming potentials to clean development mechanism project activities and programme of activities for the second commitment period of the kyoto protocol (Version 01.0)
- Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities (Version 03.0);
- Standard for sampling and surveys for CDM project activities and programme of activities (Version 04.1);
- Glossary: CDM Terms (Version 07.0);
- Clean Development Mechanism Project Cycle Procedure (Version 05.0);
- General guidelines to SSC CDM methodologies (Version 20.0);
- Guidelines on the demonstration of additionality of small-scale project activities (Version 09.0);
- Guidelines for demonstrating additionality of microscale project activities (Version 05.0);

[1] According to "Implementation Timeline" (Version 03) (http://cdm.unfccc.int/Reference/Notes/gov/info_note35.pdf), if requests for registration/renewal of crediting period/issuance for any PDDs/PoA-DDs/CPA-DDs/MRs published under the VVM Track cannot be submitted by 31 January 2013, the documents shall be modified using the forms and based on the requirements under the VVS Track. In this case, re-publication of the modified PDDs/PoA-DDs/CPA-DDs/MRs is not required, but they shall be submitted with the validation/verification reports.

[2] http://cdm.unfccc.int/methodologies/DB/WHTQUFLWCVNB9CIUZC198A712WGQR4

- Guidelines for sampling and surveys for CDM project activities and programme of activities (Version 03.0);
- Guidelines on assessment of de-bundling for SSC project activities (Version 03.0);
- Guidelines for completing the programme design document form for small-scale CDM programmes of activities (Version 03.0);
- Guidelines for completing the component project design document form for small-scale component project activities (Version 01.0);
- F-CDM-SSC-PoA-DD - Programme design document form for small-scale CDM programmes of activities (Version 02.0);
- F-CDM-SSC-CPA-DD - Programme design document form for small-scale CDM programmes of activities (Version 02.0);
- F-CDM-MOC - Modalities of Communication statement (Version 02.1); and
- Relevant decisions of COP/MOP and CDM-EB.

Note that the scope of this validation does not involve the validation of "Domestic Biogas CPA-1.12.2011 in Rural Bangladesh (13/12/2011–31/01/2012)" (hereinafter CPA-1) for inclusion to the proposed PoA. The validation of CPA-1 is covered by a separate validation report, namely, "SSC CPA Validation Report for "Domestic Biogas CPA-1 in Rural Bangladesh (13/12/2011–31/01/2012)" **(Ref. 4)**, prepared by JQA.

1.3. PoA Description

The summary of the proposed PoA is as given below:

CME:	Infrastructure Development Company Limited (IDCOL) (Bangladesh)
PPs:	Grameen Shakti (GS) (Bangladesh) PEAR Carbon Offset Initiative, Ltd. (PEAR) (Japan)
Non-Annex I Party:	Bangladesh (22/10/2001: Kyoto Protocol ratified)
Annex I Party:	Japan (04/06/2002: Kyoto Protocol ratified)
Geographical boundary:	Bangladesh
Technology:	Biogas digester system
Start date of the PoA:	13/12/2011 (the data of publication of the PoA-DD for global stakeholder consultation)
Length of the PoA:	28 years and 0 month

1.4. Validation Team and Technical Reviewer

The manager of CDM/JI Assessment Division has organized the validation team as shown in Table 1 based on the JQA CDM Quality Manual The certificates of the validation team members and the technical reviewers are attached (Appendix B). The expertise and

experience of the assessors and the technical reviewer are also attached to this report (Appendix C).

Table 1 Validation Team and Technical Reviewer

Name	Qualification[1)]	Task [2)]	Coverage of Technical Area	On-site Visit	Local Experience
Shigenari Yamamoto	TLA	TL	✓	-	✓
Jun Takata	A	TM	-	✓	✓
Akiko Furuya	A	TM	-	✓	✓
Hiroshi Kobayashi	-	TE	✓	✓	✓
Tadashi Yoshida	TLA	TR	✓		✓

1) TLA: Team Leader Assessor; A: Assessor

2) TL: Team Leader; TM: Team Member; TE: Technical Expert; TR: Technical Reviewer

The validation team and technical reviewers cover Sectoral Scope 1 defined by the applied methodology AMS-I.E. and the relevant Technical Area 1.1.

The roles and responsibilities of the team leader are to prepare the validation plan including desk review, site-visit and documentation, and to manage the validation activities of the team. The team leader is responsible for the validation opinion and conclusion by the assessment team.

The roles and responsibilities of the team member is to implement the desk review and/or the site-visit including the investigation and collection of background information and interview with the CME/PPs and stakeholders, and also to indicate potential Corrective Action Request (CAR), Clarification Request (CL) and/or Forward Action Request (FAR) based on the information obtained through the desk review and/or the site-visit.

The roles and responsibilities of the technical expert are to provide technical support to the validation team as a member of assessment team.

The on-site assessment (OA) was implemented by the team members on 15-18/02/2012, and after the OA the CDM validation checklist including CARs/CLs was submitted to CME/PPs on 27/02/2012.

2. VALIDATION PROCESS

The validation process basically consists of the following five steps:

1) Document review
2) Follow-up actions (e.g., site-visit and telephone or email interviews);
3) Resolution of Clarification Requests and Corrective Action Requests
4) Draft Validation Report
5) Internal Quality Control

At the commencement of validation, the PoA-DD including the generic CPA-DD and the specific CPA-DD are made publicly available on the UNFCCC website. When JQA receives any public comments, CME/PPs and the CDM secretariat are notified that public comments are received. Any comments received are uploaded to the UNFCCC website.

In the validation, Appendix A "PoA Validation Checklist" is prepared by JQA based on "CDM Validation and Verification Standard (VVS)" (Version 05.0) and "Guidelines for completing the programme design document form for small-scale CDM programmes of activities" (Version 03.0). Appendix A is composed of the following tables:

Table 1: Comprehensive Checklist for Validation
Table 2: Validation Requirements and CARs/CLs/FARs
Table 3: PoA-DD Requirements and CARs/CLs/FARs
Table 4: Resolution of CARs/CLs

The purpose of the Validation Checklist is:

- To organize, detail and clarify the requirements with which PoA / generic CPA are expected to meet; and
- To ensure a transparent validation process by inducing the auditor to document how every requirement is validated and which conclusions have been reached.

Issues and/or findings identified in the process are indicated as "CAR", "CL" and/or "FAR" in the CDM Validation Checklist. The criteria for CAR, CL and FAR, in accordance with Para 25-27 of VVS (Version 05.0) are as follows:

CAR (Corrective Action Request): The DOE shall raise a corrective action request (CAR) if one of the following situations occurs:

(a) The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable, verifiable and 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.

CL (Clarification Request): The DOE shall raise a clarification request (CL) if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

FAR (Forward Action Request): The DOE shall raise a forward action request (FAR) during validation to identify issues related to project implementation that require review during the first verification of the project activity. The DOE shall not raise a FAR that relates to the CDM requirements for registration.

All the CARs and/or CLs resolved or close out through the response from CME/PPs are described in Table 4 of Appendix A.

2.1. Document review

The main purposes of the document review are as follows:

- Confirm the completeness of the PoA-DD in accordance with "Guidelines for completing the programme design document form for small-scale CDM programmes of activities (Version 03.0) with reference to "Glossary: CDM Terms" (Version 07.0);
- Assess the conformity of the proposed PoA with all relevant requirements;
- Gather information relevant to the PoA from independent sources to determine whether the information provided by CME/PPs is reliable and credible; and
- Identify issues to be confirmed through site-visit.

The main points to be checked through the document review are summarized below.

- Appropriateness of the baseline and monitoring methodologies applied to CPAs under the proposed PoA including qualification within the thresholds of small-scale project activities.
- Transparency and conservativeness of the assumptions for the baseline.
- Technological, political, socio-demographic and environmental and legal aspects and trends relevant to the PoA.
- Additionality of the PoA, including compliance with requirements applicable for small-scale and/or microscale project activities.
- Appropriateness of formulae and accuracy of calculation.
- Responsibilities and authorities for monitoring activities for PoA/CPA including sampling plan and quality control and quality assurance system.
- Debundling for small-scale project activity.
- Eligibility criteria for inclusion of a CPA under the PoA and the implementation and management system for the PoA.
- Consistency between the PoA-DD and the generic CPA-DD.

2.2. Follow-up actions

The follow-up actions include site-visit to the project site and interview with local

stakeholders such as CME/PPs, local residents, government officials, etc. Information to be collected in this process includes:

- Technologies/measures adopted by a CPA in the proposed PoA;
- Appropriateness of the project boundary including GHG emission sources and geographical boundary;
- Appropriateness of the baseline scenario and demonstration of additionality;
- Development and implementation of management and monitoring plan; and
- EIA and local stakeholder consultation.

2.3. Resolution of Clarification Requests and Corrective Action Requests

JQA raises CARs/CLs/FARs based on the result of the document review and the follow-up actions. CME/PPs shall resolve all CARs and CLs through provision of additional documentary evidences and/or revision of the PoA-DD and the generic CPA-DD as appropriate.

2.4. Draft Validation Report

The draft Validation Report is prepared based on the results of the document review and the follow-up actions and the subsequent resolution of CARs/CLs. To ensure transparency, the final decisions are confirmed by using the PoA Validation Checklist.

2.5. Internal Quality Control

In order to ensure the quality of the validation, the draft Validation Report undergoes technical review. Firstly, the technical reviewer deliberates the appropriateness of the draft conclusions and the validation procedure through the review of the draft Validation Report and other relevant documents. Secondly, the technical reviewer informs the review results to the validation team. Then, the validation team responds to the technical reviewers' comments and revises the draft Validation Report as appropriate.

After that, the Manager of CDM/JI Assessment Division reports the review result to the Senior Executive of JQA. Finally, the Senior Executive determines whether the proposed PoA is valid as a CDM programme of activities.

3. VALIDATION FINDINGS

Through the Document Review and the Follow-up Actions, 1 CAR and 24 CLs are raised. Major CARs/CLs and responses by CME/PPs are summarized in this chapter. Details of resolution of each CAR/CL/FAR are shown in Table 4 of Appendix A.

3.1. Global stakeholder consultation

The PoA-DD and CPA-DD for CPA-1 were made publicly available on the UNFCCC website. Comments by Parties, stakeholders and NGOs were invited during 13/12/2011 – 11/01/2012. No comment was received through the public comment inviting period. Therefore, due account of the comments received during the validation process is not relevant to the PoA and Section 7.5. of VVS are not relevant to the proposed PoA.

3.2. Approval and authorization

Letter of Approval (LoA) signed by DNA of Bangladesh, Ref. DoE/Int.Con./CDM/2011/06/06, was firstly issued on 18/11/2012 **(Ref. 10)**. PEAR provided the LoA to JQA on 29/11/2012. Through the review of the LoA and the LoA issued by DNA of Japan **(Ref. 6)**, JQA found that GS was approved neither DNAs and did not comply with Para 174 of PS. Therefore, CME/PPs obtained revised LoA signed by DNA of Bangladesh, Ref. DoE/Int.Con./CDM/2011/06/10, dated 31/01/2013 **(Ref. 5)**. PEAR provided the revised LoA to JQA on 31/01/2013.

In the revised LoA **(Ref. 5)**, the DNA of Bangladesh unconditionally confirms:

- DNA of Bangladesh has approved "Programme for Promotion of Access to Domestic Biogas in Rural Bangladesh" on 04/11/2012.
- The government of Bangladesh has ratified the Kyoto Protocol on 22/10/2001.
- This is a voluntary participation in the proposed CDM project activities.
- The project contributes to sustainable development of Bangladesh.
- Infrastructure Development Company Limited (IDCOL) is the Coordinating/Managing Entity (CME) of the programme.
- Grameen Shakti is one of the project participants under the programme.

The validation team confirms that the signatory of the LoA is consistent with the contact person of DNA shown in the UNFCCC website.[3] Therefore, there is no doubt of its authenticity.

Letter of Approval signed by DNA of Japan, No. 121022301, was issued on 22/10/2012 **(Ref. 6)**. PEAR provided the LoA to JQA on 29/11/2012. The DNA of Japan unconditionally confirms:

- Japan has accepted the Kyoto Protocol on 04/06/2002.
- The Government of Japan approves the project “Programme for Promotion of Access

[3] http://cdm.unfccc.int/DNA/index.html

to Domestic Biogas in Rural Bangladesh".

- The Government of Japan authorizes voluntary participation of PEAR Carbon Offset Initiative, Ltd. in the project.

JQA has cross-checked the LoA with the information on the website of the Ministry of the Environment[4] and confirms that the PoA is included in the list of the approved project by the DNA of Japan as of the end of December 2012. In addition, by reviewing the LoAs of other Japanese CDM project activities already registered, JQA confirms that there is no doubt about the authenticity of the LoA because the LoA has the quite same form, context and signatures as the other LoAs.

JQA confirms that IDCOL is authorized as CME, and GS and PEAR are authorized as PPs. Therefore, the proposed PoA satisfies Section 11.9. of PS as well as Section 7.6. and 7.7. of VVS.

3.3. Contribution to sustainable development

As described in Part I, A.1 of the PoA-DD, the proposed PoA will contribute to sustainable development of Bangladesh in the following aspects:

- The PoA will contribute to reduce deforestation as the biogas generated will be used to replace mostly non-renewable biomass consumed by households.
- It also set the trajectory of no carbon development pathway by utilizing indigenous renewable energy source in rural Bangladesh.

As described in Section 3.2 of this report, JQA confirms the validity of LoA from Bangladesh DNA. The LoA clearly states that "the project contributes to sustainable development of Bangladesh". Therefore, the proposed PoA satisfies Section 7.8. of VVS.

3.4. Modalities of communications

JQA obtained the Modalities and Communication (hereinafter the MoC) statement from PEAR, the PP of the PoA, on 25/12/2013 **(Ref. 7)**. JQA validates the corporate identity of all PPs and focal points included in the MoC statement, as well as the personal identities, including specimen signatures and employment status, of their authorized signatories through directly checking evidence for corporate and personal identity as per Para 54 (a) of VVS. JQA also confirms that the MoC statement is correctly completed in accordance with the latest MoC form (Version 2.1).

JQA confirms that the MoC statement complies with all relevant requirements and satisfies Section 7.9. of the VVS.

3.5. Project design document

JQA confirms that the latest version of F-CDM-SSC-PoA-DD (Version 02.0) is used for

[4] http://www.env.go.jp/earth/ondanka/mechanism/gov-approval/list.pdf

completion of the PoA-DD. By using Table 3 of Appendix A (PoA-DD Requirements and CARs/CLs/FARs) of the CDM Validation Checklist, JQA assesses whether the PoA-DD complied with the relevant requirements provided in "Guidelines for completing the programme design document form for small-scale CDM programmes of activities" (Version 03.0). JQA confirms that the PoA-DD complies with F-CDM-SSC-PoA-DD and "Guidelines for completing the programme design document form for small-scale CDM programmes of activities" (Version 03.0) and thus satisfied Section 7.10. of VVS.

3.6. Description of project activity

JQA reviews Part I, A.2. and A.6. of the PoA-DD to confirm whether the description of the proposed PoA is accurate, complete and provides an understanding of the proposed PoA. The following items are discussed below:

- Background of the PoA and policy/measure or stated goal of the PoA
- Framework for the implementing of the PoA
- Confirmation that the PoA is a voluntary action by the CME
- Technology/measures to be employed by the PoA

3.6.1. Background of the PoA and policy/measure or stated goal of the PoA

JQA reviews the following literatures quoted in Part I, A.2. of the PoA-DD and confirms that they are correctly quoted:

- "Assessment of Existing Improved Cook Stove in Bangladesh", MA Quaiyum Sarkar et al, Environment, BRAC Research Report 2006[5]
- "Non-Renewable Biomass (NRB) Assessment Report—A Component of The Bangladesh Stoves Baseline Study 2008–9", Jonathan Rouse, 20 March 2009 **(Ref. 11)**
- "Environmental Literacy and NGOs: Experience from the Microcredit Based Social Forestry Program of Proshika in Bangladesh", J.A. Chowdhury, SANDEE Working Paper No 50-10, August 2010[6]
- "Restoring Balance—Bangladesh's Rural Energy Realities", M. Asaduzzaman, et al., World Bank Working Paper No. 181, 2010[7]

JQA physically visited rural area of Gazipur District during the on-site assessment on 15-18/02/2012 and observed that fuel wood and other biomass (dried cow dong, twigs, litters, etc.) were generally used for cooking. JQA also interviewed with a fuel wood shop owner and was informed that the fuel wood price had been increasing because of the decrease of forest wood resources. The information also supports the correctness of description provided in Part I, A.2. of the PoA-DD. Therefore, the following background of the PoA described in Part I, A.2. of the PoA-DD is accurate.

"Households in rural areas continue to use mainly biomass for cooking. This practice forces

[5] http://www.cleancookstoves.org/resources_files/assessment-of-existing.pdf
[6] http://www.sandeeonline.org/uploads/documents/publication/888_PUB_Working_Paper_50_Jahangir_Alam_Chowdhury.pdf
[7] http://ja.scribd.com/doc/29647179/Restoring-Balance-Bangladesh-s-Rural-Energy-Realities

the people (especially housewives) to spend money for purchasing fuelwood and/or to require substantial time to collect biomass as well as for cooking."

JQA also reviews the following literature quoted in Part I, A.2. of the PoA-DD about the health impacts from indoor air pollution to rural woman and children and confirms that it is correctly quoted and interpreted.

- "Domestic Health Hazard and Indoor Air-Pollution: An Approach to Find Alternative Energy Source for Rural Bangladesh to Minimize the Threat", S. M. Reazul Ahsan and Jinia Afrin, 2007[8]

As described in Part I, A.2. of the PoA-DD, the goal of the PoA is to accelerate dissemination of biogas application in rural Bangladesh using micro-credit scheme (to reduce the burden for initial investment) with the additional carbon credit-related revenue through the programme. Through the interview with IDCOL and GS, JQA confirms that the description regarding the policy/measure or stated goal of the PoA is correct.

3.6.2. Framework for the implementing of the PoA

As described in Part I, A.2. of the PoA-DD, IDCOL[9], the CME of the PoA, has been operating the National Domestic Biogas and Manure Program (NDBMP)[10] since 2006. NDBMP is a subsidy/loan programme for promotion of installation of domestic biogas digester in rural areas in Bangladesh with financial/technical support from Government of Bangladesh and development agencies such as SNV and KfW. The ultimate goal of NDBMP is to establish a sustainable and commercial biogas sector in Bangladesh. Up to April 2012, NDBMP succeeded to install 22,549 domestic biogas digesters in whole Bangladesh.[11] NDBMP was extended twice (1st: 2006 - 2009; 2nd:2010 – 2012; 3rd: 2013 - 2016) and the current target is installation of 150,000 domestic biogas digesters by 2016.[12]

GS[13], a PP of the PoA, is by far the largest Partner Organization (PO) of the NDBMP that has installed more than half of the biogas digesters installed under the NDBMP[14].

Figure 1 and Table 2 shows the framework and outline of NDBMP based on the documentary and oral information provided from IDCOL during the on-site assessment, and the following publicly available information regarding NDBMP:

- "Feasibility of a national programme on domestic biogas in Bangladesh - Final report", Wim J. van Nes, Willem Boers and Khurseed-Ul-Islam, Netherlands Development

[8] http://ejournals.unm.edu/index.php/nsc/article/view/682/732
[9] http://www.idcol.org/
[10] Outline of NDBMP: http://www.idcol.org/energyProject.php
Implementation plan of NDBMP:
http://www.idcol.org/newse/download/Final%20%20NDBMP%20implementation%20Plan_25%20May,2006_.pdf
[11] http://www.idcol.org/biogass_installation.php
[12] http://www.snvworld.org/en/countries/bangladesh
[13] http://www.gshakti.org
[14] http://www.idcol.org/biogass_installation.php

Organisation Biogas Practice Team, August 2005[15]

- "Technical Study of Biogas Plants Installed in Bangladesh", National Program on Domestic Biogas in Bangladesh - A Partnership Program of SNV and IDCOL, Prakash C. Ghimire, December 2005[16]
- "Implementation Plan National Domestic Biogas and Manure Programme in Bangladesh", IDCOL and SNV, January 2006[17]
- "National Domestic Biogas and Manure Programme Implementation Plan 2010-12 (NDBMP IP 2010-12)", IDCOL, 10 December 2009[18]
- "Technical Audit of Biogas Plants Constructed under the Framework of NDBMP in Bangladesh – Final Report", Prakash C. Ghimire, Sr. Advisor, Asia Biogas Programme / SNV, August 2010[19]
- "Final Report - Annual Biogas Users Survey 2010". Submitted to IDCOL / NDBMP, iED, 29 November 2011[20]

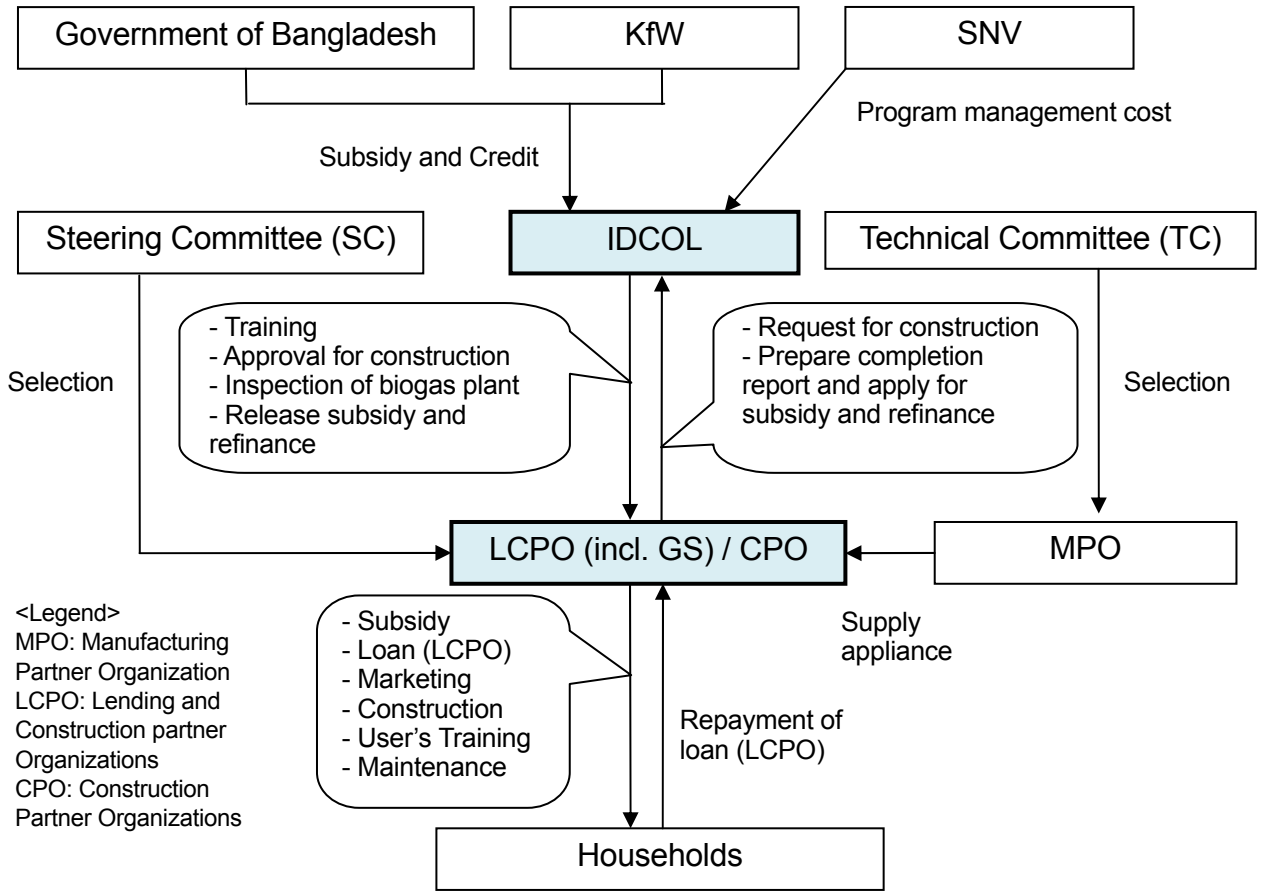

Figure 1 Interrelations among different partners under NDBMP

[15] http://www.snvworld.org/sites/www.snvworld.org/files/publications/feasibility_study_bangladesh_2005.pdf
[16] http://www.idcol.org/Download/Final_Survey_Report_Bangladesh.pdf
[17] http://www.idcol.org/newse/download/Final%20%20NDBMP%20implementation%20Plan_25%20May,2006_.pdf
[18] http://www.idcol.org/Download/20100105%20Implementation%20Plan%202010_12%20NDBMP%20IDCOL1.pdf
[19] http://www.snvworld.org/sites/www.snvworld.org/files/publications/technical_audit_of_biogas_plants_constructed_under_the_framework_of_ndbmp_in_bangladesh_2010.pdf
[20] http://www.snvworld.org/sites/www.snvworld.org/files/publications/biogas_user_survey_2010_bangladesh_2011.pdf

Table 2 Outline of NDBMP

Item	Description
Start of the program	January 2006
Covered area	Whole Bangladesh
Target group	All households who own at least 3 bovine (30 kg of dung per day) or keep at least 200 poultry birds (20 kg of litter per day) permanently and resides relatively in non-flooding areas.
Condition for subsidy	- Only one plant for one household - Only digesters appropriately fed (at least 70% of feeding requirement) - Only for domestic size biogas plant (≤ 4.8 m^3) for domestic purpose (digesters fed only night soil are not eligible) constructed as per the approved plant design - Only the biogas plant fully completed
Size of eligible digester	1.2, 1.6, 2.0, 2.4, 3.2 and 4.8 m^3 (gas production capacity)
Digester design	Fixed dome type
Equipment warranty	5 years for digester; 1 year for pipe, appliance and fitting
Partner Organizations (POs)	- Construction Partner Organizations (CPOs): Companies undertake construction and maintenance of domestic biogas digester - Lending and Construction partner Organizations (LCPOs): Microfinance institutes, NGOs and banks undertake financing the initial investment cost of domestic biogas digester and construction and maintenance of domestic biogas digester - Manufacturing Partner Organization (MPOs): Manufactures undertake manufacturing appliances used in domestic biogas digesters such as mixer, water drain, gas stoves, gas tap, gas valve, gas pipe, etc.
Number of POs:	58 POs **(Ref. 2, 9)**
Subsidy	IDCOL provides the subsidy of 9,000 Taka/digester to LCPOs and LCPOs provide it to households
Loan (general information)	- IDCOL provides loans for POs at the annual interest rate of 6% with 7 years-term. - LCPOs provide loans for households at the annual interest rate of 12-15% with 2 years-term.
Independent committees for NDBMP	- Steering Committee (SC): Comprising of officials from concerned organizations and independent persons (IDCOL, government ministries, professor, SNV, KfW, etc.); Looking after the policy and programme matters related to NDBMP implementation. - Technical Committee (TC): Deciding technical standards for appliances and selecting MPOs
Contract	IDCOL contract with POs and POs contract with households.

The proposed PoA will include domestic biogas digesters not covered by NDBMP, such as commercial biogas digester projects implemented by GS and other POs with capacities more than 4.8 m^3 and less than 100 m^3 as described in Part I, A.2. of the PoA-DD. On the other

hand, the framework for the implementation of the PoA is mostly based on NDBMP. PoA specific requirements such as management system for CPA inclusion are incorporated in the existing framework for the implementation of NDBMP (operational procedure, manuals, forms, data management system, etc.). In order to implement NDBMP and other commercial biogas projects by GS and other POs as a PoA, PEAR involves in the PoA as a PP, CER buyer and PoA developer.

Regarding the description in Part I, A.2 of proposed PoA, JQA raised CL01 - 02 as follows:

CL01: The following confusing description in A.2. (Part I, A.2.) of the PoA-DD is to be reviewed since it could be read as if GS was CME:

- Page 3-4: In order to expand biogas utilization in rural Bangladesh, GS plans to implement its biogas promotion programme as a Programme of Activities (PoA) that generates additional carbon benefit to enable more rural households to install biogas digester under the micro-credit scheme by utilizing the IDCOL's financing scheme of NDBMP or by its own scheme for non-covered digesters by the program.
- Page 5: GS, currently facing financial deficits to continue this biogas programme, is willing to promote the programme as a CME supported by the revenue of CERs and related financial arrangements.

Resolution: The descriptions are revised as follows:

- Page 3-4: In order to expand biogas utilization in rural Bangladesh, IDCOL voluntarily plays a role as a Coordinating and/or Managing Entity (CME) to implement the biogas promotion programme as a Programme of Activities (PoA) that generates additional carbon benefit to enable more rural households to install biogas digester under the micro-credit scheme by utilizing the IDCOL's financing scheme of NDBMP or by GS and other organizations' own scheme for non-covered digesters by the NDBMP.
- Page 5: The description is totally deleted.

CL02: The description "The first CPA is to include biogas digesters installed from the December 01 of 2011 onward regardless of geographical location in Bangladesh" in A.2 (Part I, A.2.) of the PoA-DD is to be corrected as the start date of the PoA is 13/12/2011.

Resolution: The description is revised as follows: "The first CPA is to include biogas digesters installed from the December 13 of 2011 to January 31 of 2012 regardless of geographical location in Bangladesh".

Thorough the resolution of these CLs, accurate and complete information about the framework for the implementing of the PoA is provided in Part I, A.2. of the PoA-DD.

3.6.3. Confirmation that the PoA is a voluntary action by the CME

Through the review of literatures about NDBMP shown above and GS's website about biogas

project[21] and interview with IDCOL and GS during the on-site assessment, JQA confirms that there is no mandatory regulations in Bangladesh about the introduction of domestic biogas digesters, and NDBMP promoted by IDCOL is voluntary action. Therefore, it is confirmed that the proposed PoA is a voluntary action by CME.

3.6.4. Technology/measures to be employed by the PoA

JQA has reviewed Part I, A.6. (Technology/measures) of the PoA-DD in order to check whether the description of the proposed PoA is accurate, complete and provides an understanding of the proposed PoA. JQA confirms that the technological description about biogas digester and biogas cookstove provided in Part I, A.6. of the PoA-DD is correctly quoted from the following documents:

- "IDCOL Model Biogas Plant Construction Manual", NDBMP, IDCOL/SNV, April 2006 (English version) **(Ref. 12)**
- "IDCOL Model Biogas Plant Construction Manual", NDBMP, IDCOL/SNV, April 2006 (Bengali version) **(Ref. 13)**
- Appliance requirements for NDBMP biogas stoves, IDCOL **(Ref. 14)**
- "Popular Summary of the Test Reports on Biogas Stoves and Lamps prepared by testing institutes in China, India and the Netherlands", SNV, 02/02/2009[22]

Through the review of the above, JQA confirms that the information provided in Part I, A.6. of the PoA-DD is accurate, excluding the biogas flow rate of biogas cook stove that is rectified from 0.3 m^3/h to 0.3-0.35 m^3/h as a result of resolution of CL08 (refer to Section 3.7.5. of this report for details).

Through the review of documents, site observation and interview with IDCOL, GS and PEAR during the on-site assessment, JQA confirms that the description of the proposed PoA in the PoA-DD is accurate and complete and satisfies Section 7.11. of VVS.

3.7. Application of the selected baseline and monitoring methodology

3.7.1. Applicability of the selected methodology to the project activity

The methodology applied to a CPA included in the proposed PoA is AMS-I.E. "Switch from non-renewable biomass for thermal applications by the user" (Version 05). The version number of the applied methodology is updated from Version 04 to Version 05 since the PoA-DD cannot be submitted for request for registration within the grace period of application of AMS-I.E. (Version 04) by 03/05/2013[23]. AMS-I.E. (Version 05) is the latest version at the time of the submission of the PoA-DD.

Table 2 summarizes the JQA's validation comments regarding the applicability of AMS-I.E. Refer to Part II, B.2. of the PoA-DD for CME/PPs' justification. As demonstrated in Table 3,

[21] http://www.gshakti.org/index.php?option=com_content&view=article&id=60&Itemid=64
[22] http://www.snvworld.org/sites/www.snvworld.org/files/publications/biogas_stoves_and_lamps_test_report_2009.pdf
[23] http://cdm.unfccc.int/methodologies/DB/WHTQUFLWCVNB9CIUZC198A712WGQR4

a CPA included in the PoA satisfies every applicability conditions in AMS-I.E. (Version 05).

Table 3 Assessment of the satisfaction of applicability conditions

No.	Applicability conditions	Validation Comment
1	This category comprises activities to displace the use of non-renewable biomass by introducing renewable energy technologies. Examples of these technologies include, but are not limited to biogas stoves, solar cookers, passive solar homes, renewable energy based drinking water treatment technologies (e.g. sand filters followed by solar water disinfection; water boiling using renewable biomass).	Through the check of criterion (2) of eligibility criteria, only biogas digester systems will be included in a CPA of the proposed PoA (refer to Section 3.11.9. of this report for details). The biogas digester system displaces the use of non-renewable biomass (refer to Section 3.7.3. of this report for details).
2	Project participants are able to show that non-renewable biomass has been used since 31 December 1989, using survey methods or referring to published literature, official reports or statistics.	Through the review of "Non-Renewable Biomass (NRB) Assessment Report—A Component of Bangladesh Stoves Baseline Study 2008–9", Jonathan Rouse, et al., 20 March 2009 **(Ref. 11)**, JQA confirms that biomass has been used since 31 December 1989 (refer to Section 3.7.4. of this report for details).
3	The total installed/rated thermal energy generation capacity of the project equipment is equal to or less than 45 MWth.	Through the check of criterion (5) of eligibility criteria, the total installed/rated thermal energy generation capacity of biogas digesters included in a CPA will be equal to or less than 45 MW_{th} (refer to Section 3.11.9. of this report for details).

Through the validation process, JQA raised CL03 regarding the justification of the applicability of the methodology as follows:

CL03: Regarding the justification for the applicability condition No. 3 in the table in E.2. (Part II, B.2.) of the PoA-DD, number of the eligibility criterion, (4), is not correct.

Resolution: The number of the associated eligibility criterion is corrected from (4) to (5).

Through the observation during the site visit and the review of the relevant documents, JQA confirms that a CPA included in the proposed PoA meets all the applicability conditions specified in AMS-I.E. (Version 05) and thus meets Section 7.12.1 and 7.12.2 of VVS. Since all applicability conditions are satisfied, deviation from an approved methodology and clarification on the applicability of an approved methodology are not relevant to the PoA. Therefore, Section 7.12.3 and 7.12.4 of VVS are not applicable to the proposed PoA.

3.7.2. Project boundary

According to Para 3 of AMS-I.E., the project boundary is defined as “The project boundary is the physical, geographical site of the use of biomass or the renewable energy.” The description of CPA boundary provided in Part II, B.3. of the PoA-DD, namely, “a CPA is the geographical areas where the domestic biogas digester systems are installed and targeted households are located”, complies with this requirement.

Regarding the description of sources and gases included in the project boundary, JQA raised CL04 as follows:

> **CL04:** The description "Excluded for simplification and conservativeness" for baseline CH_4 and N_2O in Table 7 in E.3. (Part II, B.3.) of the PoA-DD are to be rectified since negligence of baseline emissions will not results in a conservative estimate.
>
> **Resolution:** The term “and conservativeness" is deleted.

The GHG and sources being considered within the boundary is appropriately selected as the baseline CO_2 emissions from non-renewable biomass use.

Through physical site inspection, JQA confirms that there are no emission sources, which are not addressed by the applied methodology, and are expected to contribute more than 1% of the overall expected average annual emissions reductions.

Through the document review, site inspection and interview with CME/PPs, JQA confirms that the delineation of the project boundary described in the PoA-DD is correct, meets requirements of AMS-I.E. and complies with Section 7.2.5. of VVS.

3.7.3. Baseline scenario identification and description

According to Para 4 of AMS-I.E., baseline is defined as “It is assumed that in the absence of the project activity, the baseline scenario would be the use of fossil fuels for meeting similar thermal energy needs.”

In Part II, B.4. of the PoA-DD, CME/PPs discuss six alternative baseline scenarios in the context of a CPA in the PoA. JQA assesses the identification of baseline scenario as summarized in Table 4.

Table 4 Assessment of the baseline scenario alternatives

No.	Alternatives	Validation Comment
(a)	Continuation of current practice (use of fuel wood as the main fuel);	Through the review of literature quoted by footnote 3 of the PoA-DD[24], JQA confirms that Figure 10 is correctly made based on the data provided in the literature. The report also indicates that biomass is inexpensive source for non-lighting uses in Bangladesh compared to fossil fuels (kerosene or diesel) and grid electricity. JQA further reviews the quoted literatures in the PoA-DD (footnote 1-2) and confirms that the statement of "households in rural Bangladesh currently use mainly biomass because these fuels are the only accessible fuels in the region" is correct. This statement is also consistent with the information obtained through interview with several local residents in rural area of Gazipur District during the on-site assessment.
(b)	Fossil fuels currently not used mainly (LPG, coal, fuel oil, kerosene, *etc*.);	As described in (a), fossil fuels are more expensive than biomass in Bangladesh. In addition, most of rural areas have little or no access to natural gas supply network and LPG. Actually, during on-site assessment, JQA was informed from local residents in rural area of Gazipur District that they had been collecting biomass from nearby forest for free. Therefore, this alternative cannot be considered as a baseline scenario.
(c)	Grid electricity;	As noted from Figure 10 of the PoA-DD, electricity is not used for cooking, mainly because of most of rural households dose not connected to the grid. Through the review of database published by IEA[25], JQA confirms that only 33% of rural population can access to grid electricity. Furthermore, as described in (a), grid electricity is more expensive than biomass. Therefore, this alternative cannot be considered as a baseline scenario.
(d)	Renewable biomass (tree leaves, crop residue, dung, sawdust) use;	As described in Part II, B.6.1. of the PoA-DD, it is demonstrated that demonstrably renewable biomass (DRB) is zero because evidence for renewable resources sustainably managed is absent and there is strong evidence that land across the country is deforesting rapidly and thus NRB/(NRB+DRB) is 1. Therefore, this alternative cannot be considered as a baseline scenario.
(e)	Use of renewable energy from biogas digester.	According to "Implementation Plan National Domestic Biogas and Manure Programme in Bangladesh", IDCOL and SNV, January 2006[26], low ability to investment in the biogas digester of rural households has prohibited the installation of biogas digester without subsidy and loan. Actually, according to "Final Report - Annual Biogas Users Survey 2010". Submitted to IDCOL / NDBMP, iED, 29 November 2011[27], almost all surveyed

[24] http://www.scribd.com/doc/29647179/Restoring-Balance-Bangladesh-s-Rural-Energy-Realities
[25] http://www.worldenergyoutlook.org/resources/
[26] http://www.idcol.org/newse/download/Final%20%20NDBMP%20implementation%20Plan_25%20May,2006_.pdf
[27] http://www.snvworld.org/sites/www.snvworld.org/files/publications/biogas_user_survey_2010_bangladesh_2011.pdf

No.	Alternatives	Validation Comment
		households (except 5 out of 300) installed biogas digesters under NDBMP received grant from IDCOL. Therefore, installation of biogas digester is unlikely to be common without financial support. Therefore, this alternative cannot be considered as a baseline scenario.
(f)	Use of other renewable energies.	As noted from Figure 10 of the PoA-DD, renewable energies such as solar and wind are not used for cooking since solar/wind based cooking technology is not proven or disseminated. Therefore, this alternative cannot be considered as a baseline scenario.

Regarding the justification of the baseline scenario provided in the PoA-DD, JQA raised CL05-06 as follows:

CL05: The correctness for the following statements in E.4. (Part II, B.4.) of the PoA-DD are to be demonstrated:

- It is also noted that only 30% of rural households can access to grid electricity.
- Moreover, 84 million people live in rural area of Bangladesh. Only 0.1% of people have enjoyed the benefits of the biogas so far.

Resolution: The following revisions are made in Part II, B.4. of the PoA-DD:

- The source of “It is also noted that only 30% of rural households can access to grid electricity” is added as footnote 33 (http://www.worldenergyoutlook.org/database_electricity/electricity_access_database.htm)
- Based on the updated data, the description is revised as follows: "According to NDBMP Implementation Plan 2010–12[28], over 80 percent population of Bangladesh resides in rural area. Only 0.7% of people have enjoyed the benefits of the biogas so far."

CL06: Relevant national and/or sectoral policies and circumstances, such as sectoral reform initiatives, local fuel availability, power sector expansion plans, and the economic situation in the project sector, are to be discussed in the identification of the baseline scenario, if applicable.

Resolution: There are no national and/or sectoral policies and circumstances relevant to household cooking fuel or domestic biogas system in Bangladesh. Therefore, the baseline scenario identified for a CPA under the PoA is considered to be appropriate.

Through the resolution of these CLs, JQA confirms that the baseline scenario is continuation of current practice, namely, the use of fuel wood as the main cooking fuel. All the assumption and data used by CME/PPs are listed in the PoA-DD including their references and sources. All documentation relevant to the establishing the baseline scenario are

[28] http://www.idcol.org/Download/20100105%20Implementation%20Plan%202010_12%20NDBMP%20IDCOL1.pdf

correctly quoted and interpreted in the PoA-DD. AMS-I.E. (Version 5.0) is correctly applied to identify the most plausible baseline scenario since in calculation of emission reductions, it is assumed that in the absence of the project activity, the baseline scenario would be the use of fossil fuels for meeting similar thermal energy needs, in accordance with Para 4 of AMS-I.E. Therefore, the PoA complies with Section 7.2.16. of VVS.

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

JQA reviewed the equations for calculation of emission reductions provided in the PoA-DD to confirm whether;

- All assumptions and data used are listed in the PoA-DD, including their references and sources;
- All documentation used as the basis for assumptions and source of data is correctly quoted and interpreted in the PoA-DD;
- All values used in the PoA-DD are considered reasonable in the context of the proposed CDM project activity;
- The baseline methodology is applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions;
- All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PoA-DD.

The results of the assessment are described in detail in 1) to 5) below.

1) Description of Assumptions and Data Used

JQA assesses whether all assumptions and data used by CME/PPs are listed in the PoA-DD, including their references and sources. Data and parameters used in the calculation of emission reductions are as follows:

< Data and parameters to be reported in CPA-DD >

- f_{NRB} (-): Fraction of non-renewable woody biomass used among whole woody biomass in the absence of the project activity
- $NCV_{biomass}$ (TJ/ton): Net calorific value of the woody biomass
- NCV_{biogas} (GJ/m^3): Net calorific value of the biogas
- $EF_{projected\_fossilfuel}$ (t CO_2/TJ): Emission factor for substitution of woody biomass
- $\eta_{biogas,i}$ (%): Efficiency of the biogas stoves in biogas digester system i
- $\eta_{old,i}$ (%): Efficiency of the biomass stoves being replaced in biogas digester system i
- R ($Nm^3.m^{-3}$/day): Biogas production of rate of a biogas digester system
- Af (%): Adjustment factor for leakages

< Data and parameters to be monitored by each CPA >

- N (Number of biogas digesters): Number of biogas digesters covered by the CPA
- V_i (m^3): Installed capacity of biogas digester i
- $R_{O,y}$ (%):Ratio of biogas systems in normal operation in a year

- $D_{i,y}$ (days): Number of days from digester i started operating in year y

JQA confirms that all data and parameters used by CME/PPs are listed in Part II, B.6.2 and B.7.1 of the PoA-DD, including their references and sources.

2) Correct Quotation and Interpretation of Documentation

JQA reviews all documentation used as the basis for assumptions and sources of data in Part II, B.6.2. of the PoA-DD to confirm whether it is correctly quoted and interpreted in the PoA-DD. The following sources and values are presented in the PoA-DD:

- f_{NRB} (-): 1.0, based on JPMorgan Climate Care report and World Bank "Restoring Balance—Bangladesh's Rural Energy Realities"[29]
- $NCV_{biomass}$ (TJ/ton): 0.015 TJ/ton based on AMS-I.E.
- NCV_{biogas} (GJ/m^3): 0.0215 GJ/m^3 based on AMS-I.I.
- $EF_{projected\_fossilfuel}$ (tCO_2e/TJ): 81.6 tCO_2/TJ based on AMS-I.E.
- $\eta_{biogas,i}$ (%): 52.1% based on SNV Netherlands Development Organisation "Popular Summary of the Test Reports on Biogas Stoves and Lamps prepared by testing institutes in China, India and the Netherlands" [30] (the lowest value in Bangladesh)
- $\eta_{old,i}$ (%): 10% for or three stone fire, or a conventional systems with no improved combustion air supply or flue gas ventilation system, i.e. without a grate or a chimney; 20% for other types of systems (including improved cooking stoves) based on AMS-I.E.
- Af (%): 95% based on AMS-I.E.
- R (%): 0.13 $Nm^3.m^{-3}$/day (i.e. volume of biogas generated in normal conditions of temperature and pressure per unit useful volume of the digester per day) for regions/countries where annual average ambient temperature is higher than 20°C based on AMS-I.E. Since annual average ambient temperature in Bangladesh is over 25°C[31], the value is applicable.

Regarding f_{NRB}, the differentiation between non-renewable and renewable woody biomass and the value of f_{NRB} are justified in "Evaluation of f_{NRB}" in Part II, B.6.1 of the PoA-DD. According to the PoA-DD there are no examples of sustainably managed forest areas in Bangladesh and thus it can be seen that the woody biomass used in households is regarded as NRB.

For the calculation of NRB component, JQA confirms the existence of the supporting indicators described in "Non-renewable biomass" in Para 7 of AMS-I.E. as shown Table 5.

29 http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2010/04/07/000333037_20100407004249/Rendered/PDF/538770PUB0Bang101Official0Use0Only1.pdf

30 http://www.snvworld.org/sites/www.snvworld.org/files/publications/biogas_stoves_and_lamps_test_report_2009.pdf

31 http://www.cge.uevora.pt/GCGW/presentations/88-265-1-RV.pdf

Table 5 Validation of the existence of supporting indicators for the calculation of NRB component

Supporting indicators in AMS-I.E.	Summary of the description in the PoA-DD	Validation comments
A trend showing an increase in time spent or distance travelled for gathering fuelwood, by users (or fuel-wood suppliers) or alternatively, a trend showing an increase in the distance the fuel-wood is transported to the project area	According to Non Renewable Biomass (NRB) Assessment Report compiled by Jonathan Rouse **(Ref.11)** and interviews with wood sellers, collection areas have been increasing radically, with many trucks nowadays travelling more than 100 km with wood fuel cargo.	JQA confirms that the statement in the PoA-DD is correctly quoted. The quoted report also indicates the increase of travelling distance to gather the fuelwood by users due to the increase of depleted collection areas. An article by IRIN dated 18/12/2012[32] also provides similar kind of information, namely, "I have asked local woodcutters [loggers] how much they would have to walk to work in the past, and it was about 1-2km. Now it is 9-10km." From the assessment, the indicator is confirmed to exist.
Survey results, national or local statistics, studies, maps or other sources of information, such as remote-sensing data, that show that carbon stocks are depleting in the project area	According to Non Renewable Biomass (NRB) Assessment Report compiled by Jonathan Rouse **(Ref.11)**, with the strong evidence that land across the country is deforesting rapidly and the absence of any evidence for renewable resources sustainably managed all woody biomass or fuelwood used in households can be seen as non-renewable biomass (NRB).	JQA confirms that the statement in the PoA-DD is correctly quoted. According to "Bangladesh: A Country Study", James Heitzman and Robert Worden, Washington: GPO for the Library of Congress, 1989[33], by 1980 only about 16 percent of the land was forested, and forests had all but disappeared from the densely populated and intensively cultivated deltaic plain. According to the website of Mongabay.com[34], between 1990 and 2010, Bangladesh lost an average of 2,600ha or 0.17% of forest cover per year. In total, between 1990 and 2010, Bangladesh lost 3.5% of its forest cover or around 52,000ha. From the above assessment, the indicator is confirmed to exist.

[32] http://www.irinnews.org/report/97067/BANGLADESH-Deforestation-threatens-food-security-in-southeast
[33] http://community.marines.mil/news/publications/Documents/Bangladesh%20Study_2.pdf
[34] http://rainforests.mongabay.com/deforestation/2000/Bangladesh.htm

Supporting indicators in AMS-I.E.	Summary of the description in the PoA-DD	Validation comments
Increasing trends in fuel wood prices indicating a scarcity of fuel-wood	The study (= Non Renewable Biomass (NRB) Assessment Report compiled by Jonathan Rouse) **(Ref.11)** also found that wood fuel prices have been rising sharply in recent years, and that the mixing in of secondary fuels (dung, leaves, and crop residue) is partly a result of difficulties in procuring wood.	JQA confirms that the statement in the PoA-DD is correctly quoted. The report also states the increase of fuelwood prices by eight fold in 10 years and doubled in the last two years. Furthermore, JQA confirms on-site through interview with a fuelwood shop owner that fuelwood price is increasing because of the decrease of forest resources. From the above assessment, the indicator is confirmed to exist.
Trends in the types of cooking fuel collected by users that indicate a scarcity of woody biomass	According to Non Renewable Biomass (NRB) Assessment Report compiled by Jonathan Rouse **(Ref.11)**, the mixing in of secondary fuels (dung, leaves, and crop residue) is a partly result of difficulties in procuring wood.	JQA confirms that the statement in the PoA-DD is correctly quoted. "Linking Biomass Fuel Consumption and Improve Cooking Stove: A Study from Bangladesh"[35], Md. Shawkat Islam Sohel, Md. Parvez Rana and Sayma Akhter,2010, also states that "Wealthier households were more likely to used firewood and consumed the highest proportion of it. Poorer households on the other hand, prefer mainly dried fallen leaves and dung cake/sticks as their domestic fuel because of their availability." From the above assessment, the indicator is confirmed to exist.

AMS-I.E. determines that the biomass is NRB as long as at least two of the above four supporting indicators are shown to exist. It is confirmed that all four indicators are shown to exist in biomass in Bangladesh. As noted from Table 5, the trends identified are not occurring due to the enforcement of local/national regulations. Therefore, all woody biomass or fuelwood used in households in Bangladesh can be seen as non-renewable biomass. Hence, f_{NRB} (= NRB / (NRB + DRB)) is calculated as 1.0. From the fact that a registered PoA 4791: Improved Cooking Stoves in Bangladesh[36] also applies 1.0 for f_{NRB}, applying 1.0 for f_{NRB} in Bangladesh is reasonable.

[35] http://www.worldenergy.org/documents/congresspapers/65.pdf
[36] http://cdm.unfccc.int/ProgrammeOfActivities/poa_db/SE7XIMKF8NYVOTL16BW3U45C9ZDGAP/view

Regarding $\eta_{biogas,i}$, JQA reviews the quoted document, "Popular Summary of the Test Reports on Biogas Stoves and Lamps prepared by testing institutes in China, India and the Netherlands"[37] and the selected value is the lowest efficiency among five cook stove test results (57%, 57%, 64.5%, 65.8% and 52.1%). Therefore, the selected value is considered to be conservative. Considering that other registered PoAs applying AMS-I.E. use higher biogas cookstove efficiency than the proposed PoA (e.g., 55% in PoA 9507: SKG Sangha Biodigester PoA (India)[38], 55-58% for PoA 8239: African Clean Energy Switch – Biogas (ACES-Biogas)[39]), the selected biogas cookstove efficiency, 52.1%, is considered to be appropriate and conservative.

JQA confirms that documentation used by CME/PPs are correctly quoted and interpreted in the calculation of emission reductions.

3) Appropriateness of Values Used in the PoA-DD

Values for "data and parameters to be monitored by each CPA" are neither reported in the PoA-DD nor the generic CPA-DD. Therefore, this assessment is not relevant to the PoA. When inclusion of CPA, it will be checked whether all the values of data and parameters to be reported in CPA-DD are reasonable in the context of each CPA.

4) Correct Application of Methodology / Tools

JQA reviews the PoA-DD whether the equations and parameters in the PoA-DD are in accordance with AMS-I.E. According to Part II, B.6.2 of the PoA-DD, emission reductions (ER_y) of generic CPA in the PoA are calculated by the following equation:

$$ER_y = B_y \times f_{NRB,y} \times NCV_{biomass} \times EF_{projected\_fosslfule} - LE_y \quad (1)$$

Where:

- B_y: Quantity of woody biomass that is substituted or displaced (ton)
- $f_{NRB,y}$: Fraction of woody biomass used in the absence of the project activity in year y (1)
- that can be established as non-renewable biomass using survey methods or government data or approved default country specific fraction of non-renewable woody biomass (f_{NRB}) values available on the CDM website
- $NCV_{biomass}$: Net calorific value of the non-renewable woody biomass that is substituted (0.015 TJ/ton)
- $EF_{projected\_fossilfuel}$: Emission factor for the substitution of non-renewable woody biomass by similar consumers (81.6 tCO_2/TJ)

B_y is calculated from the thermal energy generated in the project activity as per (b) of Para 6 of the methodology as follows:

[37] http://www.snvworld.org/sites/www.snvworld.org/files/publications/biogas_stoves_and_lamps_test_report_2009.pdf
[38] http://cdm.unfccc.int/ProgrammeOfActivities/poa_db/J9KD8PWLMZXABI6H3Y2U471F0NQ5ST/view
[39] http://cdm.unfccc.int/ProgrammeOfActivities/cpa_db/HZ10LN2KWAVR6USCJ97QMBP58IOGT4/view

$$B_y = HG_{P,y}/(NCV_{biomass} \times \eta_{old,i}) \quad (2)$$

$$= R_{O,y} \times \sum_{i}^{N} (D_{i,y} \times R \times V_i \times NCV_{biogas} \times \eta_{biogas,i}/1{,}000)/(NCV_{biomass} \times \eta_{old,i})$$

Where:

- $HG_{p,y}$: Quantity of thermal energy generated by the new renewable energy technology
- in the project in year y (TJ)
- $NCV_{biomass}$: Net calorific value of the non-renewable woody biomass that is substituted (0.015 TJ/ton)
- $\eta_{old,i}$: Efficiency of the biomass stoves being replaced in biogas digester system i (10% for or three stone fire, or a conventional systems with no improved combustion air supply or flue gas ventilation system, i.e. without a grate or a chimney; 20% for other types of systems)
- $R_{O,y}$: Ratio of biogas systems in normal operation in a year (%)
- $D_{i,y}$: Number of days from digester i started operating in year y (days)
- R: Biogas production of rate of a biogas digester system (0.13 $Nm^3.m^{-3}$/day)
- V_i: Installed capacity of biogas digester i (m^3)
- NCV_{biogas}: Net calorific value of the biogas (0.0215 GJ/m^3)
- $\eta_{biogas,i}$: Efficiency of the biogas stoves in biogas digester system i (52.1%)

$f_{NRB,y}$ is calculated based on the following equation as per Para 7 of AMS-I.E.:

$$f_{NRB,y} = \frac{NRB}{NRB+DRB} \quad (3)$$

Where:

- NRB: Quantity of non renewable woody biomass (ton)
- DRB: Quantity of demonstrably renewable woody biomass (ton)

As described in Part II, B.6.1. of the PoA-DD and also discussed in 3) in this section, $f_{NRB,y}$=1 since woody biomass used for domestic cooking use is considered as NRB.

Leakage (LE_y) is calculated as per Para 18 (c) of AMS-I.E. as follows:

$$LE_y = B_y \times (1 - Af) \times f_{NRB,y} \times NCV_{biomass} \times EF_{projected\_fossilfuel}$$

Where:

- B_y: Quantity of woody biomass that is substituted or displaced (ton)
- Af: Adjustment factor for leakages (0.95)
- $f_{NRB,y}$: Fraction of woody biomass used in the absence of the project activity in year y (1)
- $NCV_{biomass}$: Net calorific value of the non-renewable woody biomass that is substituted (0.015 TJ/ton)
- $EF_{projected\_fossilfuel}$: Emission factor for the substitution of non-renewable woody biomass

Regarding the calculation of B_y, JQA raised CL07 as follows:

> **CL07:** There is a registered PoA project, "Improved Cooking Stoves in Bangladesh (PoA 4791), which aims to disseminate the installation of Improved Cooking Stoves (ICS) for cooking purpose. The effect of the project PoA 4791, i.e., switching from ICS to biogas digester, is not taken into consideration for the equations to calculate emission reductions.
>
> **Resolution:** As a result of the revision of equation to calculate emission reductions to comply with the latest version of the methodology AMS-I.E. (Version 5.0), a parameter $\eta_{old,i}$ (efficiency of the biomass stoves being replaced in biogas digester system i) is introduced. As per AMS-I.E. (Version 5.0), 10% is applied for or three stone fire, or a conventional systems with no improved combustion air supply or flue gas ventilation system, i.e. without a grate or a chimney and 20% for other types of systems. 20% will be applied for switching from ICT to biogas digester and the emission reductions are conservatively estimated.

Through the resolution of CL07, JQA confirms that the equation provided in Part II, B.6.1 of the PoA-DD satisfies all relevant methodological requirements.

JQA confirms that the applied methodology is correctly applied.

5) Reproducibility of calculation

The PoA-DD provides equations and *ex-ante* determined values used for the calculation of emission reductions in Part II, B.6.1 and B.6.3 in a transparent manner. These equations and values are sufficiently clear to replicate the estimates of emission reductions.

As demonstrated in 1) – 5) above, the proposed PoA satisfies Section 7.12.7. of VVS.

3.7.5. Additionality of Project Activity

Para 7 and 8 of “Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities” (Version 03.0) requires that;

- Additionality shall be demonstrated by establishing that in the absence of CDM, none of the implemented CPAs would occur; and
- PoAs that consist of one or more microscale projects as CPAs shall include eligibility criteria derived from all the relevant requirements of the “Guidelines for demonstrating additionality of microscale project activities”.

According to Para 8 of “Guidelines for demonstrating additionality of microscale project activities” (Version 05.0), project activities up to 5MW that employ renewable energy technology are additional if any one of the conditions below is satisfied:

(a) The geographic location of the project activity is in one of the least developed countries or the small island developing States (LDCs/SIDS) or in a special underdeveloped zone

(SUZ) of the host country.

(b) The project activity is an off-grid activity supplying energy to households/communities (less than 12 hours grid availability per 24 hrs is also considered "off-grid" for this assessment);

(c) The project activity is designed for distributed energy generation (not connected to a national or regional grid) with both conditions (i) and (ii) satisfied;

(i) Each of the independent subsystems/measures in the project activity is smaller than or equal to 1500kW electrical installed capacity;

(ii) End users of the subsystems or measures are households/communities/small and medium enterprises (SMEs).

(d) The project activity employs specific renewable energy technologies/measures recommended by the host country designated national authority (DNA) and approved by the Board to be additional in the host country.

As shown in Table 6, the proposed PoA includes eligibility criteria derived from 8 (c) of "Guidelines for demonstrating additionality of microscale project activities", based on "Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities". Therefore, additionality of the proposed PoA is demonstrated.

Table 6 Eligibility criteria derived from microscale additionality requirements

Microscale additionality requirements	Derived eligibility criteria and validation comment
8. Project activities up to 5MW that employ renewable energy technology are additional if any one of the conditions below is satisfied:	Criterion (5). The aggregated capacity of biogas cookstoves under a CPA is less than 15 MW_{th}, i.e., the aggregated number of burners of cookstoves is less than 7,100. As described on footnote 10 and 12 of the PoA-DD, the capacity of biogas cookstove under the program is calculated as 1.79-2.09 kW_{th} with the condition that single burner biogas stove consumes 300 to 350 litter biogas per hour while using for household purposes based on Model Biogas Plant Construction Manual, IDCOL/SNV/KFW/IDCOL, January 2011 **(Ref. 12)**. $5MW_e$ is equivalent to 7,177 units of cookstoves. ($5MW_e$ * $3MW_{th}/MW_e$ / $2.09kW_{th}$/cookstove = 7,177 cookstoves) Hence, this condition for microscale additionality is addressed by Criterion (5).
8 (c) (i) Each of the independent subsystems/ measures in the project activity is smaller than or	Criterion (4). Installations/operations of biogas digesters shall be in compliance with related national and sectoral standards and regulations, if any.

Microscale additionality requirements	Derived eligibility criteria and validation comment
equal to 1500 kW electrical installed capacity;	As described above, the capacity of biogas cookstove under the program is calculated as 1.79-2.09 kW_{th} according to Model Biogas Plant Construction Manual, IDCOL/SNV/KFWIDCOL, January 2011 **(Ref. 12)**. The capacity of cookstove which complies with technical requirements of Model Biogas Plant Construction Manual, 1.79-2.09 kWth, is by far smaller than the threshold of 1,500kWe (= 4,500kWth). Hence, this requirement is addressed by meeting Criterion (4).
8 (c) (ii) End users of the subsystems or measures are households/ communities/ SMEs.	Criterion (2). The CPA includes installation/construction of biogas digester systems, biogas delivery lines and biogas cookstoves at rural households or small and medium farms in Bangladesh. IDCOL has records and documentation control processes for each CPA as a part of its management system. This requirement is addressed by Criterion (2).

Regarding the capacity of biogas cookstove, JQA has raised CL08 as follows:

CL08: The capacity of biogas cookstove (independent sub-system), around 1.65 kW_{th}, is calculated based on the biogas flow rate of 0.3m^3/hr for a cookstove. However, according to the source of this biogas flow rate, Model Biogas Plant Construction Manual, IDCOL/SNV/KFWIDCOL, January 2011, provided from GS **(Ref. 12)**, single burner biogas stove consumes 300 to 350 liter biogas per hour while using for household purposes. If higher value, 0.35 m3/hr and default net calorific value of biogas provided in AMS-I.I. (Version 4.0; 0.0215 GJ/m^3) is applied, the capacity of each household cookstove (independent sub-system) is estimated as 2.09kW_{th} and, if microscale threshold is applied, the number of biogas shall be capped by 7,177, which is smaller than 8,000 currently applied. CME/PPs are requested to review the description of relevant parts in the PoA-DD for conservativeness.

Resolution: The relevant descriptions in the PoA-DD are revised in line with Model Biogas Plant Construction Manual, namely, from 1.65 kW_{th} to 1.79 - 2.09kW_{th}. The upper limit of the number of biogas cookstove included in a CPA is also revised from 8,000 to 7,100.

From the assessment above, JQA confirms that the additionality of the proposed PoA is demonstrated satisfactory based on “Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities” (Version 03.0) and “Guidelines for demonstrating additionality of microscale project activities” (Version 05.0).

In conclusion, the proposed PoA satisfies Section 7.12.8. of VVS.

3.7.6. Assessment of prior consideration of the CDM

Regarding the start date of the PoA, JQA has raised CL09 as follows:

> **CL09:** The evidence of the starting date of the PoA (the date on which contracts have been signed for equipment or construction/ operation services required for the first CPA; 13/12/2011) is to be provided.
>
> **Resolution:** As a result of update of PoA related rules, the definition of the start date of the PoA has been changed to either (a) The date of notification of the intention to seek the CDM status by the coordinating/managing entity to the secretariat and the DNA; or (b) The date of publication of the PoA-DD for global stakeholder consultation (Para 159 of PS). JQA confirms that the selected start date of the proposed PoA, 13/12/2011, complies with Para 159 (b) of PS.

Since the start date of the PoA is defined as the date of publication of the PoA-DD for global stakeholder consultation as per Para 159 (b) of PS, demonstration of prior consideration of the CDM is not relevant to the PoA. Therefore, Section 7.12.9. of VVS is not applicable to the PoA.

3.7.7. Identification of alternatives

As already described in Section 3.7.5. of this report, additionality of the PoA is demonstrated based on “Guidelines for demonstrating additionality of microscale project activities” (Version 05.0) referred to in “Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities” (Version 03.0). Therefore, identification of alternatives is not relevant. Therefore, Section 7.12.10. of VVS is not applicable to the PoA.

3.7.8. Investment analysis

As already described in Section 3.7.5. of this report, additionality of the PoA is demonstrated based on “Guidelines for demonstrating additionality of microscale project activities” (Version 04.0) referred to in “Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities” (Version 02.0). Therefore, investment analysis is not relevant. Therefore, Section 7.12.11. of VVS is not applicable to the PoA.

3.7.9. Barrier analysis

As already described in Section 3.7.5. of this report, additionality of the PoA is demonstrated based on “Guidelines for demonstrating additionality of microscale project activities” (Version 04.0) referred to in “Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities” (Version 02.0). Therefore, barrier analysis is not relevant. Therefore, Section 7.12.12. of VVS is not applicable to the PoA.

3.7.10. Common practice analysis

As already described in Section 3.7.5. of this report, additionality of the PoA is demonstrated based on “Guidelines for demonstrating additionality of microscale project activities” (Version 04.0) referred to in “Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities” (Version 02.0). Therefore, common practice analysis is not relevant. Therefore, Section 7.12.13. of VVS is not applicable to the PoA.

3.7.11. Monitoring plan

1) Monitoring parameters

The following monitoring parameters are listed in Part I, B.7.1 of the PoA-DD:

- N (Number of biogas digesters): Number of biogas digesters covered by the CPA
- V_i (m^3): Installed capacity of biogas digester i
- $R_{O,y}$ (%):Ratio of biogas systems in normal operation in a year
- $D_{i,y}$ (days): Number of days from digester i started operating in year y

Table 7 summarizes how these four monitoring parameters provided in the PoA-DD satisfy the monitoring requirements provided in AMS-I.E.

Table 7 Methodological requirements and monitoring plan for a CPA

Methodological requirement	Description in E.7.1 of the PoA-DD	
Para 12: Monitoring shall consist of checking of all appliances or a representative sample thereof, at least once every two years (biennial) to ensure that they are still operating or are replaced by an equivalent in service appliance.	N $R_{O,y}$	IDCOL undertakes a sample survey of $R_{O,y}$ annually as a component of IDCOL’s Annual Biogas Users Survey. The sample size is calculated based on monitoring data of N as population.
Para 13: In order to assess the leakages specified under paragraph 10, monitoring shall include data on the amount of woody biomass saved under the project activity that is used by non-project households/users (who previously used renewable energy sources). Other data on non-renewable woody biomass use required for leakage assessment shall also be collected.	-	Not applicable since a net to gross adjustment factor of 0.95 is applied as leakage.

Methodological requirement	Description in E.7.1 of the PoA-DD	
Para 14: Monitoring should confirm the displacement or substitution of the non-renewable woody biomass at each location. In the case of appliances switching to renewable biomass the quantity of renewable biomass used shall be monitored.	N $D_{i,y}$	The displacement of non-renewable fired cook stove with biogas digester and cookstove is confirmed through the check of the number and the data of installation of biogas digesters. The biogas cookstove introduced by the PoA is not an appliance switching to renewable biomass.
Para 15: In case Option (b) in paragraph 6 is chosen for baseline calculations, monitoring shall include the amount of thermal energy generated by the new renewable energy technology in the project in year y, where applicable.	N V_i $D_{i,y}$	Amount of thermal energy generated by the biogas digester is calculated using the default biogas generation value of 0.13 $Nm^3.m^{-3}$/day (i.e. volume of biogas generated in normal conditions of temperature and pressure per unit useful volume of the digester per day), N, V_i and $D_{i,y}$ as per Para 6 (b) of AMS-I.E.
Para 16: In the case of renewable energy based water treatment technologies, water quality shall be monitored to ensure that it conforms to drinking water quality specified in relevant national microbiological water quality guidelines/standards of the host country. In case a national standard/guideline is not available, the standards/guidelines by the WHO or United States Environmental Protection Agency (US-EPA) shall be applied.	-	Not applicable since the project does not introduce any renewable energy based water treatment technologies.

Regarding the monitoring parameters, JQA raised CL10-11 and CL23 as follows:

CL10: The number of eligibility criterion quoted in the data compilation table for n_i^{burner} in E.7.1 (Part II, B.7.1) of the PoA-DD is not correct.

Resolution: As a result of the revision of equation to calculate emission reductions to comply with the latest version of the methodology AMS-I.E. (Version 5.0), this parameter is deleted.

CL11: According to E.7.1 (Part II, B.7.1) of the PoA-DD, B_{HH}^{PJ} and n_{CCS} are monitored once by GS by undertaking a sample survey. It is requested to be demonstrated how it satisfies the monitoring requirement specified in Para 14 of AMS-I.E.

Resolution: As a result of the revision of equation to calculate emission reductions to comply with the latest version of the methodology AMS-I.E. (Version 5.0), these parameters are deleted. monitoring requirement specified in Para 14 of AMS-I.E. is correctly applied to monitoring of $R_{O,y}$ (Ratio of biogas systems in normal operation in

year y).

CL23: “Value(s) applied” are not completed in the data compilation tables in E.7.1 (Part II, B.7.1) of the PoA-DD.

Resolution: “Value(s) applied” are filled in all data compilation tables in Part II, B.7.1 of the PoA-DD.

In the PoA-DD initially published, sampling would be applied to determine B_{HH}^{PJ} (households using biogas already) and n_{CCS} (households using conventional biomass cookstoves, excluding the household with (a) improved cookstove(s)). However, as a result of the revision of equations to calculate emission reductions to comply with the latest version of the methodology AMS-I.E. (Version 5.0), B_{HH}^{PJ} and n_{CCS} are deleted and sampling come to be applied to $R_{O,y}$ (Ratio of biogas systems in normal operation in year y).

JQA raised CL15-22 and CL24 regarding the sampling plan for B_{HH}^{PJ} and n_{CCS} based on “Standard for sampling and surveys for CDM project activities and programme of activities” and “Guidelines for sampling and surveys for CDM project activities and programme of activities”. These CLs are taken over by the sampling plan for $R_{O,y}$.

CL15: Since sampling is applied to B_{HH}^{PJ} and n_{CCS}, sampling plan is to be provided in the PoA-DD with reference to "Standard for sampling and surveys for CDM project activities and programme of activities" so as to present a reasonable approach for obtaining unbiased, reliable estimates of the variables.

Resolution: As a result of the revision of equations to calculate emission reductions to comply with the latest version of the methodology AMS-I.E. (Version 5.0), B_{HH}^{PJ} and n_{CCS} are deleted and $R_{O,y}$ become the parameter to be determined by sampling. Sampling plan for $R_{O,y}$ is provided in Appendix 5 of the PoA-DD. Objective of the sampling is to determine $R_{O,y}$ (Ratio of biogas systems in normal operation in year y) annually with a 90/10 confidence/precision. Since it complies with Para 17 of AMS-I.E., the approach is considered to be reasonable for obtaining unbiased, reliable estimates of the variables.

CL16: The following target population does not clearly describe whether households other than those included in CPAs under the PoA are included or not and how sampling flame will be developed:

- B_{HH}^{PJ}: households using biogas already.
- n_{CCS}: households using conventional biomass cookstoves, excluding the household with (a) improved cookstove(s).

Resolution: As a result of the revision of equations to calculate emission reductions to comply with the latest version of the methodology AMS-I.E. (Version 5.0), B_{HH}^{PJ} and n_{CCS} are deleted and $R_{O,y}$ become the parameter to be determined by sampling. Sampling plan for $R_{O,y}$ is provided in Appendix 5 of the PoA-DD. The target population for $R_{O,y}$ is defined as all biogas digester systems installed by a CPA under this PoA. The IDCOL’s

database format of CPA is used as the sampling frame. JQA confirms that the population is clearly defined and the sampling frame appropriately represents the population.

CL17: The proposed sampling approach is not clearly defined.

Resolution: As a result of the revision of equations to calculate emission reductions to comply with the latest version of the methodology AMS-I.E. (Version 5.0), B_{HH}^{PJ} and n_{CCS} are deleted and $R_{O,y}$ become the parameter to be determined by sampling. Sampling plan for $R_{O,y}$ is provided in Appendix 5 of the PoA-DD. The proposed sampling approach is simple random sampling. JQA considers the approach is appropriate since the population is homogeneous (rural households) and dispersed across Bangladesh.

CL18: The CME/PPs are requested to justify the rationale of sampling size of 100 households for B_{HH}^{PJ} and n_{CCS}.

Resolution: As a result of the revision of equations to calculate emission reductions to comply with the latest version of the methodology AMS-I.E. (Version 5.0), B_{HH}^{PJ} and n_{CCS} are deleted and $R_{O,y}$ become the parameter to be determined by sampling. Sampling plan for $R_{O,y}$ is provided in Appendix 5 of the PoA-DD. The sample size for $R_{O,y}$ is correctly calculated according to Equation (1) in Appendix 1 of "Guidelines for sampling and surveys for CDM project activities and programme of activities" for simple random sampling for proportional parameter of interest. The expected proportion of $R_{O,y}$ (Number of biogas systems in normal operation in year y), 70%, is considered to be conservative considering that the biogas plant operational rates were 73.9% in 2010 Annual Biogas Users Survey 2010[40] and 74.8% in 2009 Annual Biogas Users Survey 2009[41].

CL19: It is not clear how the sample is to be selected.

Resolution: As a result of the revision of equations to calculate emission reductions to comply with the latest version of the methodology AMS-I.E. (Version 5.0), B_{HH}^{PJ} and n_{CCS} are deleted and $R_{O,y}$ become the parameter to be determined by sampling. Sampling plan for $R_{O,y}$ is provided in Appendix 5 of the PoA-DD. As described in Appendix 5 of the PoA-DD, simple random sampling is applied with the aid of a computerized randomizer. The sampling list is the whole available listing of all biogas digester systems (including digester user households and owner households) covered by a CPA of the PoA until the designing date of the Annual Biogas Users Survey in the year. The associated file is kept in the management system.

CL20: It is not clear how the CME/PPs confirm the followings by what questions:

1) Project woody biomass consumption per household in a year (B_{HH}^{PJ}) and;
2) Number of conventional cookstoves per household (n_{CCS})

[40] http://www.snvworld.org/sites/www.snvworld.org/files/publications/biogas_user_survey_2010_bangladesh_2011.pdf
[41] http://www.snvworld.org/sites/www.snvworld.org/files/publications/biogas_user_survey_in_2009_bangladesh_2010.pdf

Resolution: As a result of the revision of equations to calculate emission reductions to comply with the latest version of the methodology AMS-I.E. (Version 5.0), B_{HH}^{PJ} and n_{CCS} are deleted and $R_{O,y}$ become the parameter to be determined by sampling. Sampling plan for $R_{O,y}$ is provided in Appendix 5 of the PoA-DD. As describe Appendix 5 of the PoA-DD, the parameter $R_{O,y}$ will be corrected by questionnaire and interview by Annual Biogas Users Survey. The questionnaire used by Annual Biogas Users Survey to confirm $R_{O,y}$ is composed of a simple question ("Is the biogas plant functioning?") with three choice of answers ("Yes", "Yes, partly" or "No")[42] and would not subject to respondent error due to sensitivity or measurement error.

CL21: The procedure for the data measurement and QA/QC strategy for sampling are not clear.

Resolution: As a result of the revision of equations to calculate emission reductions to comply with the latest version of the methodology AMS-I.E. (Version 5.0), B_{HH}^{PJ} and n_{CCS} are deleted and $R_{O,y}$ become the parameter to be determined by sampling. Sampling plan for $R_{O,y}$ is provided in Appendix 5 of the PoA-DD. As a QA/QC measure, the interviewer is to check the obtained information from various aspects. If some inconsistencies are found in the interview, the interviewer is trying to clarify such inconsistencies. If the interviewer concluded that the obtained data is not reliable, the household should be outside of the sample group. JQA considers that the proposed QA/QC measures are appropriate.

CL22: The proposed skill sets, qualifications and experience of the personnel to be engaged to conduct sampling are not described.

Resolution: As a result of the revision of equations to calculate emission reductions to comply with the latest version of the methodology AMS-I.E. (Version 5.0), B_{HH}^{PJ} and n_{CCS} are deleted and $R_{O,y}$ become the parameter to be determined by sampling. Sampling plan for $R_{O,y}$ is provided in Appendix 5 of the PoA-DD. As described in the Appendix 5 of the PoA-DD, IDCOL will choose a consultant firm with the expertise every year and ask it with the requirements for CDM and other routine elements to be surveyed. According to Annual Biogas Users Survey 2009, the following intensive training was given to the personnel to engage to conduct field survey: "Field Supervisors (5) and Field Investigators (15) having master's degree in social sciences, life sciences, agriculture, marketing, etc. were employed for the purpose of data collection from the field. The selected field supervisors and field investigators had previous experience in field research and data collection. One week long intensive classroom training and field testing were given to the recruited field staffs for basic ideas about the project, its objectives and purpose, design of the survey, basis of different questions set in the

[42] Annual Biogas Users Survey 2010:
http://www.snvworld.org/sites/www.snvworld.org/files/publications/biogas_user_survey_2010_bangladesh_2011.pdf
Annual Biogas Users Survey 2009:
http://www.snvworld.org/sites/www.snvworld.org/files/publications/biogas_user_survey_in_2009_bangladesh_2010.pdf

questionnaires and their probable answers, guidelines for administration of the survey, and procedures for administration of the questionnaires and data management procedures in the field. The weeklong training was arranged by the study team for preparing the supervisors and field interviewers suitable for collection of high quality survey data and feedback. During the training period a pre-test was organized in consultation with the NDBMP officials at Savar thana of Dhaka district to make the training more effective."

CL24: Information about the sampling plan is to be provided in Appendix 5. .

Resolution: The sampling plan for $R_{O,y}$ is described in Appendix 5 in detail.

Through the resolution of these CLs, an unbiased and reliable sampling plan ensuring that the sample for monitoring of $R_{O,y}$ is randomly selected and representative of populations to achieve the 90/10 confidence/precision required by AMS-I.E. for annual sampling. The sample size for the $R_{O,y}$ is correctly calculate based on Equation (1) (proportion parameter of interest; simple random sampling) in Appendix 1 of "Guidelines for sampling and surveys for CDM project activities and programme of activities" (Version 04.1) as described in Appendix 5 in the PoA-DD. The equation applied to calculate sample size for $R_{O,y}$ is shown below:

$$n \geq \frac{1.645^2 \times N \times p \times (1-p)}{(N-1) \times 0.1^2 \times p^2 + 1.645^2 \times p \times (1-p)}$$

Where

- n: Sample size
- N: Total number of biogas digesters installed by a CPA
- p: Expected proportion of biogas systems in normal operation in year y (70% is applied based on Annual Biogas Users Survey; refer to CL22 for details)
- 1.645: Represents the 90% confidence required
- 0.1: Represents the 10% relative precision.

By applying the above equitation, the estimated sample sizes per population size are calculated correctly as shown in Table 8 (quoted from Annex 5 of the PoA-DD).

Table 8 Estimated sample size for $R_{O,y}$

Population	Calculated sample size	Adjusted sample size with response rate of 80%
600	98	123
1,500	108	135
3,000	112	140
5,000	114	143
6,000	114	143
7,100	115	144

In conclusion, JQA confirms that the monitoring and sampling plan for a CPA in the poA complies with AMS-I.E. as well as "Standard for sampling and surveys for CDM project activities and programme of activities".

2) Implementation of the monitoring and sampling

As described in Part II, B.7.2 of the PoA-DD, the monitoring will be implemented under the close collaboration between IDCOL (CME and a sole CPA implementer for CPAs under the PoA) and CPA operators (partner organizations for NDBMP). As described in Table 10 (Data collection) in Part II, B.7.2 of the PoA-DD, CPA operators implement data collection for N, V_i and $D_{i,y}$ and IDCOL implement data collection of $R_{O,y}$ through Annual Biogas Users Survey.

According to Part II, B.7.2 of the PoA-DD, the data management of a CPA under the PoA is described as follows:

1) Each CPA operators (GS or other organization) shall collect data described in Part II, B.7.1 and archive these electronically using the common template developed by the program coordinator (IDCOL). The electronic files and the hard copy shall be sent to IDCOL.
2) IDCOL will develop an appropriate electronic template for archiving all data of every activity. After reporting data from implementers, IDCOL shall check the data. If there are any errors found, they will be checked against original data and carry out interview with farmers if necessary.
3) IDCOL will calculate emission reductions for each CPA supported by PEAR, and store the outputs in hard disks as well as hard copy printouts.

Regarding 1), JQA reviews that the common template used for NDBMP **(Ref. 15)** and confirms that the information listed in Part I, Section C of the PoA-DD are included (Refer to Section 3.11.1. of this report for details):

<u>For biogas digester:</u>

- Name of implementer installing the digester
- ID number of the biogas digester,
- Name of the digester owner and address,
- ID number of the CPA,
- Biogas generation capacity of the biogas digester,
- Installation date defined as the completion date of the biogas digester construction,
- Start date of operation, defined as the 30 days after the completion date of the biogas digester construction (for conservativeness),
- Status of operation (incl. maintenance record),
- Status of sludge and slurry treatment, and
- User households ID number of the biogas (including owner's household).
- .

<u>For user household:</u>

- ID number of the household,

- Name of targeted household representative, address and other household-related information,
- Digester ID from which biogas is delivered,
- Whether the household used ICS, and
- Number of biogas cookstove burners.

Regarding 2), JQA reviews that the electronic database (for CPA-1) **(Ref. 9)** and confirms that the following information is included in the template:

- ID number of the biogas digester
- ID number of the user
- Feedstock type (cattle / poultry)
- Name of the digester owner
- Address of the digester owner
- Name of biogas user
- Phone number of digester owner and biogas user
- Number of biogas cookstove burners
- Whether the household used ICS
- Start date of operation (30 days after the completion date of the biogas digester construction)
- Completion date of the biogas digester construction
- Check of completion date is within the period of a specific CPA

Regarding 3), JQA reviews that the emission reduction calculation spreadsheet (for CPA-1) **(Ref. 8)** and confirms that the emission reductions are calculated based on the data electronic template (for CPA-1) **(Ref. 9)**.

JQA confirms that the monitoring plan includes all parameters required by AMS-I.E. and IDCOL is able to implement the monitoring plan for a CPA and the means of implementation including data management and QA/QC are satisfactory.

Therefore, the monitoring plan for a generic CPA under the PoA satisfies Section 7.12.14. of VVS.

3.8. Environmental impacts

As described in Part I, A.2 of the PoA-DD, the PoA will contribute to sustainable development of the host country in following aspects:

- The PoA will contribute to reduce deforestation as the biogas generated will be used to replace mostly non-renewable biomass consumed by households.
- It also set the trajectory of no carbon development pathway by utilizing indigenous renewable energy source in rural Bangladesh.

As described in Part I, E.1 of the PoA-DD, the environmental analysis is conducted at the PoA level. Through desk review and on-site assessment, JQA confirms that CPAs to be included

in the proposed PoA had common features with regard to technology, target household/area, implementation structure, etc. In addition, generally, CPAs have less negative environmental impacts that are identical regardless of location. Therefore, JQA considers that the environmental analysis at the PoA level is appropriate.

As described in Part I, E.2 of the PoA-DD, no negative environmental impacts are expected through the implementation of the proposed PoA. Through the review of Implementation Plan of NDBMP in Bangladesh[43] and Final Report on Technical Study of Biogas Plants Installed in Bangladesh[44], JQA confirmed that the following benefits described in Part I, E.2 of the PoA-DD are correctly quoted and interpreted.

- Gender benefits (especially to rural women):
  - Reduction of the workload,
  - Saving time for cooking.
- Environmental benefits:
  - Improvement of indoor air quality,
  - Improvement of living condition because of proper treatment of solid waste,
  - Reduction of GHG.
- Health benefits:
  - Improvement of health condition by reducing the incidences of eye infection, respiratory diseases, coughing, dizziness and headache.

According to Part I, E.1 of the PoA-DD, environmental clearance is not required. Through the review of publicly available information such as "The Environmental Conservation Rule of Bangladesh", 1997[45] and "A review of environmental policy and legislation in Bangladesh", Alexandra Clemett, 2006[46], JQA confirms that domestic biogas plant is not listed as activities which requires environmental clearance. JQA interviewed an officer in Department of Environment (DoE) during the on-site assessment and confirmed that only large scale biogas digester such as MSW based bio town gas plant might be subject to the environmental clearance. Therefore, the information in the PoA-DD is correct. Regarding the quantitative benefits from the biogas plant, JQA raised CL12 as follows:

CL12: The CME/PPs has provided the analysis of the environmental impact assessment of the PoA in the PoA-DD, with reference to "Implementation Plan National Domestic Biogas and Manure Programme in Bangladesh", by IDCOL and SNV[47]. The data for "Better sanitation (toilet)", 10-15%, in Table 3 in Part I, E.2 of the PoA-DD is not correctly quoted.

Response: The CME/PPs deleted the table because it included irrelevant information such

[43] NDBMP Implementation Plan 2010-12, prepared by IDCOL, 10 December 2009
http://www.idcol.org/Download/20100105%20Implementation%20Plan%202010_12%20NDBMP%20IDCOL1.pdf
Implementation plan of NDBMP in Bangladesh, January 2006, IDCOL/SNV
http://www.snvworld.org/sites/www.snvworld.org/files/publications/ndbmp_implementation_plan_bangladesh_2006.pdf
[44] http://www.idcol.org/Download/Final_Survey_Report_Bangladesh.pdf
[45] http://www.moef.gov.bd/html/laws/env_law/178-189.pdf
[46] http://www.dfid.gov.uk/r4d/PDF/Outputs/Water/R8161-Section2.pdf
[47] http://www.snvworld.org/sites/www.snvworld.org/files/publications/ndbmp_implementation_plan_bangladesh_2006.pdf

as non-environmental benefits. The following sentence is added instead: "IDCOL expected that better sanitation (toilets) is for around 20% of the total households, while reduction of indoor air pollution is for all households." JQA confirms that the description is correctly quoted from the Implementation Plan of NDBMP.

JQA confirms that the environmental analysis provided in the PoA-DD is appropriate and EIA is not required by the host Party legislation. Therefore, the PoA satisfies Section 7.13. of VVS.

3.9. Local stakeholder consultation

As described in Part I, F.1 of the PoA-DD, the local stakeholder consultation is conducted at the PoA level. Through the desk review and on-site assessment, JQA confirms that CPAs to be included in the proposed PoA have common features with regard to project design, technology, target number of cookstoves, implementation structure, etc. In addition, the proposed PoA has basically less negative social impacts. Therefore, JQA considers that the LSC at the PoA level is appropriate.

As described in Part I, F.2 of the PoA-DD, local stakeholders including local NGOs, biogas digester experts, households and poultry farm owner were invited on 03/10/2011 in order to collect comments on the project activity. The stakeholders were invited by invitation letters, e-mails and posters. 39 participants attended the LSC meeting. After the brief introduction of the PoA by PPs, several questions were made from the stakeholders. PPs answered to questions properly as described in Part I, F.3 of the PoA-DD. Note that the process of the local stakeholder consultation is basically in accordance with the requirements of the Gold Standard[48] as the PPs planned to get the PoA certified under the Gold Standard as well.

According to the PoA-DD, only clarifications about the proposed PoA were raised and no negative comments were received on the proposed PoA in the stakeholder consultation. JQA interviewed two persons from two POs of NDBMP and a poultry farm owner who participated in the LSC meeting during the on-site assessment and confirmed that they had no negative opinion toward the proposed PoA and welcomed the PoA. Therefore, no change of the PoA design in response to the local stakeholder consultation is deemed necessary.

JQA confirms that the stakeholder consultation was held in transparent manner. Therefore, the proposed PoA satisfies Section 7.14. of VVS.

3.10. Specific validation requirements for small-scale project activities

3.10.1. Project activity eligibility

As described in Section 3.7.5. of this report, the proposed PoA consist of microscale CPAs up

[48] http://www.cdmgoldstandard.org/

to 5MW_e or 15MW_{th} that employ renewable energy technology. Therefore, CPAs to be included in the proposed PoA are naturally within the small-scale activity thresholds of 15 MW_e or 45 MW_{th} for Type I small-scale project activity. The CPAs in the PoA include only one component and applies a small-scale approved methodology, AMS-I.E. Therefore, a CPA in the proposed PoA satisfies Section 8.1.1 of VVS.

3.10.2. Debundling

For assessing debundling, JQA has taken into account "Guidelines on assessment of de-bundling for SSC project activities" (Version 03.0) as per Para 154 of VVS. The "Section II. GUIDANCE FOR DETERMINING THE OCCURRENCE OF DEBUNDLING UNDER A PROGRAMME OF ACTIVITIES (PoA)" of the guideline defines that:

"10. If each of the independent subsystems/measures (e.g., biogas digester, solar home system) included in the CPA of a PoA is no larger than 1% of the small-scale thresholds defined by the methodology applied, then that CPA of PoA is exempted from performing de-bundling check i.e., considering as not being a de-bundled component of a large scale activity."

The independent subsystem for the proposed PoA is a biogas cookstove that will replace a conventional cookstove burning non-renewable woody biomass. As described in Part I, A.6. of the PoA-DD, the biogas flow rate of the biogas cookstove is set as 0.3 – 0.35 m^3/h as those approved by IDCOL, which is equivalent to just 1.79 – 2.09 kW_{th} (=0.3-0.35 m^3-biogas/h x 0.0215 GJ/m^3-biogas /1,000 x 0.278 kW/MJ/h) based on Para 82 (a) and (b) of PS. Since the independent subsystem for the proposed PoA is far less than 450kW_{th} (= 45,000kW_{th} * 0.01), CPAs under the proposed PoA are exempted from the debundling check. Therefore, the proposed PoA satisfies Section 8.1.2 of VVS.

3.10.3. Additionality

As described in Section 3.7.5. of this report, the proposed PoA consists of one or more microscale projects as CPAs and its additionality is demonstrated based on "Guidelines for demonstrating additionality of microscale project activities" (Version 04.0). Therefore, the proposed PoA satisfies Section 8.1.3 of VVS.

3.11. Specific validation requirements for PoA/CPA

3.11.1. Coordinating/managing entity and participants in a PoA

According to Pare 186 of VVS, the DOE shall assess the management system described in the PoA-DD in accordance with the "Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities" (Version 03.0). According to Para 19 of the standard, the CME shall develop and implement a management system that includes the following made available to the DOE at the time of

validation of the PoA:

(a) A clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies;
(b) Records of arrangements for training and capacity development for personnel;
(c) A procedure for technical review of inclusion of CPAs;
(d) A procedure to avoid double counting (e.g. to avoid the case of including a new CPA that has already been registered either as a CDM project activity or as a CPA of another PoA);
(e) Records and documentation control process for each CPA under the PoA;
(f) Measures for continuous improvements of the PoA management system;
(g) Any other relevant elements.

JQA confirms that the CME has developed a management system that includes (a)-(g) as summarized below.

(a) A clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies

As described in Part I, Section C of the PoA-DD, IDCOL (the director who leads NDBMP) is responsible for definition and inclusion of each CPA supported by PEAR.

The proposed PoA includes both NDBMP covered digesters (1.2m^3/day, 1.6m^3/day, 2.0m^3/day, 2.4m^3/day, 3.2m^3/day or 4.8m^3/day; constructed in accordance with the IDCOL's design requirements) and non-NDBMP covered digesters (mainly larger than 4.8m^3/day; construction in accordance with GS and other PO's design requirements). For NDBMP covered digesters, IDCOL has already established and operated sophisticated management system. The management system for NDBMP will be extended so as to include the requirements of CDM/PoA and to cover non-NDBMP digesters.

Interrelations among different partners under NDBMP are shown in Figure 1 in Section 3.6.3 of this report. The organizational structure of NDBMP (within IDCOL)[49] is shown in Figure 2.

[49] http://www.snvworld.org/sites/www.snvworld.org/files/publications/ndbmp_implementation_plan_bangladesh_2006.pdf

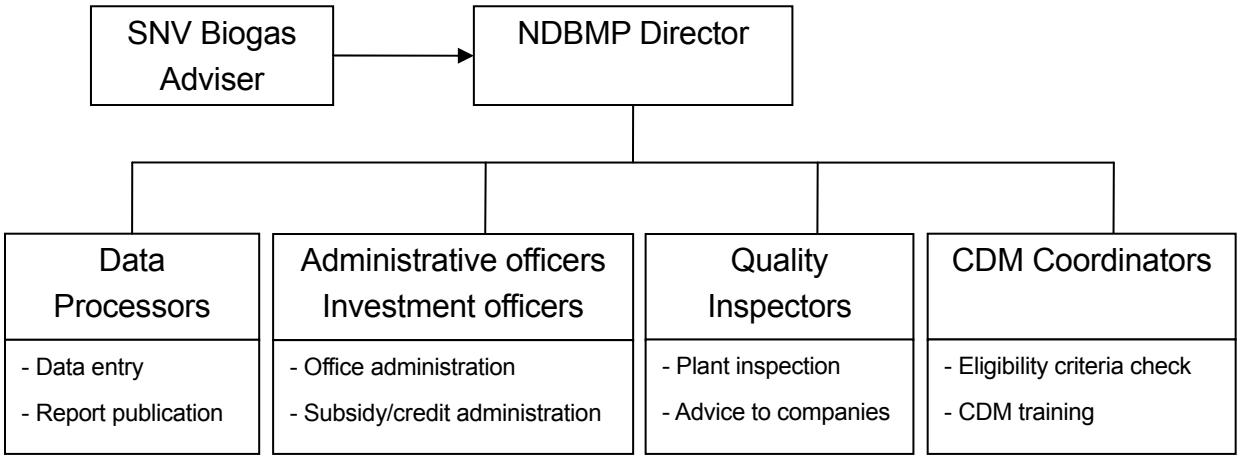

Figure 2 The organizational structure of NDBMP in IDCOL

As described in (c) below, the process of inclusion, namely, the check of eligibility criteria, has already been included in the existing management system of NDBMP to some extent The eligibility criteria basically covered by NDBMP management system, i.e., criteria (2) (Any CPA includes installation/construction of biogas digester systems, biogas delivery lines and biogas cookstoves at rural households or small and medium farms in Bangladesh. IDCOL shall maintain records and documentation control processes for each CPA as a part of its management system.) and (4) (Installations/operations of biogas digesters shall be in compliance with related national and sectorial standards and regulations, if any.), will firstly checked/ensured by POs and then finally checked/approved by the NDBMP director in IDCOL. The administrative officers, investment officers and quality inspectors of NDBMP are responsible for the process. On the other hand, eligibility criteria not covered by the existing NDBMP management system and especially relevant to the CDM, i.e., criteria (1) (The CME (IDCOL) defines the expected period during which the biogas digester systems covered by the CPA are installed (e.g., 1/4/2012–31/9/2012). If the covered digesters have been already installed, the CME provides a provisional list of all user information with the date of installation and the start date of operation as well as the associated biogas digester and cookstoves for use, and the summary list is attached to the CPA-DD and the electronic file is provided also to the DOE with full relevant information as a provisional data. If the digesters have not yet installed fully, the expected calculation table is shown in the main text of the CPA-DD.), (3) (Any CPA under the PoA shall not be a part of a registered CDM project or not a CPA under another PoA.) and (5) (The aggregated capacity of biogas cookstoves under a CPA is less than 15 MW_{th}, i.e., the aggregated number of burners of cookstoves is less than 7,100.), will be firstly checked by CDM coordinators in IDCOL with the support from PEAR and then finally checked/approved by the NDBMP director in IDCOL.

NDBMP has been operated since 2006 successfully and the programme staffs have sufficient knowledge and experience. As described in (b) below, well-considered and comprehensive

training program has been developed and provided to not only program staffs, but also outside partners such as POs and households. NDBMP is well-established and well-sourced and thus competences of personnel involved in the process of inclusion of CPAs are considered to be ensured.

(b) Records of arrangements for training and capacity development for personnel

With respect to the CDM training and capacity building, Table 2 in Part I, Section C. of the PoA-DD describes that:

- IDCOL develops and establishes training program for the CPA operators and households;
- IDCOL implement seminars for CPA operators and provide guides to households to meet the needs of the monitoring plan; and
- These are integrated to existing training system under NDBMP.

In addition to the above, the following extensive training and capacity development are arranged for outside partners of NDBMP according to "National Domestic Biogas and Manure Programme Implementation Plan 2010-12 (NDBMP IP 2010-12)", IDCOL, 10 December 2009[50].

(1) Mason Training

New masons will be given training on construction, maintenance, promotion and slurry utilization. Local person who has at least reading and writing ability and has some experience on masonry works and recommended by POs will be provided the mason training. The training course will be of total 8 weeks including 4 days for theoretical training and seven weeks for on-the-job training under the supervision of a certified master mason. Masons already trained before by some other organizations on masonry works will be given high priority.

(2) Supervisors Training

Since POs are fully responsible for biogas plant construction and maintenance, the activities of masons will have to be regularly supervised and advised. In this context, well trained and sincere supervisors will be required and the gap will be filled with a well designed supervisor training. This training will focus on supervision skills with sufficient knowledge on biogas construction, quality control and reporting procedures. The course will be of 3 days' duration.

(3) Refresher Training to the Existing Masons

A one day refresher training to the existing masons will be organized in the consecutive years. The course will cover reviewing of overall performance on construction in previous year, identification of major areas to be improved, orientation on the changes on construction methods or standards (if any), and dissemination of other relevant information and

[50] http://www.idcol.org/Download/20100105%20Implementation%20Plan%202010_12%20NDBMP%20IDCOL1.pdf

instructions as necessary.

(4) Refresher Training to the Existing Supervisors

A one day refresher training to the existing supervisors will be organized. The course will cover reviewing of overall performance in previous year, identification of major areas to be improved, orientation on changes on construction methods or quality standards (if any), and dissemination of other relevant information and instructions as necessary.

(5) Management Training

The biogas sector can grow healthy only if the POs are strong enough to deal with basic management issues efficiently. The manager of the POs should have good knowledge on management, marketing and promotion strategies to ensure the company functions effectively. This training aims to provide knowledge and skills to the managers on marketing techniques and strategies, financial as well as personnel management and total quality management of the company.

(6) Training of Trainers

4 days training of trainers for Biogas Users Training will be organized. The training will include topics on training and facilitation methods, planning, organizing, evaluating and managing users' training. The trainees for this training, who will be lead trainers in the future, will be selected from amongst Instructors of Polytechnic institutes under Directorate of Technical Education, POs, NGOs and if necessary, from financial institutes as well.

(7) Slurry Management and Utilization Training

Gas production and utilization for cooking is one of the main purposes of biogas plant construction but at the same time proper management and utilization of slurry as organic fertilizer is also equally important. Therefore, to impart knowledge to the users on proper utilization of slurry a 2 days training on slurry management and utilization to the staff of POs, NGOs and agriculture extension workers will be organized. These trained persons will work as resource persons to train biogas users on the importance and methods of composting and slurry utilization. Bangladesh Agriculture Research Institute and/or Department of Agriculture Extension can be the best partner for slurry management training.

(8) Biogas Users Training

The functioning of a biogas plant and its overall efficiency is for a large part determined by how effectively the user is operating and maintaining the plant. Apart from the instructions from the masons and supervisors, groups of users with emphasis on women users will be trained on how the plant works, what output can be expected, how to use the slurry and what maintenance activities are required. This one-day training will be organized by POs in the field to provide factual information to the users.

(9) Gender Mainstreaming Training

Since women are the main beneficiaries of biogas; they will have to be well oriented about its usefulness. In this regard, training related to capacity strengthening of women on decision making, dealing with banks on borrowing and repayment of loan, income generating activities linking with biogas, health and sanitation improvement and plant operation and maintenance will be highly essential. All of such training will help to maximize the participation of women in the programme, thus helping them to maintain gender balance. Trainers training for gender mainstreaming, training for the PO staffs and female motivator's trainings will be conducted to mainstream the gender aspects within the programme. Various workshops and studies as per the specific needs will be conducted.

IDCOL outsources most of the training to capable organizations such as Directorate of Technical Education[51]. Records of training is prepared by the each institute and kept by IDCOL.

In this way, records of arrangements for training and capacity development of personnel are ensured.

(c) A procedure for technical review of inclusion of CPAs

As described in Part I, B.2. of the PoA-DD the proposed PoA defines the following five eligibility criteria:

(1) The CME (IDCOL) defines the expected period during which the biogas digester systems covered by the CPA are installed (e.g., 1/4/2012–31/9/2012). If the covered digesters have been already installed, the CME provides a provisional list of all user information with the date of installation and the start date of operation as well as the associated biogas digester and cookstoves for use, and the summary list is attached to the CPA-DD and the electronic file is provided also to the DOE with full relevant information as a provisional data. If the digesters have not yet installed fully, the expected calculation table is shown in the main text of the CPA-DD.

(2) Any CPA includes installation/construction of biogas digester systems, biogas delivery lines and biogas cookstoves at rural households or small and medium farms in Bangladesh. IDCOL shall maintain records and documentation control processes for each CPA as a part of its management system.

(3) Any CPA under the PoA shall not be a part of a registered CDM project or not a CPA under another PoA.

(4) Installations/operations of biogas digesters shall be in compliance with related national and sectorial standards and regulations, if any.[52]

(5) The aggregated capacity of biogas cookstoves under a CPA is less than 15 MW_{th}, i.e.,

[51] http://www.techedu.gov.bd/

[52] Infrastructure Development Company Ltd. (IDCOL) Model Biogas Plant Construction Manual, IDCOL/SNV, April 2006 **(Ref. 11)**

the aggregated number of burners of cookstoves is less than 7,100.[53]

Among them, eligibility criteria (1), (3) and (5), which are not covered by the existing NDBMP management system, are directly confirmed by IDCOL as CME as described in (a) above. These eligibility criteria will be checked by CDM coordinators in IDCOL with the support from PEAR and then finally checked/approved by the IDCOL's NDBMP director. Since eligibility criteria (1), (3) and (5) are directly manageable and controllable by IDCOL, the technical review process applied to them, namely, two-stage check, the initially by CDM coordinators/PEAR and the secondary by the IDCOL's NDBMP director, is considered to be sufficient and effective.

On the other hand, the eligibility criteria (2) and (4), which are basically covered by the existing NDBMP management system, are initially checked/ensured by POs and then checked/approved by IDCOL's NDBMP director. POs are composed of NGOs having different level of ability. Therefore, under NDBMP, POs are not only provided sufficient training as explained (b) above, but are very strictly controlled by IDCOL to prevent erroneous inclusion of households not eligible to NDBMP.

Compliance with the eligibility criterion (2) (The CPA includes installation/construction of biogas digester systems, biogas delivery lines and biogas cookstoves at rural households or small and medium farms in Bangladesh) is ensured by the Participation Agreement between IDCOL and POs **(Ref. 16)**. The clause 3.3 of the Participation Agreement defines that "The LCPO[54] will seek preliminary approval of IDCOL in the form attached hereto as Annex-2 ("Pre-construction Form"), before considering construction of any Biogas Plant. IDCOL will accept such request communicated by post, courier or through fax or email. IDCOL, if possible, will convey its decision within the same day of receipt of the request, which in no circumstances shall exceed two Business Days."

Annex-2 of the Participation Agreement between IDCOL and POs, namely, "Pre-construction Form" is shown in Table 9. The form will be filled-up by the POs in considering construction of biogas plant at a household. The purpose of this form is to make sure that the plant size is correct, feeding materials are adequately available and plant functioning in longer period is assured. Once the form is filled up, the POs will send it to IDCOL for preliminary approval to construct the proposed plant.

Table 9 Pre-construction Form

1	Name of the household head	
2	Address	Village----------, Thana: ---------- District:----------Tel: [If any]
3.	No. of family members	---------- persons
4.	No. of cattle or poultry birds	Cattle (cow/buffalo): ------ Poultry birds (layers): -------

[53] See footnotes 10 and 12 for calculations (of the PoA-DD).
[54] Lending and Construction Partner Organizations

5.	Total land owned by the household at plant site	… decimals
6.	Total open area owned by the household at the plant site	… decimals
7.	Does s/he want to connect toilet?	Yes --- No ---
8.	How much dung is available per day?	Cattle dung: ------- Kg Poultry droppings (layers) ------Kg
9.	Gas requirement?	Cooking ------hours/day Lighting ------hours/day
10.	Proposed plant size	--------- m3 gas production
11.	Distance of proposed biogas plant	From kitchen: ---------- meters From cowshed/poultry farm -------- meters From nearest water body ----------meters
12.	How many houses use the gas if distributed to other houses?	------ house
13	Estimated total cost (deducting subsidy)	------ Taka
14	A simple diagram of the proposed plant site	

Similarly, compliance with the eligibility criterion (4) (Installations/operations of biogas digesters shall be in compliance with related national and sectoral standards and regulations, if any) is also ensured by the Participation Agreement between IDCOL and POs **(Ref. 16)**. The clause 3.6 defines that "The LCPO will always maintain high quality plant construction following the guidelines provided in Annex-3 ("Guidelines for IDCOL Model Biogas Plant Construction"). The LCPO will be required to provide after construction maintenance services in accordance with the provisions under Annex-6 ("Warranty and Maintenance Service Procedures") hereto. The Biogas Plant Construction Contract signed between the LCPO and the Household shall stipulate clear provisions in this regard. For this purpose the LCPO will establish a system of internal quality control for constructed Biogas Plants."

Annex-3 to the Participation Agreement between IDCOL and POs, namely, "Guidelines for IDCOL Model Biogas Plant Construction" and relevant annexes for Annex-3 (Annex-3A, 3B, 3C and 3D) are composed of the following sections:

<u>Annex-3: Guidelines for IDCOL Model Biogas Plant Construction</u>
1. Design and Dimensions
1.1. Size of the biogas plants
1.3. Design and dimensions for different sizes of biogas plants
1.4. Raw materials
2. Quality and quantity of construction materials: a) Cement, b) Sand, c) Water, d) Bricks, e) PVC pipe, f) Paint, g) Burner, h) Gas valve

3. Construction method of biogas plant
3.1. Construction plan
3.2. Selection of the size of the digester
3.3. Selection of construction site
3.4. Setting Layout
3.5. Digging pits
3.6. Casting of bottom dome and outlet passage bottom
3.7. Construction of digester and outlet passage wall
3.8. Setting of inlet pipe
3.9. Casting of lintel
3.10. Dome construction, setting of centre pipe and turret
3.11. Treatment of gas holder/top dome
3.12. Construction of outlet passage and hydraulic chamber
3.13. Construction of inlet and setting of mixing device
3.14. Installation of pipe line, water trap, pressure gage, burner etc.
3.15. Digging compost pits
3.16. Back filling and top filling
4. Operation and Maintenance
4.1. Feeding rate and process
4.2. Draining of water from pipeline
4.3. Closing of main valve
4.4. Main points to be remembered:

Annex-3 A: Quality Standards on Plant Construction

Annex-3B: Quality Control Procedure
1. Agreement on construction standards
2. Agreement on penalties and incentives
3. Control visits
4. Plant measurements, methods and tolerances
5. Plant sizing

Annex-3 C: Estimated Bill of Quantities of Materials for Biogas Plants (cattle dung based)

Annex-3 D: Estimated Bill of Quantities of Materials for Biogas Plants (poultry litter based)

The POs are required to follow these detailed instructions when constructing biogas digesters. Therefore, compliance with related national and sectoral standards and regulations (IDCOL standard) with respect to the construction of biogas system will be satisfied by compliance with the requirements in Annex 3, 3A, 3B, 3C and 3D.

On the other hand, Annex-6 to the Participation Agreement between IDCOL and POs, namely, “Warranty and Maintenance Service Procedures” and relevant annexes for Annex-6

(Annex-6A and 6B) defines requirement to ensure compliance with related national and sectoral standards and regulations (IDCOL standard) with respect to the operation as follows:

Annex-6: Guidelines for IDCOL Model Biogas Plant Construction

1. Warranty on Biogas Plant
   - Upon completion of the plant, CPO will provide to the Household the following warranties:
   - One year warranty or as provided by their manufacturers for all pipes, fittings and appliances.
   - Five years warranty on the structure of the plant: inlet, digester, dome and hydraulic chamber.
   - In case of repair due to the faulty construction or low quality construction materials used by CPO, the CPO will bear the full repair or reconstruction cost
   - The CPO will provide a warranty card to the Household according to the Annex- 6A.
   - Warranty will not be applied in case the owner of biogas disregards the instructions for operation and maintenance as stipulated in user's manual or in case of natural disasters.
2. After Construction Services
   - CPO will provide after construction services (ACS) to the plants for 3 years from the date of construction
3. Quality Control and Maintenance Services
   - On random sample basis, IDCOL will check the quality of the after maintenance services provided by the CPO. The IDCOL check and verify at least 20% of plants constructed each year.

Annex-6A: Form of Warranty Card

Annex-6B: Biogas Plant Maintenance Form

The POs are required to provide households such a careful and strong after construction services. Therefore, compliance with related national and sectoral standards and regulations (IDCOL standard) with respect to the operation will be satisfied by compliance with the requirements in Annex 6, 6A and 6B.

Regarding biogas digester system not covered by NDBMP, POs' technical/operational standards are applied, and checked and approved by IDCOL in light of the NDBMP standards.

In this way, the sufficient procedure for technical review of inclusion of CPAs is established by CME.

(d) A procedure to avoid double counting (e.g. to avoid the case of including a new CPA that has already been registered either as a CDM project activity or as a CPA of another PoA)

As described in Part I, B.2. of the PoA-DD, the following procedure to avoid double counting is clearly defined under the eligibility criterion (3):

- Regarding inclusion of any CPA to the PoA, IDCOL identifies if there is any registered CDM project activity or CPA of a registered PoA that targeting the cooking energy use of same households in Bangladesh.
- IDCOL is to prepare the database in order to meet this criterion for the cases mentioned below:
  (a) User households of the CPA are not covered by other existing CPAs of this PoA, by checking that the period to define the CPA is different from others. Basically this is true, but if some overlap is set for the period, the households in the overlapping period is checked to avoid double-counting; and
  (b) User households of the CPA used ICS before use of biogas will not result in double counting of emission reductions, by introducing checking system in the database.

In this way, the procedure to avoid double counting is established by CME.

(e) Records and documentation control process for each CPA under the PoA

The data storage and management of the PoA is described in Table 2 in Part I, Section C of the PoA-DD, as follows:

- IDCOL is responsible for data storage and management in terms of:
  - Develop database format of CPA
  - Check the reported data from each operator
  - Calculate emission reductions based on the data reported by operators
  - Implement data management of covered CPAs
  - Store and maintain records
- All collected data/information by CPA operators are submitted to IDCOL. IDCOL compiles the data in its database. The database is used by IDCOL for review of inclusion of CPAs including avoidance of double counting.
- IDCOL also merge CDM-related record and documentation control process to its exiting one.

As described in (2) in Part I, Section C of the PoA-DD, IDCOL establishes database contain all necessary information/data of every single household in each CPA **(Ref. 15)** including;

<u>For biogas digester:</u>

- Name of CPA operator installing the digester
- ID number of the biogas digester,
- Name of the digester owner and address,
- ID number of the CPA,
- Biogas generation capacity of the biogas digester,
- Installation date defined as the completion date of the biogas digester construction,
- Starting date of operation, defined as the 30 days after the completion date of the biogas digester construction (for conservativeness),
- Status of operation (incl. maintenance record),

- Status of sludge and slurry treatment, and
- User households ID number of the biogas (including owner's household).

For user household:

- ID number of the household,
- Name of targeted household representative, address and other household-related information,
- Digester ID from which biogas is delivered,
- Whether the household used ICS before, and
- Number of biogas cookstove burners.

IDCOL has established and operated records and documentation control process for NDBMP for many years. Therefore, records and documentation control process for CPAs under the PoA, established by extending the current records and documentation control process for NDBMP, is also deemed reliable. Therefore, the records and documentation control process for the PoA is confirmed to be well-considered and reliable.

(f) Measures for continuous improvements of the PoA management system

In Table 2 in Part I, Section C of the PoA-DD, the PDCA cycle applied to the PoA is described as follows:

"IDCOL review each type of CPAs and the PoA as a whole annually and assess the performance as its integrated part of the Annual Biogas Users Survey. If necessary, it revises the current programme. The changes of the programme scheme are to be described by IDCOL."

From 2007, the annual biogas user survey has been conducted under NDBMP.[55] According to the "Terms of Reference For Biogas Users' Survey 2011" published by IDCOL, the main objective of the Annual Biogas Users Survey is to make a comprehensive assessment of the impacts of the biogas plants installed so far on energy, health and sanitation, and agricultural systems as well as technical, socio-economic, environmental and gender concerns. Specific areas of survey that would provide information contribute to improvement of the PoA management system are as quoted below.

< Information on Biogas plant owner and Biogas Plants>

- Information on demography, education, occupation, farm size, farming system components etc.
- Motivation of the households for the installation of the biogas plant
- What is the size of the plant and who and why that particular size was chosen?
- Who chose the site for construction of biogas plants?
- Number of bio-slurry pit, pit size and pit management
- Who conducted the feasibility visit and was the owner appropriately consulted?

[55] http://www.snvworld.org/en/countries/bangladesh/publications

- Instruction on operation as provided by the POs
- Operation and maintenance of the biogas plant including trainings
- After- construction-services provided by the POs
- Plant operation rate, problem and maintenance cost
- Major problems faced by the users
- Dung availability per day and burning hours of biogas stove
- Functioning biogas plant
- Was the plant built in the time specified in the contract and/or as promised verbally?
- Was the mason skilful enough?
- Was it a trained mason or the local mason? is the plant of a good quality?
- Plants financed by financial institutions or cash
- Dealing with financial institutions; how difficult/easy?
- Other organizations supporting biogas

< Users' Satisfaction and Perception>
- Their awareness, requirements and suggestions for possible improvement
- Operation and maintenance training received by them
- Means of communication on biogas
- Satisfaction/ dissatisfaction
- Sources of biogas information
- Repair and maintenance
- Family member responsible for contacting the PO
- Time and types of services provided by the PO
- Motivation of the households for the installation of the biogas plant

< Energy, Emission Reduction and Environmental Impacts >
- Household daily utilization of fire wood (quantity and quality of saving firewood), agriculture residues, animal dung, kerosene, LPG for cooking and type of stoves
- Changes in the above mentioned practices after the installation of biogas
- Daily gas production and consumption
- Local (household) environmental condition before and after the installation of biogas and its impact on local environment

Based on the huge and up-to-date information obtained through the annual survey, the PoA management system is considered to be improved continuously.

(g) Any other relevant elements

There are no other relevant elements with respect to the management system.

Based on the assessment in (a) – (g) above, JQA confirms that the management system described in the PoA-DD satisfies "Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities" and Section 8.4.1 of VVS.

3.11.2. CPA design document

The assessment of compliance of CPA-1 with the eligibility criteria of the proposed PoA will be provided in the separate CPA validation report. The means of validation to determine compliance with each eligibility criterion is described in detail in Part I, B.2. of the PoA-DD. Regarding the means of validation to determine the compliance with eligibility criteria, JQA raised CL13 as follows:

> **CL13:** About the eligibility criterion (2), it is not clearly described how CME ensures the compliance of performance of biogas digester systems, biogas delivery lines and biogas cookstoves with IDCOL standards.
>
> **Response:** The following description was added: "Inspection procedures have been introduced in NDBMP by IDCOL for proper installation of the system. Each partner organization already has the maintenance system/service for proper operation of the biogas digesters as the eligibility requirements by IDCOL to be a partner organization." Through the review of "Participation Agreement between IDCOL and POs" **(Ref. 16)** and its relevant annexes, JQA confirms that the added description is correct (refer to (c) in Section 3.11.1. of this report for details).

The desk review, follow-up interviews and site visits implemented to assess the compliance of CPA-1 with the eligibility criteria of the PoA, and compliance of CPA-1 with Section 8.4.2 of VVS, are provided in the separate CPA validation report **(Ref. 4)**.

3.11.3. Description of a PoA/CPA

Regarding the consistency of "Part I. Programme of activities" and "Part II. Generic component project activity (CPA)" in the PoA-DD, JQA raised CAR01 as follows:

> **CAR01:** The information provided in "Part I. Programme of activities" and "Part II. Generic component project activity (CPA)" in the PoA-DD shall be consistent.
>
> **Resolution:** "Part II. Generic component project activity (CPA)" is entirely revised based on the final design of the PoA. Information provided in "Part I. Programme of activities" and "Part II. Generic component project activity (CPA)" is made mutually consistent.

JQA confirms that all relevant descriptions in generic CPA are appropriately revised so as to reflect the final design of the PoA.

The framework developed for implementation of the PoA, and defining a CPA under the PoA are described in the PoA-DD. Therefore, the proposed PoA satisfies Section 8.4.3 of VVS.

3.11.4. Application of multiple methodologies

Since only one methodology, AMS-I.E. is applied to CPAs under the PoA, requirements regarding the application of multiple methodologies for a PoA specified in "Standard for demonstration of additionality, development of eligibility criteria and application of multiple

methodologies for programme of activities" (Version 03.0) is not relevant. Therefore, the requirement specified in Section 8.4.4 of VVS are not relevant to the proposed PoA.

3.11.5. Boundary for the PoA in terms of geographical area

As described in Part I, A.5. of the PoA-DD, the geographical boundary of the proposed PoA is Bangladesh. JQA confirms on-site that Bangladesh has no national and/or sectoral policies and regulations regarding the domestic biogas digester. Therefore, the proposed PoA satisfies Section 8.4.5 of VVS.

3.11.6. Start date of a CPA

Section 8.4.6 of VVS requires that DOE shall confirm that the start date of any CPA is on or after the start date of the PoA. This requirement is not relevant to the PoA.

3.11.7. Prior consideration of the CDM

According to Para 159 (b) of PS, the start date of the proposed PoA is defined as the data of publication of the PoA-DD for global stakeholder consultation. Therefore, prior consideration described in Section 8.4.7 of VVS is not relevant.

3.11.8. Demonstration of additionality of the PoA as a whole

As described in Section 3.7.5. of this report, the additionality of the proposed PoA is demonstrated in accordance with the "Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities" (Version 03.0). Therefore, Section 8.4.8 of VVS is satisfied.

3.11.9. Eligibility criteria for inclusion of a CPA in the PoA

According to Para 16 of "Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities" (Version 03.0), the eligibility criteria shall cover minimum of the followings:

(a) The geographical boundary of the CPA including any time-induced boundary3 consistent with the geographical boundary set in the PoA;
(b) Conditions that avoid double counting of emission reductions like unique identifications of product and end-user locations (e.g. programme logo);
(c) The specifications of technology/measure including the level and type of service, performance specifications including compliance with testing/certifications;
(d) Conditions to check the start date of the CPA through documentary evidence;
(e) Conditions that ensure compliance with applicability and other requirements of single or multiple methodologies applied by CPAs;
(f) The conditions that ensure that the CPA meets the requirements pertaining to the demonstration of additionality as specified in section 3.1 above;
(g) The PoA-specific requirements stipulated by the CME including any conditions related to undertaking local stakeholder consultations and environmental impact analysis;4

(h) Conditions to provide an affirmation that funding from Annex I Parties, if any, does not result in a diversion of official development assistance;
(i) Where applicable, target group (e.g. domestic/commercial/industrial, rural/urban, grid-connected/off-grid) and distribution mechanisms (e.g. direct installation);5
(j) Where applicable, the conditions related to sampling requirements for the PoA in accordance with the "Standard for sampling and surveys for CDM project activities and programme of activities";
(k) Where applicable, the conditions that ensure that every CPA (in aggregate if it comprises of independent sub units) meets the small-scale or microscale threshold6 and remains within those thresholds throughout the crediting period of the CPA;
(l) Where applicable, the requirements for the debundling check, in case the CPAs belongs to small-scale or microscale project categories.7

Five eligibility criteria are finally defined as per (a)-(l) as described in Part I, B.2. of the PoA-DD. JQA confirms that they satisfy Para 16 of "Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities" (Version 03.0) as shown in Table 10.

Table 10 Assessment of the eligibility criteria

Para 16 of PoA Standard	Relevant eligibility criteria	Validation Comment
(a) The geographical boundary of the CPA including any time-induced boundary3 consistent with the geographical boundary set in the PoA;	(1) The CME (IDCOL) defines the expected period during which the biogas digester systems covered by the CPA are installed (e.g., 1/4/2012–31/9/2012). If the covered digesters have been already installed, the CME provides a provisional list of all user information with the date of installation and the start date of operation as well as the associated biogas digester and cookstoves for use, and the summary list is attached to the CPA-DD and the electronic file is provided also to the DOE with full relevant information as a provisional data. If the digesters have not yet installed fully, the expected calculation table is shown in the main text of the CPA-DD. (2) Any CPA includes installation/construction of biogas	Criterion (1) and (2) define the time-induced boundary and the geographical boundary, respectively.

Para 16 of PoA Standard	Relevant eligibility criteria	Validation Comment
	digester systems, biogas delivery lines and biogas cookstoves at rural households or small and medium farms in Bangladesh. IDCOL has records and documentation control processes for each CPA as a part of its management system.	
(b) Conditions that avoid double counting of emission reductions like unique identifications of product and end-user locations (e.g. programme logo);	(3) Any CPA under the PoA shall not be a part of a registered CDM project or not a CPA under another PoA.	Criterion (3) directly addresses this requirement. To check compliance with this criterion, IDCOL will prepare database including relevant information.
(c) The specifications of technology/measure including the level and type of service, performance specifications including compliance with testing/certifications;	(4) Installations/operations of biogas digesters shall be in compliance with related national and sectorial standards and regulations, if any.	Criterion (4) addresses the specifications of technology and measure including compliance with the technical standards.
(d) Conditions to check the start date of the CPA through documentary evidence;	(1) The CME (IDCOL) defines the expected period during which the biogas digester systems covered by the CPA are installed (e.g., 1/4/2012–31/9/2012). If the covered digesters have been already installed, the CME provides a provisional list of all user information with the date of installation and the start date of operation as well as the associated biogas digester and cookstoves for use, and the summary list is attached to the CPA-DD and the electronic file is provided also to the DOE with full relevant information as a provisional data. If the digesters have not yet installed fully, the expected calculation table is shown in the main text of the CPA-DD.	Criterion (1) covers this requirement. The start date of the CPA is checked through the list of all user information.

Para 16 of PoA Standard	Relevant eligibility criteria	Validation Comment
(e) Conditions that ensure compliance with applicability and other requirements of single or multiple methodologies applied by CPAs;	(2) Any CPA includes installation/construction of biogas digester systems, biogas delivery lines and biogas cookstoves at rural households or small and medium farms in Bangladesh. IDCOL has records and documentation control processes for each CPA as a part of its management system. (5) The aggregated capacity of biogas cookstoves under a CPA is less than 15 MWth, i.e., the aggregated number of burners of cookstoves is less than 7,100.	Eligibility of application of type I small-scale project activity is confirmed through the check of Criterion (5). Compliance with the applicability condition in Para 1 of AMS-I.E. is addressed by Criterion (2). Compliance with the applicability condition in Para 2 of AMS-I.E. is not covered by the eligibility criteria since the non-use of non-renewable biomass since 1 December 1989 is demonstrated at national level as described in Part I, B.6.1 of the PoA-DD and confirmed in Section 3.7.4. of this report.
(f) The conditions that ensure that the CPA meets the requirements pertaining to the demonstration of additionality as specified in section 3.1 above;	(5) The aggregated capacity of biogas cookstoves under a CPA is less than 15 MWth, i.e., the aggregated number of burners of cookstoves is less than 7,100.	As described in Section 3.7.5. of this report, a CPA under the proposed PoA is microscale project and the additionality is demonstrated based on “Guidelines for demonstrating additionality of microscale project activities”. Criterion (5) is to satisfy the upper limit of the microscale project activities and thus addresses this requirement.
(g) The PoA-specific requirements stipulated by the CME including any conditions related to undertaking local stakeholder consultations and environmental impact analysis;4	(4) Installations/operations of biogas digesters shall be in compliance with related national and pectoral standards and regulations, if any.	Criterion (4) gives PoA-specific requirements stipulated by the CME regarding the digester technology. Local stakeholder consultation and environmental impact analysis are undertaken at PoA level and thus setting of eligibility criteria is not necessary.
(h) Conditions to provide an affirmation that funding from Annex I Parties, if any, does not result in a diversion of	Not applicable. There are no eligibility criteria.	NDNMP has been funded by development agency of Annex-I Parties like SNV and KfW. However, the ODA is not

Para 16 of PoA Standard	Relevant eligibility criteria	Validation Comment
official development assistance;		provided under the condition that the credits generated by the PoA will be transferred, either directly or indirectly, to the donor countries that provide ODA support. Non-NDBMP covered digesters are installed by commercial basis and thus does not receive any funding from Annex I Parties.
(i) Where applicable, target group (e.g. domestic/commercial/industrial, rural/urban, grid-connected/off-grid) and distribution mechanisms (e.g. direct installation);	(2) Any CPA includes installation/construction of biogas digester systems, biogas delivery lines and biogas cookstoves at rural households or small and medium farms in Bangladesh. IDCOL has records and documentation control processes for each CPA as a part of its management system.	Criterion (2) clearly defines target group.
(j) Where applicable, the conditions related to sampling requirements for the PoA in accordance with the "Standard for sampling and surveys for CDM project activities and programme of activities";	Not applicable. There are no eligibility criteria.	The sampling plan applied to the monitoring parameters $R_{O,y}$ is described in Appendix 5 of the PoA-DD. The sampling plan does not stipulate any conditions related to sampling.
(k) Where applicable, the conditions that ensure that every CPA (in aggregate if it comprises of independent sub units) meets the small-scale or microscale threshold6 and remains within those thresholds throughout the crediting period of the CPA;	(5) The aggregated capacity of biogas cookstoves under a CPA is less than 15 MWth, i.e., the aggregated number of burners of cookstoves is less than 7,100.	Criterion (5) is condition to ensure that every CPA in aggregate meets the microscale threshold criteria.
(l) Where applicable, the requirements for the debundling check, in case	Not applicable. There are no eligibility criteria.	As described in Section 3.10.2. of this report, CPAs under the PoA is exempted from the

Para 16 of PoA Standard	Relevant eligibility criteria	Validation Comment
the CPAs belongs to small-scale or microscale project categories.		debundling check. Therefore, criterion for (l) is not necessary.

Regarding the appropriateness and sufficiency of the eligibility criteria in the light of requirements in (a)-(l), JQA raised CL14 as follows:

CL14: About the eligibility criterion (4), the document quoted (Infrastructure Development Company Ltd. (IDCOL) Model Biogas Plant Construction Manual, IDCOL/SNV, April 2006) only provides standards for installations/operations of fixed dome type biogas digester and not covers fiberglass digesters, which may included in a CPA according to A.4.2. (Part I, A.6.) of the PoA-DD. Standards for the fiberglass digester and non-NDBMP digesters are also to be defined here.

Response: The eligibility criterion (4) was revised as follows: "Installations/operations of biogas digesters shall be in compliance with related national and sectorial standards and regulations, if any". The following description was added under the eligibility criterion (4) about the fiberglass digester and non-NDBMP digesters:

- For installation, NDBMP-covered activities shall utilize equipment approved by the IDCOL's technical committee (e.g., recently, the committee approved fiberglass type digester).
- For digesters not covered by NDBMP, there are no standards so far. Therefore, the each CPA operator applies its own rules similar to those above.

JQA also confirms that GS has its own biogas technology guide, which is comparable to NDBMP **(Ref.17)**.

In addition, as described in Section 3.7.5. of this report, through the resolution of CL08, the aggregated number of burners of cookstoves in eligibility criterion (5) was revised from 8,000 to 7,100.

JQA confirms that the defined eligibility criteria cover every requirement provided in Para 16 (a)-(l) of "Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities" (Version 03.0), and are sufficiently objective, comprehensive and verifiable. Therefore, the established eligibility criteria satisfy Para 16 of the standard, and the PoA satisfies Section 8.4.9. of VVS.

3.11.10. Crediting period of a PoA/CPA

As described in Part I, D.2. of the PoA-DD, the duration of the proposed PoA is defined as 28 years 0 month and thus Section 8.4.10. of VVS is satisfied.

3.11.11. Monitoring plan for a PoA/CPA

As described in 3.7.11 of this report, monitoring plan for a CPA is in accordance with AMS-I.E.

Therefore, the proposed PoA satisfies Section 8.4.11. of VVS.

3.11.12. Environmental analysis of a PoA

As described in Section 3.8. of this report, analysis of the environmental impacts is undertaken at the PoA leval in compliance with the requirements of the CDM modalities and procedures. Therefore, Section 8.4.12. of VVS is satisfied.

3.11.13. Local stakeholder consultation

As described in Section 3.9. of this report, local stakeholder consultation is undertaken at the PoA level. The comments were invited from 39 stakeholders at the LSC meeting held on 03/10/2011. JQA confirms that the summary of the comments received is complete through the interview with attendees of the LSC meeting. Due account of comments are not required since only clarifications are raised at the LSC meeting. From such confirmation, JQA confirms that the proposed PoA satisfies Section 8.4.13. of VVS.

3.11.14. Determination of occurrence of debundling under a PoA

In footnote 28 of VVS, it is described that “If each of the independent subsystems/measures (e.g. biogas digester, solar home system) included in the CPA of a PoA is no larger than 1% of the small-scale thresholds defined by the methodology applied, i.e. 150 kW installed capacity or 0.6 GWh annual energy savings or 0.6 ktCO2e annual emission reductions, then that CPA of PoA is exempted from the de-bundling check, i.e. is considered as not being a debundled component of a large-scale activity.”

As described in Part I, A.6. of the PoA-DD, installed capacity of the independent subsystems/measures (biogas cookstove) included in the CPA of the PoA is 1.79 – 2.09 kW_{th}, which is much smaller than the above mentioned threshold of 150 kW_e or 450 kW_{th}. Therefore, CPAs in the PoA are exempted from the de-bundling check, i.e., is considered as not being a debundled component of a large-scale activity.

Therefore, the proposed PoA satisfies Section 8.4.14.of VVS.

3.11.15. Inclusion or renewable of a crediting period of a CPA under a registered PoA

Section 8.4.15. of VVS requires that the DOE shall assess the CPA and the specific CPA-DD against the latest version of the PoA to determine whether the CPA meets the requirements of the PoA. This requirement is for CPA and thus not relevant to the PoA.

4. VALIDATION OPINION

Japan Quality Assurance Organization (JQA) as a DOE has performed the validation of SSC PoA “Programme for Promotion of Access to Domestic Biogas in Rural Bangladesh”. The validation is based on the UNFCCC criteria for CDM including Article 12 of the Kyoto Protocol, modalities and procedures for CDM (Marrakesh Accord), subsequent decisions of COP/MOP and CDM-EB and host country criteria.

Standard auditing techniques is applied to the validation. The Validation Checklists for PoA are prepared in order to report the nature of the issues raised by a DOE, the nature of the responses provided by CME/PPs, the means of validation and the resulting changes in the PoA-DD in a transparent and unambiguous manner. The validation, including the document review, the follow-up actions and the resolution of outstanding CARs and CLs, provided JQA sufficient evidences to determine the fulfilment of all relevant UNFCCC criteria for CDM. The validation is based on the information made available to JQA during the validation process.

The project host party is Bangladesh and the Annex I party is Japan. Host Party fulfils the participation criteria and approved the PoA and authorized CME and PPs. The DNA of host party states that the PoA assists in achieving sustainable development. Annex I Party also fulfils the participation criteria and approved the PoA and authorized the PPs.

The project correctly applies the approved small-scale baseline and monitoring methodology, AMS-I.E. “Switch from non-renewable biomass for thermal applications by the user” (Version 05). For assessment of additionality, the PoA correctly applies “Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities” (Version 03.0) and “Guidelines for demonstrating additionality of microscale project activities” (Version 05.0). The PoA includes eligibility criteria to ensure every CPAs included in the PoA satisfied the condition of additionality of microscale projects. Therefore, in the absence of CDM, none of the implemented CPAs would occur. Sampling is applied to determine parameter $R_{O,y}$ (Ratio of biogas digesters in normal operation in a year y) and sample size and sampling method are determined in accordance with “Standard for sampling and surveys for CDM project activities and programme of activities” (Version 04.1) and “Guideline for sampling and surveys for CDM project activities and programme of activities” (Version 03.0).

JQA concludes that the project activity meets all the relevant UNFCCC and Host Party requirements. JQA determines that the proposed PoA is valid as a CDM programme of activities.

5. REFERENCES

Category 1: Submissions to CDM EB

1. CDM-SSC-PoA-DD “Programme for Promotion of Access to Domestic Biogas in Rural Bangladesh” (Version 5.0, 15/01/2014)
2. Specific CDM-SSC-CPA-DD “Domestic Biogas CPA-1.12.2011 in Rural Bangladesh (13/12/2011–31/01/2012)” (Version 5.0, 15/01/2014)
3. SSC PoA Validation Report for “Programme for Promotion of Access to Domestic Biogas in Rural Bangladesh” (Version 2.0, 22/01/2014)
4. SSC CPA Validation Report for “Domestic Biogas CPA-1.12.2011 in Rural Bangladesh (13/12/2011–31/01/2012)” (Version 2.0, 22/01/2014)
5. Letter of Approval for the Programme of Activities "Programme for Promotion of Access to Domestic Biogas in Rural Bangladesh" issued by Bangladesh DNA, Ref. DoE/Int.Con./CDM/2011/06/10, 31/01/2013
6. Approval of a CDM project and authorization of voluntary participation under the Kyoto Protocol by the Government of Japan for PEAR Carbon Offset Initiative, Ltd., No. 121022301, 22/10/2012
7. Modalities of communication
8. Calculation spreadsheet for CPA-1
9. Database for CPA-1

Category 2: Others

10. Letter of Approval for the Programme of Activities "Programme for Promotion of Access to Domestic Biogas in Rural Bangladesh" issued by Bangladesh DNA, Ref. Ref. DoE/Int.Con./CDM/2011/06/06, 29/11/2012
11. Non Renewable Biomass (NRB) Assessment Report – A component of The Bangladesh Stoves Baseline Study 2008-9, compiled by Jonathan Rouse (Final draft), 20/03/2009
12. IDCOL model biogas plant construction manual (English version), IDCOL/SNV, April 2006
13. IDCOL model biogas plant construction manual (Bengali version), IDCOL/SNV, April 2006
14. Appliance requirements for NDBMP biogas stoves, IDCOL
15. Data format of installation of biogas digester in NDBMP
16. Sample of Participation Agreement (NDBMP) between LCPO and IDCOL
17. Biogas Technology Guide – Biogas Plant Construction, Use, Maintenance and Grameen Shakti Organic Fertilizer Production and Ulitization (First Edition), Grameen Shakti, June 2007

6. LIST OF INTERVIEWED PERSONS

IDCOL	
Mr. Nazmul Haque,	Director & Head of Investment
Mr. MD Wahidur Rahman,	Asst. Director
Mr. MD Miran Hossain,	Senior Investment Officer
Grameen Shakti	
Dr. M S Islam,	Head, Department of International Cooperation & Development
Mr. Mohammad Roqibul Islam,	Manager
Mr. M A Gofran,	Biogas Consultant
PEAR Carbon Offset Initiative, Ltd.	
Dr. Naoki Matsuo,	CEO
Mr. Otkur Ghojash,	Project Manager
Rural Services Foundation	
Mr. Md. Ruhul Quddus,	Executive Director
Bangladesh Centre for Advanced Studies (BCAS)	
Dr. Atiq Rahman,	Executive Director
Dr. Moinul L Sharif,	Senior Fellow
Department of Environment (DoE)	
Mr. Md. Shahjahan,	Director
Bangladesh Biogas Development Foundation (BBDF)	
Mr. Mohammad Monir Ullah,	General Secretary
Rahman Renwable Energy Co.	
Mr. Redwanoor Rahman,	Managing Director
Sripur Upozila, Gazipur District	
Mr. Md Ikbal Hossain Shabuz,	Chairman
Mr. Md Fakhrul Hassan,	Upozila Agriculture officer, Dept of Agriculture Extension
Dr. Shukla Halder,	Additional Veterinary Surgeon, Dept of Livestock Services
Users and mason	
Mr. Mahamudul Hasan Alal,	Poultry Farm Owner
Mr. MD. Ainal Hoque,	Poultry Farm Owner
Mr. Abdur Razzak,	Poultry Farm Owner
Mr. Firoz Mia,	Poultry Farm Owner
Mr. Kamal Uddin,	Farmer
Mr. Ronju,	Mason

SSC PoA VALIDATION CHECKLIST

PEAR Carbon Offset Initiative, Ltd.

Programme for Promotion of Access to Domestic Biogas in Rural Bangladesh

Project No. JQA-C0192

(1812000327-329)

22 January 2014

Japan Quality Assurance Organization

Appendix A

Ref. No.	Documents
1	Guidelines for completing the programme design document form for small-scale CDM programmes of activities (Version 03.0)
2	Clean Development Mechanism Validation and Verification Standard (VVS) (Version 05.0)
8	Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities (Version 03.0)
9	Standard for sampling and surveys for CDM project activities and programme of activities (Version 04.0)
10	Guidelines for sampling and surveys for CDM project activities and programme of activities (Version 03.0)

Appendix A

Remarks:

MoV : Means of Validation

DR : Desk review refers to CARs/CLs/FARs found out through the desk review for the PDD/Version 2.0 and 5.0 prepared on 12/12/2011 and 15/01/2014, respectively).
Regarding the reporting requirements, desk review for the validation report.

SV : Site-visit conducted on 15-18/02/2012

CAR : Corrective Action Request, in the case that one of the following occurs:

(a) The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;

(b) The CDM requirements have not been met;

(c) There is a risk that emission reductions cannot be monitored or calculated.

CL : Clarification Request, in the case that information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

FAR : Forward Action Request, during validation to highlight issues related to project implementation that require review during the first verification of the project activity.

NA : Not Applicable to the project activity

−− : Pending at the time of the checklist preparation

/#/ : Reference

Appendix A

Table 1 Comprehensive Checklist for Validation and CARs/CLs requested by the validation team

Section Seq. No.	Ref. No.	Requirement	Comments	Con clusion
E. Global Stakeholder Consultation				
E.01	2	34. The DOE shall acknowledge receipt of and take into account all comments on the PDD of the proposed project activity submitted in accordance with the Project cycle procedure.	The PDD had made publicly available from 13/12/2011 to 11/01/2012. No comments were received.	NA
E.02	4	20. Parties, stakeholders[2] and UNFCCC accredited observers may submit comments, in English, on the validation requirements for the proposed CDM project activity or PoA to the DOE through the secretariat via a dedicated interface on the UNFCCC CDM website. The submitters of the comments shall provide the name and contact details of the individual or organization on whose behalf the comments are submitted. The DOE shall check the authenticity of this information in case of doubt. [2] For the purpose of this procedure all members of the public are considered to be stakeholders.	No comments were received.	NA
E.03	2	35. During the validation of the project activity, has the comments received been taken into account? Does the validation report include details of actions taken to take due account of the comments during the validation process?	No comments were received.	NA

Appendix A

Section Seq. No.	Ref. No.	Requirement	Comments	Con clusion
E.04	2	36. If comments are not sufficiently substantiated or if they indicate that the project activity does not comply with the CDM requirements, has further clarification from the entity providing the comment been requested by the DOE? (However, the DOE is not required to enter into a dialogue with Parties, stakeholders or NGOs that comment on the CDM requirements. If no additional information or substantiation is provided in response to a request for clarification, the DOE shall proceed to assess the comments as originally provided.)	No comments were received.	NA
E.05	2	37. The validation report shall include details of actions taken to take due account of the comments during the validation process?	No comments were received.	NA
F. Approval				
F.01	2	38. Has the designated national authority (DNA) of each Party indicated as being involved in the proposed CDM project activity in the PDD provided a written letter of approval (LoA)? If yes, are the following clear? - who provided the LoA, the PP or the DNA; - when the LoA has been issued; - what the reference number of LoA is; - what supports the authenticity of LoA (e.g. DNA's Website, etc).	DNAs of Bangladesh and Japan indicated as being involved in the proposed CDM project activity in the PDD provided written LoAs. Both LoAs were provided from the PP, PEAR Carbon Offset Initiative, Ltd. The followings are confirmed by the Bangladesh LoA, - DNA issued the first LoA on 18/11/2012 and the revised LoA on 31/01/2013 - Reference numbers of the first LoA and the revised LoA are Ref. DoE/Int.Con./CDM/2011/06/06 and Ref. DoE/Int.Con./CDM/2011/06/10, respectively - Authenticity of the LoA is confirmed in F.08 of this table. The followings are confirmed by the Japan LoA, - DNA issued the LoA on 22/10/2012 - Reference numbers of the LoA is No. 121022301 - Authenticity of the LoA is confirmed in F.08 of this table.	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	Comments	Conclusion
F.02	2	39. (a) Did each letter confirm that the Party is a Party to the Kyoto Protocol?	- The Bangladesh DNA's LoA states "The government of Bangladesh has ratified the Kyoto Protocol on 22/10/2001." - The Japan DNA's LoA states "Japan has accepted the Kyoto Protocol on 04/06/2002."	OK
F.03	2	39. (b) Did each letter confirm that Participation is voluntary?	- The Bangladesh DNA's LoA states "This is a voluntary participation in the proposed CDM project activities." - The Japan DNA's LoA states "The Government of Japan authorizes voluntary participation of PEAR Carbon Offset Initiative, Ltd. in the project."	OK
F.04	2	39. (c) Did each letter confirm that in the case of the host Party, the proposed CDM project activity contributes to the sustainable development of the country?	Yes, the Bangladesh DNA's LoA states "The project contributes to sustainable development of Bangladesh."	OK
F.05	2	39. (d) Did each letter confirm that it refers to the precise proposed project activity title in the PDD being submitted for registration?	Each DNA's LoA refers to "Programme for Promotion of Access to Domestic Biogas in Rural Bangladesh".	OK
F.06	2	40. Is/Are the LoA(s) of approval is unconditional with respect to 39 (a) to (d)?	Both DNA's LoAs state no conditions.	OK
F.07	2	41. Was it confirmed that the LoA(s) has/have been issued by the respective Party's DNA?	Yes, LoAs were issued by the respective Party's DNA as follows: - Bangladesh: Department of Environment - Japan: The Liaison Committee for the Utilization of the Kyoto Mechanisms	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	Comments	Conclusion
F.08	2	42. If in doubt of the authenticity of the LoA, was the authenticity of the LoA verified with the DNA?	Yes, - The signatory of the Bangladesh LoA was consistent with the contact person of DNA shown in the UNFCCC website. - The PoA was included in the list of the approved project by the DNA of Japan in website of the Ministry of the Environment of Japan.	OK
F.09	2	43. The DOE shall, for each Party involved: (a) Indicate whether a letter of approval has been received, with clearly referencing the letter itself and any supporting documentation;	Refer to Section 3.2. in the validation report and F.01 above.	OK
F.10	2	43. The DOE shall, for each Party involved: (b) Indicate whether the DOE received this letter from the project participants or directly from the DNA;	Refer to Section 3.2. in the validation report and F.01 above. .	OK
F.11	2	43. The DOE shall, for each Party involved: (c) Indicate the means of validation employed to assess the authenticity if paragraph 42 above applies;	Refer to Section 3.2. in the validation report and F.08 above. .	OK
F.12	2	43. The DOE shall, for each Party involved: (d) Include a statement as to whether the letters are in accordance with paragraphs 39-42 above.	Refer to Section 3.2. in the validation report and F.01 - F.09 above.	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	Comments	Con clusion
F.13	2	44. If a letter of approval refers to a specific version of the validation report and the DOE therefore is unable to submit this precise version of the validation report, the DOE shall take one of the following options: (a) Insert a statement in the validation report to indicate that the final letter of approval has not been received and that a request for registration will not be submitted until it has been received; or (b) Update the validation report to reflect the receipt of the letter of approval. If this option is selected, the validation report major number shall remain unchanged and the minor number shall be increased. The DOE shall confirm in the validation report that this is the only change that has been made to the version referred to in the letter of approval.	Neither Bangladesh and Japan DNAs' LoAs contain no information such as specification of the project activity, specific version of the validation report.	OK
G. Authorization				
G.01	2	45. The DOE shall determine whether each project participant has been authorized by at least one Party involved in a letter of approval.	- The Bangladesh DNA's LoA states "Infrastructure Development Company Limited (IDCOL) is the Coordinating/Managing Entity (CME) of the programme" and "Grameen Shakti is one of the project participants under the programme". - The Japan DNA's LoA states "The Government of Japan authorizes voluntary participation of PEAR Carbon Offset Initiative, Ltd. in the project".	OK
G.02	2	46. The DOE shall confirm that the project participants are listed in tabular form in the PDD and that this information is consistent with the information provided in the section that contains the contact information for project participants.	The project participant, Infrastructure Development Company Limited (IDCOL), Grameen Shakti (GS) and PEAR Carbon Offset Initiative, Ltd. are listed in tabular form in section A.3 of the PDD.	OK
G.03	2	47. The DOE shall confirm that no entities other than those authorized as project participants are included in these sections of the PDD.	Refer to G.02.	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	Comments	Con clusion
G.04	2	48. The DOE shall confirm that the approval of participation has been issued from the relevant DNA and if in doubt shall verify with the DNA that the approval of participation is valid for the proposed CDM project participants.	Refer to F.01 - F.08 above and Section 3.2. in the validation report.	OK
G.05	2	49. The validation report shall, for each project participant: (a) Indicate whether the participation has been approved by a Party to the Kyoto Protocol;	Refer to Section 3.2. in the validation report.	OK
G.06	2	49. The validation report shall, for each project participant: (b) Describe the means of validation employed to draw this conclusion.	Refer to Section 3.2. in the validation report.	OK
H. Contribution to sustainable development				
H.01	2	50. The DOE shall confirm that the DNA has considered whether the proposed CDM project activity assists the host Party in achieving sustainable development.	The Bangladesh DNA's LoA states "The project contributes to sustainable development of Bangladesh".	OK
H.02	2	51. The DOE shall determine whether the letter of approval by the DNA of the host Party confirms the contribution of the proposed CDM project activity to the sustainable development of the host Party.	Refer to H.01 above.	OK
H.03	2	52. The DOE shall state whether the host Partys DNA has confirmed the contribution of the project to the sustainable development of the host Party. This may be reported together with the DOEs assessment of the validity of the host Partys approval.	Refer to Section 3.2. in the validation report.	OK
I. Modalities and Communication				
1. General				

Appendix A

Section Seq. No.	Ref. No.	Requirement	Comments	Conclusion
I.1.01	2	53. The DOE shall validate the corporate identity of all project participants and focal points included in the Modalities of Communication (MoC) statement, as well as the personal identities, including specimen signatures and employment status, of their authorized signatories.	Yes. Refer to I.1.02-I.1.08.	OK
I.1.02	2	54. The DOE shall validate paragraph 53 above through: (a) Directly checking evidence for corporate, personal identity and other relevant documentation;	JQA validates the MoC statement through directly checking evidence for corporate, personal identity and other relevant documentation.	OK
I.1.03	2	54. The DOE shall validate paragraph 53 above through: (b) Notarized documentation; or	JQA validates the MoC statement through directly checking evidence for corporate, personal identity and other relevant documentation. Refer to I.1.02.	NA
I.1.04	2	54. The DOE shall validate paragraph 53 above through: (c) Written confirmation from the project participant or the coordinating/managing entity that submits to it the MoC statement that all corporate and personal details, including specimen signatures, are valid and accurate.	JQA validates the MoC statement through directly checking evidence for corporate, personal identity and other relevant documentation. Refer to I.1.02.	NA
I.1.05	2	55. When the DOE validates identity by applying paragraph 54 (c) above, the DOE shall ensure that the MoC statement is received from a project participant with whom the DOE has a contractual relationship.	JQA validates the MoC statement through directly checking evidence for corporate, personal identity and other relevant documentation. Refer to I.1.02.	NA
I.1.06	2	55. For CDM PoAs, the DOE shall ensure that the MoC statement is received from the coordinating/managing entity.	JQA validates the MoC statement through directly checking evidence for corporate, personal identity and other relevant documentation. Refer to I.1.02.	NA

Appendix A

Section Seq. No.	Ref. No.	Requirement	Comments	Con clusion
I.1.07	2	56. When the DOE validates identity by applying paragraph 54 (c) above, the DOE shall ensure that the official who submits the MoC statement to the DOE and the official who signed the written confirmation (if a different person) is/are duly authorized to do so on behalf of the respective project participant or coordinating/managing entity.	JQA validates the MoC statement through directly checking evidence for corporate, personal identity and other relevant documentation. Refer to I.1.02.	NA
I.1.08	2	57. If the DOE is unable to validate the requirements by applying paragraph 54 (a), (b) or (c) above then the DOE may perform further validation activities in order to confirm that the corporate and personal details, employment status and specimen signatures included in the MoC statement are valid and accurate and comply with the requirements of this section.	JQA validates the MoC statement through directly checking evidence for corporate, personal identity and other relevant documentation. Refer to I.1.02.	OK
I.1.09	2	58. The DOE shall confirm in writing that it has performed due diligence on the MoC statement in accordance with the requirements established in this standard.	Refer to Section 3.4 in the PoA Validation Report.	OK
2. Modalities of communication statement				
I.2.01	2	59. The DOE shall validate that the MoC statement has been correctly completed and duly authorized.	JQA confirms that the MoC statement has been correctly completed and duly authorized. Refer to I.2.02 to I.2.04.	OK
I.2.02	2	60. The DOE shall check that: (a) The latest version of the form Modalities of Communication statement (F-CDM-MOC) has been used;	JQA cofirms that the form Modalities of Communication statement (F-CDM-MOC) Version 02.1 which is the latest version has been used.	OK
I.2.03	2	60. The DOE shall check that: (b) The information required as per the F-CDM-MOC, including its annex 1, is correctly completed;	JQA confirms that the information required as per the F-CDM-MOC, including its annex 1, is correctly completed.	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	Comments	Conclusion
I.2.04	2	60. The DOE shall check that: (c) The project participants authorized signatories signing the F-CDM-MOC correspond to the project participants authorized signatories included in F-CDM-MOC, annex 1.	JQA confirms that the project participants authorized signatories signing the F-CDM-MOC correspond to the project participants authorized signatories included in F-CDM-MOC, annex 1.	OK
I.2.05	2	61. The DOE shall confirm in writing that the MoC statement complies with all relevant forms and requirements.	JQA confirms that the MoC statement complies with all relevant forms and requirements. Refer to Section 3.4 in the PoA Validation Report.	OK
J. Project design document				
J.01	2	62. The DOE shall determine whether the PDD was completed using the latest version of the PDD form appropriate to the type of project activity.	The SSC-PoA-DD was completed using the latest version of the F-CDM-SSC-PoA-DD: Programme design document form for small-scale CDM programmes of activities (Version 02).	OK
J.02	2	63. The DOE shall provide a statement regarding the compliance of the PDD with relevant forms and guidance.	Refer to Section 3.5. in the validation report.	OK

Appendix A

Table 2 Validation Requirements and CARs/CLs/FARs requested by the validation team

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS VII.		General Validation Requirements				
VVS K.		Description of project activity				
VVS K.01	2	64. The DOE shall determine whether the description of the proposed project activity in the PDD is accurate, complete, and provides an understanding of the proposed CDM project activity.	DR/SV	The following confusing description in A.2. (Part I, A.2.) of the PoA-DD is to be reviewed since it could be read as if GS was CME: - Page 3-4: In order to expand biogas utilization in rural Bangladesh, GS plans to implement its biogas promotion programme as a Programme of Activities (PoA) that generates additional carbon benefit to enable more rural households to install biogas digester under the micro-credit scheme by utilizing the IDCOL's financing scheme of NDBMP or by its own scheme for non-covered digesters by the program. - Page 5: GS, currently facing financial deficits to continue this biogas programme, is willing to promote the programme as a CME supported by the revenue of CERs and related financial arrangements.	CL01	OK
				The description "The first CPA is to include biogas digesters installed from the December 01 of 2011 onward regardless of geographical location in Bangladesh" in A.2 (Part I, A.2.) of the PoA-DD is to be corrected as the start date of the PoA is 13/12/2011.	CL02	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS K.02	2	65. Unless other means are specified in the methodology, the DOE shall conduct a physical site inspection for the following proposed project activities in existing facilities or utilizing existing equipments: (a) Large-scale projects; (b) Non-bundled small-scale projects with emission reductions exceeding 15,000 tonnes per year; (c) Bundled small-scale projects, each with emission reductions not exceeding 15,000 tonnes per year; in such cases the number of physical site visits may, however, be based on sampling, if the sampling size is justified through statistical analysis.	DR/SV	JQA conducted physical site inspection on 15-18/02/2012.	OK	OK
VVS K.03	2	66. For other individual proposed small scale CDM project activities with emission reductions not exceeding 15,000 tonnes per year, is a physical site visit conducted as appropriate?	DR/SV	Ditto.	OK	OK
VVS K.04	2	66. For other individual proposed small-scale CDM project activities with emission reductions not exceeding 15,000 tonnes per year, the DOE should conduct a physical site visit as appropriate. For proposed CDM project activities for which the DOE does not undertake a physical site inspection this shall be justified. The DOE may apply a sampling approach in accordance with the Standard for sampling and surveys for CDM project activities and programme of activities. (For all other proposed CDM project activities not referred to in paragraphs 65-66, DOE shall undertake the validation by reviewing available designs and feasibility studies and may conduct comparison analysis to equivalent projects, as appropriate. The DOE may conduct physical site visit to assess the plan.)	DR/SV	Ditto.	OK	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS K.05	2	68. If the proposed CDM project activity involves the alteration of an existing installation or process, the DOE shall ensure that the project description states the differences resulting from the project activity compared to the pre-project situation.	DR/SV	Project description in Part I, A.2 of the PoA-DD including Figure 1 clearly state the differences resulting from the project activity compared to the pre-project situation.	--	OK
VVS K.06	2	69. The **validation report** shall: (a) Describe the process undertaken to validate the accuracy and completeness of the project description; (b) Provide an opinion on the accuracy and completeness of the project description; (c) Provide a justification if it has not conducted a site visit.	DR/SV	Refer to Section 3.6 of the Validation Report.	--	OK
VVS L.		Application of the selected baseline and monitoring methodology				
VVS L.2.		Applicability of the selected baseline and monitoring methodology to the project activity				
VVS L.2.01	2	73. The DOE shall validate that the selected version is valid at the time of submission of the proposed project activity for registration.	DR	The applied methodology is updated from AMS-I.E. (Version 04.0) to AMS-I.E. (Version 05.0). AMS-I.E. (Version 05.0) is the latest and valid at the time of submission of the proposed project activity for registration.	--	OK
VVS L.2.02	2	74. The DOE shall determine whether the methodology is correctly quoted and applied by comparing it with the actual text of the applicable version of the methodology.[6] [6] A selected approved methodology applies to the project activity if the applicability conditions of the methodology are met.	DR/SV	"Technology/measure" in AMS-I.E. is correctly quoted and applied in Part II, B.2. of the PoA-DD.	OK	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS L.2.03	2	75. If the PDD of a proposed project activity is based on a previous version of a methodology and was published for global stakeholder consultation but was not submitted for registration within the grace period, the DOE shall request the project participants to provide a revised PDD in accordance with the Project cycle procedure.	DR/SV	The PoA-DD was based on a previous version of AMS-I.E. (Version 04) and was published for global stakeholder consultation but was not submitted for registration within the grace period. The CME/PPs has provided revised PDD applying the latest and valid version of AMS-I.E (Version 05).	--	OK
VVS L.2.04	2	76. The DOE shall determine whether the project activity meets each of the applicability conditions of the approved methodology or any tool or other methodology component referred to therein. This shall be done by validating the documentation referred to in the PDD and by verifying that the documentation content is correctly quoted and interpreted in the PDD.	DR/SV	Regarding the justification for the applicability condition No. 3 in the table in E.2. (Part II, B.2.) of the PoA-DD, number of the eligibility criterion, (4), is not correct.	CL03	OK
VVS L.2.05	2	76. If the DOE, based on local and sectoral knowledge, is aware that comparable information is available from credible sources other than that used in the PDD, then the DOE shall cross-check the PDD against other sources to confirm that the project activity meets the applicability conditions of the methodology.	DR/SV	Regarding Para 2 of AMS-I.E., JQA reviews “Non-Renewable Biomass (NRB) Assessment Report—A Component of Bangladesh Stoves Baseline Study 2008–9", Jonathan Rouse, et al., 20 March 2009 and other official reports and statistics, and confirms that biomass has been used since 31 December 1989.	--	OK
VVS L.2.06	2	77. The **validation report** shall describe the steps taken to assess the relevant information contained in the PDD against these criteria for each applicability condition listed in the approved methodology selected	DR/SV	Refer to Section 3.7.1. of the Validation Report.	--	OK
VVS L.2.07	2	77. The **validation report** shall provide a validation opinion regarding the applicability of the selected methodology to the proposed CDM project activity.	DR/SV	Refer to Section 3.7.1. of the Validation Report.	--	OK
VVS L.3.		Deviation from an approved methodology				

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS L.3.01	2	78. If project participants requested a deviation before the publication of the PDD when applying an approved methodology to a proposed project activity, or if a DOE finds at validation that project participants deviated from an approved methodology and the DOE considers that the deviation was due to a project-specific issue implying that a revision of the methodology would not be required to address the issue, it may seek guidance on the acceptability of the deviation from the Board prior to requesting registration of the proposed project activity.[7]	DR/SV	The CME/PPs do not deviate from an approved methodology.	--	NA
VVS L.3.02	2	79. The DOE shall submit to the Board an assessment of the case including demonstration that the deviation does not require revision of an approved methodology, and shall include a description of the impact of the deviation on the emission reductions from the project activity.	DR/SV	Ditto.	--	NA
VVS L.3.03	2	80. Alternatively, if the DOE considers that a revision of the methodology would be required to address the project situation then the DOE shall request the project participants to submit a request for revision in accordance with the Project cycle procedure.	DR/SV	Ditto.	--	NA
VVS L.4.		Clarification on the applicability of an approved methodology				
VVS L.4.01	2	81. If the DOE cannot make a determination regarding the applicability of the selected methodology to the proposed project activity, then the DOE shall request clarification of the methodology. The DOE shall conduct an assessment to ensure that the request is not submitted with the intention of revising an approved methodology to expand its applicability.	DR	JQA can make a determination regarding the applicability of the selected methodology to the proposed PoA.	--	NA
VVS L.5.		Project boundary				

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS L.5.01	2	82. The DOE shall determine whether all main GHG emission sources, the physical delineation of the proposed project activity and other relevant project and baseline emission sources covered in the methodology are included within the project boundary for the purpose of calculating project and baseline emissions for the proposed project activity.	DR/SV	JQA confirms that all main GHG emission sources, the physical delineation of the proposed project activity and other relevant project and baseline emission sources covered in the methodology are included within the project boundary for the purpose of calculating project and baseline emissions for the proposed PoA.	--	OK
VVS L.5.02	2	83. The DOE shall confirm the project boundary based on documented evidence and shall corroborate it by a site visit where required.	DR/SV	JQA confirms that the project boundary described in Part II, B.3. of the PoA-DD is appropriate based on documented evidence and site visit.	--	OK
VVS L.5.03	2	84. If the methodology allows project participants to choose whether a source or gas is to be included within the project boundary, the DOE shall determine whether the project participants have justified that choice. The DOE shall determine whether the justification provided is reasonable, based on an assessment of supporting documented evidence provided by the project participants and corroborated by observations if required.	DR/SV	The description "Excluded for simplification and conservativeness" for baseline CH4 and N2O in Table 7 in E.3. (Part II, B.3.) of the PoA-DD are to be rectified since negligence of baseline emissions will not results in a conservative estimate.	CL04	OK
VVS L.5.04	2	85. For the project activities that have both A/R and non-A/R components, in order to avoid double counting of emission sources, the DOE shall confirm that the emissions associated with the A/R activity will be accounted for and documented by the A/R project activity.	DR/SV	The proposed PoA has no A/R components	NA	NA

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS L.5.05	2	86. In the **validation report**, the DOE shall describe how the validation of the project boundary has been performed, by detailing the documentation assessed (e.g., a commissioning report) and by describing its observations during any site visit undertaken in accordance with paragraphs 59-62 above (i.e., observations of the physical site or equipment used in the process).	DR/SV	Refer to Section 3.7.2. of the Validation Report.	--	OK
VVS L.5.06	2	87. The DOE shall provide a **statement** whether the identified boundary and the selected sources and gases are justified for the project activity.	DR/SV	Refer to Section 3.7.2. of the Validation Report.	--	OK
VVS L.5.06	2	87. Should the DOE identify emission sources that will be affected by the implementation of the proposed project activity and which are expected to contribute more than 1% of the overall expected average annual emissions reductions, and are not addressed by the selected approved methodology, the DOE shall request clarification of, revision to, or deviation from the methodology, as appropriate.	DR/SV	Refer to Section 3.7.2. of the Validation Report. JQA confirms there are no emission sources that will be affected by the implementation of the proposed PoA and which are expected to contribute more than 1% of the overall expected average annual emissions reductions, and are not addressed by the selected approved methodology.	--	OK
VVS L.6.		Baseline scenario identification and description				
VVS L.6.02	2	88. The DOE shall determine whether the baseline identified for the proposed project activity is the scenario that reasonably represents the anthropogenic emissions by sources of GHGs that would occur in the absence of the proposed project activity.	DR/SV	JQA confirms that the baseline identifined by the CME/PPs (Continuation of current practice (use of fuel wood as the main fuel)) is the senario that reasonably represents the anthropogenic emissions by sources of GHGs that would occur in the absence of the proposed project activity.	--	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS L.6.03	2	89. The DOE shall determine whether any procedure contained in the methodology to identify the most reasonable baseline scenario has been correctly applied. If the selected methodology requires the use of tools (such as the Tool for the demonstration and assessment of additionality and the Combined tool to identify the baseline scenario and demonstrate additionality) to establish the baseline scenario, the DOE shall consult the methodology on the application of these tools. In such cases, the specific guidance in the methodology shall supersede the corresponding requirements of the tool.	DR/SV	AMS-I.E. defines the baseline scenario as "It is assumed that in the absence of the project activity, the baseline scenario would be the use of fossil fuels for meeting similar thermal energy needs." and does not determine any procedure to identify the most reasonable baseline scenario.	NA	NA
VVS L.6.04	2	90. If the methodology requires several alternative scenarios to be considered in the identification of the most plausible baseline scenario, the DOE shall, based on financial expertise and local and sectoral knowledge, determine whether all scenarios that are considered by the project participants and any scenarios that are supplementary to those required by the methodology, are realistic and credible in the context of the proposed project activity and that no alternative scenario has been excluded.	DR	AMS-I.E. does not require seleval alternative scenarios to be considered in the identification of the most plausible baseline scenario. However, the following six alternative scenarios discussed in Part II, B.4. of the PoA-DD: (a) Continuation of current practice (use of fuel wood as the main fuel); (b) Fossil fuels currently not used mainly (LPG, coal, fuel oil, kerosene, etc.); (c) Grid electricity; (d) Renewable biomass (tree leaves, crop residue, dung, sawdust) use; (e) Use of renewable energy from biogas digester. (f) Use of other renewable energies. These baseline scenarios are considered to be reasonable in the context of the proposed CDM project activity.	OK	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS L.6.05	2	91. The DOE shall determine whether the most plausible baseline scenario identified is reasonable by validating the assumptions, calculations and rationales used in the PDD. It shall determine whether documents and sources referred to in the PDD are correctly quoted and interpreted. The DOE shall crosscheck the information provided in the PDD with other verifiable and credible sources, such as local expert opinion, if available.	DR/SV	The correctness for the following statements in E.4. (Part II, B.4.) of the PoA-DD are to be demonstrated: - It is also noted that only 30% of rural households can access to grid electricity. - Moreover, 84 million people live in rural area of Bangladesh. Only 0.1% of people have enjoyed the benefits of the biogas so far.	CL05	OK
VVS L.6.06	2	92. The DOE shall determine whether the PDD provides a description of the identified baseline scenario, including a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed project activity.	DR/SV	In Part II, B.4. of the PoA-DD, description of the identified baseline scenario, use of fuel wood as main fuel to meet thermal energy demand mainly for cooking, is provided.	OK	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS L.6.07	2	93. The DOE shall determine whether, drawing on its knowledge of the sector and/or advice from local experts, that all applicable CDM requirements have been taken into account in the identification of the baseline scenario for the proposed project activity, as well as relevant national and/or sectoral policies and circumstances, such as sectoral reform initiatives, local fuel availability, power sector expansion plans, and the economic situation in the project sector. Two (2) types of national and/or sectoral policies have to be taken into account: (a) National and/or sectoral policies or regulations that give comparative advantages to more emissions-intensive technologies or fuels over less emissions-intensive technologies or fuels, otherwise known as policies that increase GHG emissions, and are called type E+. For this type of national and/or sectoral policies or regulations, only those that have been implemented before adoption of the Kyoto Protocol by the COP (decision 1/CP.3, 11 December 1997) shall be taken into account when identifying a baseline scenario. If such national and/or sectoral policies were implemented since the adoption of the Kyoto Protocol, the baseline scenario shall refer to a hypothetical situation without the national and/or sectoral policies or regulations being in place;	DR/SV	Relevant national and/or sectoral policies and circumstances, such as sectoral reform initiatives, local fuel availability, power sector expansion plans, and the economic situation in the project sector, are to be discussed in the identification of the baseline scenario, if applicable.	CL06	OK

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS L.6.08	2	93. (b) National and/or sectoral policies or regulations that give comparative advantages to less emissions-intensive technologies over more emissions-intensive technologies (e.g. public subsidies to promote the diffusion of renewable energy or to finance energy efficiency programmes), otherwise known as policies that decrease GHG emissions, are called type E-. For this type of national and/or sectoral policies or regulations, those that have been implemented since the adoption by the COP of the CDM M&P (decision 17/CP.7, 11 November 2001) need not be taken into account in identifying a baseline scenario (i.e. the baseline scenario could refer to a hypothetical situation without the national and/or sectoral policies or regulations being in place).	DR/SV	Ditto.	--	OK
VVS L.6.09	2	94. The DOE shall clearly describe in the **validation report** the steps taken to assess the requirement and shall provide an opinion as to whether: (a) All the assumptions and data used by the project participants are listed in the PDD, including their references and sources;	DR/SV	Refer to Section 3.7.3. of the Validation Report.	--	OK
VVS L.6.10	2	94. (b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD;	DR/SV	Refer to Section 3.7.3. of the Validation Report.	--	OK
VVS L.6.11	2	94. (c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;	DR/SV	Refer to Section 3.7.3. of the Validation Report.	--	OK
VVS L.6.12	2	94. (d) Relevant national and/or sectoral policies and circumstances are considered and listed in the PDD;	DR/SV	Refer to Section 3.7.3. of the Validation Report.	--	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS L.6.13	2	94. (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 project activity.	DR/SV	Refer to Section 3.7.3. of the Validation Report.	--	OK
VVS L.6.14	2	88. The **validation report** shall clearly describe other steps taken, and sources of information used, by the DOE to cross-check the information contained in the PDD.	DR/SV	Refer to Section 3.7.3. of the Validation Report.	--	OK
VVS L.7.		**Algorithms and/or formulae used to determine emission reductions**				
VVS L.7.01	2	97. Where the methodology allows for selection between options for equations or parameters, the DOE shall determine whether the correct equations and parameters have been used, in accordance with the methodology selected[8] including applicable tool(s).	DR/SV	There is a registered PoA project, "Improved Cooking Stoves in Bangladesh (PoA 4791), which aims to disseminate the installation of Improved Cooking Stoves (ICS) for cooking purpose. The effect of the project PoA 4791, i.e., switching from ICS to biogas digester, is not taken into consideration for the equations to calculate emission reductions.	CL07	OK
VVS L.7.02	2	98. The DOE shall verify the justification given in the PDD for the choice of data and parameters used in the equations. If data and parameters will not be monitored throughout the crediting period of the proposed project activity but have already been determined and will remain fixed throughout the crediting period, the DOE shall determine whether all data sources and assumptions are appropriate and calculations are correct as applicable to the proposed project activity, and will result in an accurate or otherwise conservative estimate of the emission reductions.	DR	All data sources for parameters provided in Part II, B.6.2. of the PoA-DD are appropriate and will result in an accurate or otherwise conservative estimate of the emission reductions.	--	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS L.7.03	2	98. The DOE shall verify the justification given in the PDD for the choice of data and parameters used in the equations. If data and parameters will be monitored or estimated on implementation and hence become available only after validation of the project activity, the DOE shall determine whether the estimates provided in the PDD for these data and parameters are reasonable.	DR	Parameters provided in Part II, B.7.1. of the PoA-DD, which will be monitored on implementation and hence become available only after validation of the project activity, the estimates will be reported in each CPA.	NA	NA
VVS L.7.04	2	99. The DOE shall clearly describe in the **validation report** the steps taken to assess the requirement and shall provide an opinion as to whether: (a) All assumptions and data used by the project participants are listed in the PDD, including their references and sources;	DR	Refer to Section 3.7.4. of the Validation Report.	--	OK
VVS L.7.05	2	99. (b) All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD;	DR	Refer to Section 3.7.4. of the Validation Report.	--	OK
VVS L.7.06	2	99. (c) All values used in the PDD are considered reasonable in the context of the proposed CDM project activity;	DR	Refer to Section 3.7.4. of the Validation Report.	--	OK
VVS L.7.07	2	99. (d) The baseline methodology and corresponding tool(s) have been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions;	DR	Refer to Section 3.7.4. of the Validation Report.	--	OK
VVS L.7.08	2	99. (e) All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD.	DR	Refer to Section 3.7.4. of the Validation Report.	--	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS L.7.09	2	100. The **validation report** shall clearly describe how the DOE has verified the data and parameters used in the equations, including references to any other data sources used.	DR/SV	Refer to Section 3.7.4. of the Validation Report.	--	OK
VVS L.8.		Additionality of a project activity				
VVS L.8.01	2	102. The DOE shall assess and verify the reliability and credibility of all data, rationales, assumptions, justifications and documentation provided by project participants to support the demonstration of additionality. This requires the DOE to critically assess the evidence presented, using local knowledge and sectoral and financial expertise.	DR/SV	The capacity of biogas cookstove (independent sub-system), around 1.65 kWth, is calculated based on the biogas flow rate of 0.3m3/hr for a cookstove. However, according to the source of this biogas flow rate, Model Biogas Plant Construction Manual, IDCOL/SNV/KFWIDCOL, January 2011, provided from GS, single burner biogas stove consumes 300 to 350 liter biogas per hour while using for household purposes. If higher value, 0.35 m3/hr and default net calorific value of biogas provided in AMS-I.I. (Version 4.0; 0.0215 GJ/m3) is applied, the capacity of each household cookstove (independent sub-system) is estimated as 2.09kWth and, if microscale threshold is applied, the number of biogas shall be capped by 7,177, which is smaller than 8,000 currently applied. CME/PPs are requested to review the description of relevant parts in the PoA-DD for conservativeness.	CL08	OK
VVS L.8.02	2	103. If required by the applicable approved methodology, the DOE shall consider tools and guidelines provided by the Board to demonstrate the additionality of proposed project activities. The DOE shall also consider specific complementary or alternative requirements included in the methodology for demonstrating the additionality of the proposed project activity.	DR/SV	Refer to VVS A.3.01 and VVS A.3.02 below. Additionality is demonstrated based on the latest version of "Guidelines for demonstrating additionality of microscale project activities".	NA	NA
VVS L.8.03	2	104. The **validation report** shall clearly describe all steps taken, and sources of information used, by the DOE to cross-check the information contained in the PDD on this matter.	DR/SV	Refer to Section 3.7.5. of the Validation Report.	--	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS L.8.04	2	104. The **validation report** shall contain information regarding how the DOE has determined that the documentation assessed is authentic, where appropriate.	DR/SV	Refer to Section 3.7.5. of the Validation Report.	--	OK
VVS L.9.		Assessment of prior consideration of the clean development mechanism				
VVS L.9.01	2	105. The DOE shall determine whether CDM benefits were considered necessary in the decision to undertake the project as a proposed project activity if the starting date of the proposed project activity is prior to the start of validation, which is the date of publication of the PDD for global stakeholder consultation.	DR	The evidence of the starting date of the PoA (the date on which contracts have been signed for equipment or construction/ operation services required for the first CPA; 13/12/2011) is to be provided.	CL09	OK
VVS L.9.02	2	106. The DOE shall determine whether the start date of the project activity, reported in the PDD, is the earliest date at which either the implementation or construction or real action of a project activity begins.[10] [10] See the Glossary of CDM terms for additional information related to the start dates of other types of CDM project activities and PoAs.	DR	The start date of the PoA is the date in which the PoA-DD published for global stakeholder consultation. According to "Glossary: CDM terms" (version 07.0), in the context of a CDM PoA, start date is the date on which the coordinating/managing entity officially notifies the secretariat and the DNA of their intention to seek the CDM status or the date of publication of the PoA-DD for global stakeholder consultation in accordance with the relevant CDM rules and requirements.	OK	OK
VVS L.9.03	2	106. For project activities that require construction, retrofit or other modifications, the date of commissioning cannot be considered the project activity start date.	DR	The date of commissioning is not considered the project activity start date.	OK	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS L.9.04	2	106. The DOE shall determine whether it is a project activity with a start date: (a) On or after 2 August 2008; or (b) Before 2 August 2008.	DR	It is the PoA with a start date: (a) On or after 2 August 2008.	OK	OK
VVS L.9.05	2	107. For a project activity with a start date on or after 2 August 2008, for which a PDD has not been published for global stakeholder consultation or a new methodology has not been proposed to the Board before the project activity start date, the DOE shall confirm by referring to the list of prior consideration notifications from the UNFCCC website and communication between the project proponent, the secretariat and the host Party DNA regarding the commencement of a new project activity.[11] If such notification has not been provided by the project participants within 180 days of the project activity start date, the DOE shall determine that the CDM was not seriously considered in the decision to implement the project activity. [11] See EB 48, annex 62, Prior consideration of the CDM form.	DR	The start date of the PoA is the date in which the PoA-DD published for global stakeholder consultation.	OK	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS L.9.06	2	108. For a project activity with a start date before 2 August 2008, for which the start date is prior to the date of publication of the PDD for global stakeholder consultation, the DOE shall assess the project participants prior consideration of the CDM. Specifically, the DOE shall assess whether the project participants: (a) Had an awareness of the CDM prior to the project activity start date, and that the benefits of the CDM were a decisive factor in the decision to proceed with the project. Evidence to support this could include, inter alia, minutes and/or notes related to the consideration of the decision by the Board of Directors, or equivalent, of the project participants, to undertake the project as a proposed project activity;	DR	The start date of the PoA is after 2 August 2008.	NA	NA
VVS L.9.07	2	108. (b) Demonstrated that real and continuing actions were taken to secure CDM status for the project in parallel with its implementation. Evidence to support this could include one or more of the following: contracts with consultants for CDM/PDD/methodology services, draft versions of PDDs and underlying documents such as letters of authorization, and if available, letter of intent, emission reduction purchase agreements (ERPA) term sheets, ERPAs or other documentation related to the potential sale of the certified emission reductions (CERs) (including correspondence with multilateral financial institutions or carbon funds), evidence of agreements or negotiations with a DOE for validation services, submission of a new methodology or requests for clarification or revision of existing methodologies to the Board, publication in a newspaper, interviews with the DNA, and earlier correspondence on the project with the DNA or the secretariat.	DR	Ditto.	NA	NA

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS L.9.08	1	109. Assessment of real and continuing actions shall be conducted by the DOE and should focus on real documented evidence as indicated in paragraph 108(b) above, including an assessment by the DOE of the authenticity of the evidence. The DOE shall assess letters, e-mail exchanges and other documented communications submitted by the project participants to substantiate the above information, and these shall be considered as evidence only after the DOE has assessed the reliability and authenticity of such communications, inter alia through cross-checking (e.g. interviews).	DR	Ditto.	NA	NA
VVS L.9.09	2	110. In validating proposed project activities where: (a) There is less than two years of a gap between the documented evidence, the DOE shall conclude that continuing and real actions were taken to secure CDM status for the project activity;	DR	Ditto.	NA	NA
VVS L.9.10	2	110. (b) The gap between documented evidence is greater than two years and less than three years, the DOE may determine that continuing and real actions were taken to secure CDM status for the project activity and shall justify any positive or negative validation opinion based on the context of the evidence and information assessed;	DR	Ditto.	NA	NA
VVS L.9.11	2	110. (c) The gap between documented evidence is greater than three years, the DOE shall conclude that continuing and real actions were not taken to secure CDM status for the project activity.	DR	Ditto.	NA	NA

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS L.9.12	4	111. If evidence to support the serious prior consideration of the CDM as indicated above is not available, the DOE shall determine that the CDM was not considered in the decision to implement the project activity.	DR	Ditto.	NA	NA
VVS L.9.13	2	112. The **validation report** shall: (a) Describe the DOE's validation of the project activity start date provided in the PDD;	DR	Refer to Section 3.7.6. of the Validation Report.	--	OK
VVS L.9.14	2	112. (b) Describe the evidence for prior consideration of the CDM (if necessary) that was assessed and the process of cross-checking the evidence, including the real and continuing action;	DR	Evidence for prior consideration of the CDM is not necessary.	NA	NA
VVS L.9.15	2	112. (c) Provide a clear validation opinion regarding whether the proposed CDM project activity complies with the applicable requirements related to the prior consideration of the CDM.	DR	Refer to Section 3.7.6. of the Validation Report.	--	OK
VVS L.10.		Identification of alternatives				
VVS L.10.01	2	114. The DOE shall assess the list of alternatives given in the PDD and to determine whether: (a) The list of alternatives includes as one of the options that the project activity is undertaken without being registered as a proposed project activity; (b) The list contains all plausible alternatives that the DOE, on the basis of its local and sectoral knowledge, considers to be viable means of supplying the comparable outputs or services that are to be supplied by the proposed project activity; (c) The alternatives comply with all applicable and enforced legislation.	DR	Refer to VVS L.10.02 below.	NA	NA

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS L.10.02	2	115. Where the baseline scenario is prescribed in the approved methodology, no further analysis is required.	DR	Since small scale methodology is applied to the project activity, baseline scenario is prescribed.	OK	OK
VVS L.10.08	2	116. The **validation report** shall describe whether the DOE considers the listed alternatives to be credible and complete.	DR	Refer to Section 3.7.7. of the Validation Report.	--	OK
VVS L.11.		Investment analysis				
VVS L.11.31	2	118. The DOE shall apply the latest version of the Guidelines on the assessment of investment analysis as provided by the Board and with other relevant provisions.	DR/SV	As per "Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities" (version 03.0), additionality for the proposed PoA and a typical CPA are demonstrated based on "Guidelines for demonstrating additionality of microscale project activities" (version 05.0). Therefore, this step is not applicable.	NA	NA

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS L.11.32	2	119. The DOE shall determine whether the project activity is not the most economically or financially attractive alternative, or that it is not economically or financially feasible without CDM:[12] a) The proposed project activity would produce no financial or economic benefits other than CDM-related income. The DOE shall determine whether the documented costs associated with the proposed project activity and the alternatives identified demonstrate that there is at least one alternative which is less costly than the proposed project activity; (b) The proposed project activity is less economically or financially attractive than at least one other credible and realistic alternative; (c) The financial returns of the proposed project activity would be insufficient to justify the required investment. [12] It should be noted the latest version of the Guidelines on the assessment of investment analysis, and the requirements of specific methodologies may preclude the use of one of these options in certain scenarios.	DR/SV	Ditto.	NA	NA
VVS L.11.33	2	120. To verify the accuracy of financial calculations carried out for any investment analysis, the DOE shall: (a) Determine the suitability of the financial indicator selected by the project participants and conduct a thorough assessment of all parameters and assumptions used in calculating such financial indicators, and determine the accuracy and suitability of these parameters using available evidence and applying its expertise in relevant accounting practices;	DR/SV	Ditto.	NA	NA

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS L.11.34	2	120. (b) Cross-check the parameters against third-party or publicly available sources, such as invoices or price indices;	DR/SV	Ditto.	NA	NA
VVS L.11.35	2	120. (c) Review feasibility reports, public announcements and annual financial reports related to the proposed CDM project activity and the project participants;	DR/SV	Ditto.	NA	NA
VVS L.11.36	2	120. (d) Assess the correctness of computations carried out and documented by the project participants. (See Para. 8 of "Investment Analysis Guidelines")	DR/SV	Ditto.	NA	NA
VVS L.11.37	2	120. (e) Assess, where applicable, the sensitivity analysis by the project participants to determine under what conditions variations in the result would occur, and the likelihood of these conditions. (See Para. 20 and 21 of "Investment Analysis Guidelines")	DR/SV	Ditto.	NA	NA
VVS L.11.38	2	121. To confirm the suitability of any benchmark applied in the investment analysis, the DOE shall: (a) Determining whether the type of benchmark applied is suitable for the type of financial indicator presented; (See Para.12 of “Investment Analysis Guidelines”)	DR/SV	Ditto.	NA	NA
VVS L.11.39	2	121. (b) Ensure that any risk premiums applied in determining the benchmark reflect the risks associated with the project type or activity; (See Para. 6.(a) of Step 2 of "Additionality Tool" and Para.15 of "Investment Analysis Guidelines")	DR/SV	Ditto.	NA	NA

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS L.11.40	2	121. (c) Determine whether it is reasonable to assume that no investment would be made at a rate of return lower than the benchmark. (See Para. 6.(c) of Step 2 of "Additionality Tool")	DR/SV	Ditto.	NA	NA
VVS L.11.41	2	122. Where project participants rely on values from Feasibility Study Reports (FSR) that are approved by national authorities for proposed project activities, the DOE shall determine whether: (a) The FSR is the basis for the decision to proceed with the investment in the project, i.e. that the period of time between the finalization of the FSR and the investment decision is sufficiently short that it is unlikely in the context of the underlying project activity that the input values would have materially changed;	DR/SV	Ditto.	NA	NA
VVS L.11.42	2	122. (b) The values used in the PDD and associated annexes are fully consistent with the FSR, and where inconsistencies occur the DOE shall assess the appropriateness of the values;	DR/SV	Ditto.	NA	NA
VVS L.11.43	2	122. (c) The input values from the FSR are valid and applicable at the time of investment decision. The DOE shall confirm this on the basis of its specific local and sectoral expertise and by cross-checking or other appropriate means.	DR/SV	Ditto.	NA	NA
VVS L.11.44	2	123. The **validation report** shall: (a) Describe in detail how the parameters used in any financial calculations, including those taken from the FSR, if applicable, have been validated;	DR/SV	Refer to Section 3.7.8. of the Validation Report.	--	OK
VVS L.11.45	2	123. (b) Describe how the suitability of any benchmark applied has been assessed;	DR/SV	Refer to Section 3.7.8. of the Validation Report.	--	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS L.11.46	2	123. (c) Confirm whether the underlying assumptions are appropriate and the financial calculations are correct.	DR/SV	Refer to Section 3.7.8. of the Validation Report.	--	OK
VVS L.12.		Barrier analysis				
VVS L.12.16	2	125. The DOE shall determine whether issues that have a direct impact[15] on the financial returns of the project activity cannot be considered barriers and shall be assessed by investment analysis. This does not refer to either: (a) Risk related barriers, for example risk of technical failure, that could have negative effects on financial performance; or (b) Barriers related to the unavailability of sources of finance for the project activity.	DR/SV	As per "Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities" (version 03.0), additionality for the proposed PoA and a typical CPA are demonstrated based on "Guidelines for demonstrating additionality of microscale project activities" (version 05.0). Therefore, this step is not applicable.	--	NA
VVS L.12.17	2	126. The DOE shall apply a two-step process to assessing the barrier analysis performed, as follows: (a) Determine whether the barriers are real: The DOE shall assess the available evidence and/or conduct interviews with relevant individuals (including members of industry associations, government officials or local experts if necessary) to determine whether the barriers listed in the PDD exist. The DOE shall determine whether the existence of barriers is substantiated by independent sources of data such as relevant national legislation, surveys of local conditions and national or international statistics. If the existence of a barrier is substantiated only by the opinions of the project participants, the DOE shall not consider this barrier to be adequately substantiated. If the DOE considers, on the basis of its sectoral or local expertise, that a barrier is not real or is not supported by sufficient evidence, it shall raise a CAR to have reference to this barrier removed from the project documentation;	DR/SV	Ditto.	--	NA

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS L.12.18	2	126. (b) Determine whether the barriers prevent the implementation of the project activity but not the implementation of at least one of the possible alternatives: Since not all barriers present an insurmountable hurdle to a project activity being implemented, the DOE shall apply its local and sectoral expertise to judge whether a barrier or set of barriers would prevent the implementation of the proposed project activity and would not equally prevent implementation of at least one of the possible alternatives, in particular the identified baseline scenario.	DR/SV	Ditto.	NA	NA
VVS L.12.19	2	127. The **validation report** shall: (a) Provide an assessment of each barrier listed in the PDD, which describes how the DOE has undertaken validation of the barrier;	DR/SV	Refer to Section 3.7.9. of the Validation Report.	--	OK
VVS L.12.20	2	127. The **validation report** shall: (b) Provide an overall determination of the credibility of the barrier analysis performed.	DR/SV	Refer to Section 3.7.9. of the Validation Report.	--	OK
VVS L.13.		Common practice analysis				
VVS L.13.12	2	129. The DOE shall use official sources and its local and sectoral expertise to: (a) Assess whether the geographical scope (e.g. the defined region) of the common practice analysis is appropriate for the assessment of common practice related to the project activitys technology or industry type. For certain technologies, the relevant region for assessment will be local and for others it may be transnational/global. If a region other than the entire host country is chosen, the DOE shall assess the explanation of why this region is more appropriate;	DR	Common practice analysis is not applicable to the small-scale project activities.	NA	NA

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS L.13.13	2	129. (b) Determine to what extent similar and operational projects (e.g. using similar technology or practice), other than project activities,[17] have been undertaken in the defined region;	DR	Ditto.	NA	NA
VVS L.13.14	2	129. (c) Assess, if similar and operational projects, other than project activities, are already widely observed and commonly carried out in the defined region, whether there are essential distinctions between the proposed project activity and the other similar activities.[17] [17] Registered CDM project activities and CDM project activities that have been published on the UNFCCC website for global stakeholder consultation as part of the validation processes.	DR	Ditto.	NA	NA
VVS L.13.15	2	130. The **validation report** shall provide details regarding: (a) How the geographical scope of the common practice analysis has been validated, considering the technology or industry type to which the project activity belongs	DR	Refer to Section 3.7.10. of the Validation Report.	--	OK
VVS L.13.16	2	130. (b) How it has undertaken an assessment of the existence of similar projects;	DR	Refer to Section 3.7.10. of the Validation Report.	--	OK
VVS L.13.17	2	130.(c) How the DOE has assessed the essential distinctions between the proposed CDM project activity and any similar projects that are widely observed and commonly carried out;	DR	Refer to Section 3.7.10. of the Validation Report.	--	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS L.13.18	2	130. (d) Confirmation by the DOE that the proposed CDM project activity is not common practice.	DR	Refer to Section 3.7.10. of the Validation Report.	--	OK
VVS L.14.		Monitoring plan				
VVS L.14.01	2	132. The DOE shall apply a two-step process to meet the above requirement: (a) To assess compliance of the monitoring plan with the approved methodology and the applicable tool(s), the DOE shall: (i) Identify the list of parameters required by the selected approved methodology including applicable tool(s) by means of document review;	DR	The number of eligibility criterion quoted in the data compilation table for niburner in E.7.1 (Part II, B.7.1) of the PoA-DD is not correct.	CL10	OK
VVS L.14.02	2	132. (a) (ii) Confirm that the description of the monitoring plan contains all necessary parameters, that they are described and that the means of monitoring described in the plan complies with the requirements of the methodology including applicable tool(s).	DR/SV	According to E.7.1 (Part II, B.7.1) of the PoA-DD, BHHPJ and nCCS are monitored once by GS by undertaking a sample survey. It is requested to be demonstrated how it satisfies the monitoring requirement specified in Para 14 of AMS-I.E.	CL11	OK
VVS L.14.03	2	132. (b) To assess the implementation of the plan the DOE shall, by means of review of the documented procedures, interviews with relevant personnel, project plans and any physical inspection of the proposed project activity site, assess whether: (i) The monitoring arrangements described in the monitoring plan are feasible within the project design;	DR/SV	The monitoring arrangements described in the monitoring plan are feasible within the project design.	--	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS L.14.04	2	132. (b) (ii) The means of implementation of the monitoring plan, including the data management and quality assurance and quality control procedures, are sufficient to ensure that the emission reductions achieved by/resulting from the proposed project activity can be reported ex post and verified.	DR/SV	Data management system and QA/QC procedure based on NDBMP will be applied for monitoring. The means of implementation of monitoring plan are sufficient to ensure that the emission reductions achieved by/resulting from the proposed project activity can be reported ex post and verified.	--	OK
VVS L.14.07	2	133. The **validation report** shall: (a) State the DOE's opinion of the compliance of the monitoring plan with the requirements of the methodology including applicable tool(s);	DR/SV	Refer to Section 3.7.11. of the Validation Report.	--	OK
VVS L.14.08	2	133. The **validation report** shall: (b) Describe the steps undertaken to assess whether the monitoring arrangements described in the monitoring plan are feasible within the project design;	DR/SV	Refer to Section 3.7.11. of the Validation Report.	--	OK
VVS L.14.09	2	133. The **validation report** shall: (c) State the DOE's opinion of the project participants ability to implement the monitoring plan.	DR/SV	Refer to Section 3.7.11. of the Validation Report.	--	OK
VVS M.		Environmental impacts				
VVS M.01	2	134. The DOE shall determine whether the project participants conducted an analysis of the environmental impacts of the proposed project activity, including transboundary impacts, and whether those impacts are considered significant by the project participants or the host Party.	DR/SV	The CME/PPs has provided the analysis of the environmental impact assessment of the PoA in the PoA-DD, with reference to "Implementation Plan National Domestic Biogas and Manure Programme in Bangladesh", by IDCOL and SNV . The data for "Better sanitation (toilet)", 10-15%, in Table 3 in Part I, E.2 of the PoA-DD is not correctly quoted.	CL12	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS M.02	2	135. The DOE shall also determine whether the project participants conducted an environmental impact assessment, if required to do so by the host Party, in accordance with the host Partys procedures.	DR/SV	As described in Part I, E.1. of the PoA-DD, EIA is not required to biogas digester promotion project.	--	NA
VVS M.03	2	136. The DOE shall assess the above requirements by means of a document review and/or using local official sources and expertise.	DR/SV	Through the review of Environmental Conservation Rule in 1997 and interview with officer in Department of Environment (DoE), JQA confirms that environmental clearance is not required to the proposed PoA.	--	OK
VVS M.04	2	137. The **validation report** shall describe whether the project participants have undertaken an analysis of environmental impacts and, if required by the host Party, an environmental impact assessment in accordance with procedures as required by the host Party.	DR/SV	Refer to Section 3.8. of the Validation Report.	--	OK
VVS N.		Local stakeholder consultation				
VVS N.01	2	138. The DOE shall determine whether the project participants have completed a local stakeholder consultation process and that due steps were taken to engage stakeholders and solicit comments for the proposed project activity.	DR/SV	JQA confirms that the CME/PPs completed a LSC process and that due steps were taken to engage stakeholders and solicit comments for the proposed project activity. LSC meeting was held on 03/10/2011 in Mowna, Gazipur. It is prior to the publication of the PoA-DD and CPA-DD on the UNFCCC website on 13/12/2012. LSC was implemented in accordance with the procedure of the Gold Standard.	--	OK
VVS N.02	2	139. The DOE shall, by means of document review and interviews with local stakeholders as appropriate, determine whether: (a) Comments have been invited from local stakeholders that are relevant for the proposed project activity;	DR/SV	The comments were received from relevant local NGOs, biogas digester experts, households and poultry farm owner.	--	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS N.03	2	139. (b) The summary of the comments received as provided in the PDD is complete;	DR/SV	JQA has confirmed that the summary of the comments received provided in the PoA-DD is complete through the review of Gold Standard LSC report.	--	OK
VVS N.04	2	139. (c) The project participants have taken due account of all comments received and have described this process in the PDD.	DR/SV	Only clarifications about the proposed PoA were raised and no negative comments were received on the proposed PoA in the stakeholder consultation process.	--	NA
VVS N.05	2	130. The **validation report** shall: (a) Describe the steps taken to assess the adequacy of the local stakeholder consultation;	DR/SV	Refer to Section 3.9. of the Validation Report.	--	OK
VVS N.06	2	130. (b) Provide an opinion on the adequacy of the local stakeholder consultation.	DR/SV	Refer to Section 3.9. of the Validation Report.	--	OK
VVS O.		Validation status and outcomes, opinion, and report				
VVS O.1.		Validation status and outcomes				
VVS O.1.01	2	141. For each proposed project activity the DOE shall provide an update of the status of its validation activity, unless the project activity has been submitted for registration 180 days subsequent to the end of the period for the submission of public comments.	DR	JQA will provide an update of the status of its validation activity, unless the project activity has been submitted for registration 180 days subsequent to the end of the period for the submission of public comments.	OK	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS O.1.02	2	142. This status update shall indicate one of the following conditions: (a) The validation contract has been terminated in which case a reason for this termination shall be provided to the Board and secretariat on a confidential basis; or (b) A negative validation opinion has been issued; or (c) The DOE has raised one or more corrective action requests or clarification requests, to which no response has been received in which case the DOE shall provide a summary of the issues raised and update or reconfirm the status of its validation activities at three (3) month intervals thereafter; or (d) The DOE has finalized a positive validation opinion with the exception of the receipt of a valid letter of approval from one or more Parties involved in which case the DOE shall indicate which Party/Parties involved; or (e) Validation activities are ongoing and no corrective action or clarification requests have yet been sent to the project participants; in which case the DOE shall provide an explanation for the length of time taken and update or reconfirm the status of its validation activities on three (3) month intervals thereafter.	DR	The status update will indicate (a), (b), (c), (d) or (e).	OK	OK
VVS O.2.		Validation opinion				
VVS O.2.01	2	143. The DOE shall include a statement of the likelihood of the project activity achieving the anticipated emission reductions stated in the CDM-PDD.	DR/SV	The PoA-DD does not state about emission reductions and thus not applicable.	NA	NA

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS O.2.02	2	144. The DOE shall inform the project participants of the validation outcome. Notification to the project participants shall include: (a) A confirmation of validation and date of submission of the validation report to the Board; or (b) An explanation of reasons for non-acceptance if the project activity, as documented, is determined not to fulfil the requirements for validation.	DR/SV	JQA informed the PPs of the validation outcome including (a) A confirmation of validation and date of submission of the validation report to the Board.	--	OK
VVS O.2.02	2	145. The DOE shall provide either: (a) A positive validation opinion in its validation report that is submitted as a request for registration; or (b) A negative validation opinion in its validation report explaining the reason for its opinion if the DOE determines that the proposed project activity does not fulfil the applicable CDM requirements.	DR/SV	JQA provided (a) A positive validation opinion in its validation report that is submitted as a request for registration.	--	OK
VVS O.2.03	2	146. The **validation opinion** shall include the following: (a) A summary of the validation methodology and process used and the validation criteria applied; (b) A description of project components or issues not covered by the validation process; (c) A summary of the validation conclusions; (d) A statement on the validation of the expected emission reductions; (e) A statement as to whether the proposed project activity meets the stated criteria.	DR/SV	Refer to Section 4. of the Validation Report.	--	OK
VVS O.3.		Validation report				

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS O.3.01	2	147. The DOE shall include the final validation opinion in the validation report. The **validation report** shall include the following: (a) State its conclusions regarding the proposed project activitys conformity with applicable CDM requirements; (b) Give an overview of the validation activities carried out in order to arrive at the final validation conclusions and opinion; (c) Include the results of the dialogue between the DOE and the project participants, as well as any adjustments made to the project design following stakeholder consultation. It shall reflect the responses to CARs and CLs, and discussions on and revisions to project documentation.	DR/SV	Refer the Validation Report.	--	OK
VVS O.3.02	2	176. The **validation opinion** shall include the following: (a) A summary of the validation process and its conclusions; (b) All its applied approaches, findings and conclusions, especially on baseline selection, additionality, emission factors and monitoring; (c) Information on the global stakeholder consultation carried out by the DOE prior to submitting the project for validation, including dates and how comments received have been taken into consideration by the DOE; (d) A list of interviewees and documents reviewed; (e) Details of the validation team, technical experts, internal technical reviewers involved, together with their roles in the validation activity and details of who conducted the on-site visit; (f) Information on quality control within the team and in the validation process; (g) Appointment certificates or curricula vitae of the DOEs validation team members, technical experts and internal technical reviewers for the project activity.	DR/SV	Refer to Section 4. of the Validation Report.	--	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS VIII.		Specific Validation Requirements				
VVS A.		Small-scale project activities				
VVS A.1		Project activity eligibility				
VVS A.1.01	2	151. For a project activity that is within the small-scale project activity threshold but applies a large-scale approved methodology, the DOE shall determine whether this project activity follows the modalities and procedures for large-scale project activities.	DR	The CPAs to be included in the PoA is within the small-scale project activity threshold and applies a SSC methodology AMS-II.D.	NA	NA
VVS A.1.02	2	152. The DOE shall determine whether: (a) The project activity qualifies within the thresholds of the three possible types of small-scale project activities. It may include more than one component; for example, a type III methane recovery component activity and a type I electricity component activity;20	DR	A CPA under the PoA is qualified within the thresholds of Type I project activity, 15MWel. The CPAs under the PoA include only one component activity, Type I.	OK	OK
VVS A.1.03	2	(b) The project activity conforms to one or more of the approved small-scale methodologies applied in conjunction with the general guidelines to SSC CDM methodologies;21	DR	A CPA under the PoA confirms to Type I project activity and AMS-I.E. (version 05) is applied. General Guidelines to SSC CDM Methodologies, version 20.0, is also applied.	OK	OK
VVS A.1.04	2	(c) The proposed small-scale project activity is not a debundled component of a large-scale project22 activity.	DR	As per "Section II. GUIDANCE FOR DETERMINING THE OCCURRENCE OF DEBUNDLING UNDER A PROGRAMME OF ACTIVITIES (PoA)" in "Guidelines on assessment of de-bundling for SSC project activities" (Version 03.0), CPAs under the PoA is exempted from the debundling check since independent subsystems/measures included in the CPA of a PoA is no larger than 1% of the small-scale thresholds (= 450 kWth)	--	NA
VVS A.1.05	2	153. The DOE **shall indicate** whether the project activity meets the eligibility criteria for small-scale project activities.	DR	Refer to Section 3.10. of the Validation Report.	--	OK
VVS A.2		Debundling				

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS A.2.01	2	154. The DOE shall determine whether the proposed small-scale project activity is not a debundled component of a large-scale project activity in accordance with the "Guidelines on assessment of debundling for SSC project activities"23.	DR	As per "Section II. GUIDANCE FOR DETERMINING THE OCCURRENCE OF DEBUNDLING UNDER A PROGRAMME OF ACTIVITIES (PoA)" in "Guidelines on assessment of de-bundling for SSC project activities" (Version 03.0), CPAs under the PoA is exempted from the debundling check since independent subsystems/measures included in the CPA of a PoA is no larger than 1% of the small-scale thresholds (= 450 kWth)	--	OK
VVS A.2.02	2	155. The DOE shall determine the proposed small-scale project activity to be a debundled component of a large-scale project activity if there is a registered small-scale project activity or an application to register another small-scale project activity.	DR	Ditto.	--	OK
VVS A.2.03	2	156. The DOE shall, where appropriate, take into account specific debundling requirements for Type I project activities and small-scale transport project activities.	DR	Ditto.	--	OK
VVS A.2.04	2	157. The DOE shall **report** its conclusion and specific details on how it assessed whether the project activities are not a debundled component of a large scale activity.	DR	Refer to Section 3.10.2. of the Validation Report.	--	OK
VVS A.3		Additionality				
VVS A.3.01	2	159. The DOE shall refer to the specific requirements on demonstration of additionality for small-scale project activities24 and the Non-binding best practice examples to demonstrate additionality for SSC project activities.	DR/SV	Since a CPA under the PoA is microscale project activity, "Guidelines on the demonstration of additionality of small-scale project activities" and "Non-binding best practice examples to demonstrate additionality for SSC project activities" are not applied.	NA	NA

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS A.3.02	2	160. In the case of Type I project activities up to 5 MW that employ renewable energy as their primary technology, Type II energy efficiency project activities that aim to achieve energy savings at a scale of no more than 20 GWh per year, and Type III project activities that aim to achieve emissions reductions at a scale of no more than 20 ktCO2e per year, the DOE shall assess the relevant criteria to establish the automatic additionality for these projects.25 (See the latest "Guidelines for demonstrating additionality of microscale project activities")	DR/SV	Since a CPA under the PoA is microscale project activity, additionality of a CPA under the PoA is demonstrated based on "Guidelines for demonstrating additionality of microscale project activities" (Version 05.0).	OK	OK
VVS A.3.03	2	161. The DOE **shall describe** all steps taken, and sources of information used to cross-check the information contained in the PDD.	DR/SV	Refer to Section 3.10.3. of the Validation Report.	--	OK
VVS D.		Programme of activities/Component project activities				
VVS D.1		Coordinating/managing entity and participants in a PoA				
VVS D.1.01	2	186. The DOE shall assess the management system described in the PoA design document (CDM-PoA-DD) in accordance with the "Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities".	DR/SV	The management system described in the PoA-DD in accordance with (a)-(g) of "Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities".	--	OK
VVS D.2		CPA design document				
VVS D.2.01	2	187. The DOE shall assess any proposed CPA that a coordinating/managing entity wishes to include in the PoA, to determine whether it complies with the eligibility criteria specified in the CDM-PoA-DD. The means of validation to determine compliance with this requirement will be specific to the PoA.	DR	About the eligibility criterion (2), it is not clearly described how CME ensures the compliance of performance of biogas digester systems, biogas delivery lines and biogas cookstoves with IDCOL standards.	CL13	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS D.2.02	2	188. The DOE should consider a desk review of the documentation sufficient to determine compliance in certain instances and also consider follow-up interviews and/or site visits necessary for other types of PoA.	DR	Compliance of CPA with the eligibility criteria specified in the PoA-DD is assessed for each CPA.	NA	NA
VVS D.3		Description of a PoA/CPAs				
VVS D.3.01	2	189. The DOE shall assess the CDM-PoA-DD and the PoA-specific CDM-CPA-DD that is submitted by the coordinating/managing entity and shall confirm the framework developed for the implementation of the PoA, and defining a CPA under the PoA.	DR	The information provided in “Part I. Programme of activities” and “Part II. Generic component project activity (CPA)” in the PoA-DD shall be consistent.	CAR01	OK
VVS D.4		Application of multiple methodologies				
VVS D.4.01	2	190. The DOE shall assess the application of multiple methodologies in accordance with the Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities.	DR	Only sigle methodology is applied to a CPA.	NA	NA
VVS D.5		Boundary for the PoA in terms of geographical area				
VVS D.5.01	2	191. The DOE shall assess the boundary of the PoA within which all CPAs included in the PoA will be implemented.	DR	The geographical boundary of the PoA is the whole Bangladesh.	OK	OK
VVS D.5.02	2	192. The DOE shall determine whether, 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.	DR	JQA confirmed on-site that there are no national/sectoral policies and regulations about the biodigester in Bangladesh. Therefore, the chosen boundary is considered to be equal in the context of policies and regulations.	--	OK
VVS D.6		Start date of a CPA				
VVS D.6.01	2	193. The DOE shall confirm that the start date of any CPA is on or after the start date of the PoA.	DR	Start data of CPA will be checked by each CPA.	NA	NA
VVS D.7		Prior consideration of the CDM				

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS D.7.01	2	194. The DOE shall assess prior consideration of the CDM for the PoA applying the provisions of paragraph 107 above mutatis mutandis. 107. For a project activity with a start date on or after 2 August 2008, for which a PDD has not been published for global stakeholder consultation or a new methodology has not been proposed to the Board before the project activity start date, the DOE shall confirm by referring to the list of prior consideration notifications from the UNFCCC website and communication between the project proponent, the secretariat and the host Party DNA regarding the commencement of a new project activity.11 If such notification has not been provided by the project participants within 180 days of the project activity start date, the DOE shall determine that the CDM was not seriously considered in the decision to implement the project activity.	DR	The start date of the PoA is the date on which the PoA-DD published for global stakeholder consultation.	NA	NA
VVS D.8		Demonstration of additionality of the PoA as a whole				
VVS D.8.01	2	195. The DOE shall assess the additionality of a PoA in accordance with the "Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities".	DR	The additionality of the PoA is demonstrated in accordance with the "Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities".	--	OK
VVS D.8.02	8	7. Additionality shall be demonstrated by establishing that in the absence of CDM, none of the implemented CPAs would occur.	DR	It is establishing that in the absence of CDM, none of the implemented CPAs would occur.	--	OK
VVS D.8.03	8	8. PoAs that consist of one or more microscale projects as CPAs shall include eligibility criteria derived from all the relevant requirements of the Guidelines for demonstrating additionality of microscale project activities.	DR	Since the PoAs consist of microscale projects as CPAs, eligibility criteria (2) and (5) derived from all the relevant requirements of the Guidelines are included.	--	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS D.8.04	8	9. PoAs that consist of one or more small-scale projects as CPAs shall include eligibility criteria derived from all the relevant requirements of the “Guidelines for demonstrating additionality of small-scale project activities”.	DR	The PoA does not include small scale projects.	--	NA
VVS D.8.05	8	10. PoAs that consist of one or more large scale projects as CPAs shall include eligibility criteria derived from all the relevant requirements contained in the additionality section of the large scale methodologies.	DR	The PoA does not include large scale projects.	--	NA
VVS D.8.06	8	11. Large-scale CPAs (i.e. CPAs that apply one or more large scale and small scale CDM methodologies), small-scale CPAs (i.e. CPA exclusively applying small scale CDM methodologies) and microscale CPAs (i.e. CPAs exclusively comprised of units that comply with microscale thresholds) may be included in the same PoA. The “Guidelines for demonstrating additionality of microscale project activities” may be applied to a largescale or small-scale CPA if all of the units in the CPA are below the thresholds that define microscale project activities. The “Guidelines on the demonstration of additionality of small-scale project activities” may be used for small-scale CPAs only.	DR	Only microscale CPAs are included in the proposed PoA. Additionality demonstration is based on “Guidelines for demonstrating additionality of microscale project activities”. Refer to VVS A.3.01 and VVS A.3.02.	OK	OK
VVS D.8.07	8	12. The large-scale PoA-DD form and the large-scale CPA-DD form shall be used for PoAs applying both large-scale and small-scale methodologies.	DR	Large scale methodologies are not applied.	NA	NA

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS D.8.08	8	13. The CME shall demonstrate 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.	DR	Compliance with the additionality-related eligibility criteria (2) and (5) in the PoA-DD will ensure that “Guidelines for demonstrating additionality of microscale project activities” are met.	--	OK
VVS D.8.09	8	14. For PoAs involving combinations of technologies/measures and/or methodologies, the eligibility criteria relative to each of them shall be proposed to demonstrate additionality. Types of combinations as indicated in paragraph 31(a) to 31(d) below shall be taken into account.	DR	The PoA involves sigle technology/measure (domestic biodigester) and methodology (AMS-I.E.).	NA	NA
VVS D.9		Eligibility criteria for inclusion of a CPA in the PoA				
VVS D.9.01	2	196. The DOE shall assess the eligibility criteria for inclusion of a CPA in the PoA in accordance with the Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities.	DR/SV	JQA assesses the eligibility criteria for inclusion of a CPA in the PoA in accordance with the "Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities".	OK	OK
VVS D.9.02	8	15. The CME shall develop eligibility criteria for inclusion of a CPA under the PoA and shall include these criteria in the PoA design documents (e.g. CDM-PoA-DD, CDM-SSC-PoA-DD) and demonstrate their usability to assess the inclusion of CPAs in the generic CDM-CPA-DD.	DR/SV	The CME has developed 5 eligibility criteria for inclusion of a CPA under the PoA in the PoA-DD. The usability to assess the inclusion of CPAs is confirmed.	--	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS D.9.03	8	16. The eligibility criteria shall cover as a minimum the following:2 (a) The geographical boundary of the CPA including any time-induced boundary3 consistent with the geographical boundary set in the PoA;	DR	This requirement is covered by the following eligibility criterion: (1) The CME (IDCOL) define the period during which the biogas digester systems covered by the CPA are installed (e.g., 1/4/2012–31/9/2012). The CME provides a list of all user information with starting date of the service as well as the associated biogas digester and cookstoves for use. Summary list is attached to the CPA-DD and the electronic file is provided also to the DOE with full relevant information.	--	OK
VVS D.9.04	8	(b) Conditions that avoid double counting of emission reductions like unique identifications of product and end-user locations (e.g. programme logo);	DR	This requirement is covered by the following eligibility criterion: (3) The CPA is not a part of a registered CDM project or not a CPA under another PoA.	--	OK
VVS D.9.05	8	(c) The specifications of technology/measure including the level and type of service, performance specifications including compliance with testing/certifications;		This requirement is covered by the following eligibility criterion: (2) The CPA includes installation/construction of biogas digester systems, biogas delivery lines and biogas cookstoves at rural households or small and medium farms in Bangladesh. GS, under the supervision of the CME, has a records and documentation control process for each CPA as a part of its management system.	--	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS D.9.06	8	(d) Conditions to check the start date of the CPA through documentary evidence;	DR	This requirement is covered by the following eligibility criterion: (1) The CME (IDCOL) define the period during which the biogas digester systems covered by the CPA are installed (e.g., 1/4/2012–31/9/2012). The CME provides a list of all user information with starting date of the service as well as the associated biogas digester and cookstoves for use. Summary list is attached to the CPA-DD and the electronic file is provided also to the DOE with full relevant information.	--	OK
VVS D.9.07	8	(e) Conditions that ensure compliance with applicability and other requirements of single or multiple methodologies applied by CPAs;	DR	This requirement is covered by the following eligibility criterion: (5) The aggregated capacity of biogas cookstoves under a CPA is less than 15 MWth, i.e., the aggregated number of burners of cookstoves is less than 7,500.	--	OK
VVS D.9.08	8	(f) The conditions that ensure that CPAs meet the requirements pertaining to the demonstration of additionality as specified in Section A above;	DR	This requirement is covered by the following eligibility criterion: (5) The aggregated capacity of biogas cookstoves under a CPA is less than 15 MWth, i.e., the aggregated number of burners of cookstoves is less than 7,500.	--	OK
VVS D.9.09	8	(g) The PoA-specific requirements stipulated by the CME including any conditions related to undertaking local stakeholder consultations and environmental impact analysis;4	DR	About the eligibility criterion (4), the document quoted (Infrastructure Development Company Ltd. (IDCOL) Model Biogas Plant Construction Manual, IDCOL/SNV, April 2006) only provides standards for installations/operations of fixed dome type biogas digester and not covers fiberglass digesters, which may included in a CPA according to A.4.2. (Part I, A.6.) of the PoA-DD. Standards for the fiberglass digester and non-NDBMP digesters are also to be defined here.	CL14	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS D.9.10	8	(h) Conditions to provide an affirmation that funding from Annex I parties, if any, does not result in a diversion of official development assistance;		This requirement is not covered by the eligibility criteria. An affirmation that funding from Annex I parties does not result in a diversion of official development assistance is made at the PoA level.	--	NA
VVS D.9.11	8	(i) Where applicable, target group (e.g. domestic/commercial/industrial, rural/urban, grid-connected/off-grid) and distribution mechanisms (e.g. direct installation);5		This requirement is covered by the following eligibility criterion: (2) The CPA includes installation/construction of biogas digester systems, biogas delivery lines and biogas cookstoves at rural households or small and medium farms in Bangladesh. GS, under the supervision of the CME, has a records and documentation control process for each CPA as a part of its management system.		OK
VVS D.9.12	8	(j) Where applicable, the conditions related to sampling requirements for a PoA in accordance with the approved guidelines/standard from the Board pertaining to sampling and surveys;	DR	This requirement is not covered by the eligibility criteria. The PoA-DD includes sampling plan/requirements for a CPA under the PoA.	--	NA
VVS D.9.13	8	(k) Where applicable, the conditions that ensure that every CPA in aggregate meets the small-scale or microscale threshold criteria6 and remains within those thresholds throughout the crediting period of the CPA;	DR	This requirement is covered by the following eligibility criterion: (5) The aggregated capacity of biogas cookstoves under a CPA is less than 15 MWth, i.e., the aggregated number of burners of cookstoves is less than 7,500.	--	OK
VVS D.9.14	8	(l) Where applicable, the requirements for the debundling check, in case CPAs belong to small-scale (SSC) or microscale project categories.7		A CPA under the PoA is exempted from the debundling check. Refer to VVS A.1.04.	NA	NA
VVS D.9.15	8	16. Footnote 2 Validating DOE and/or the Board may specify additional criteria depending on the specific characteristics of a PoA.	DR	Additional eligibility criteria are not necessary.	--	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS D.9.16	8	17. The eligibility criteria shall be verifiable.	DR	The eligibility criteria have been made verifiable. The means of assessment by the DOE at the time of inclusion are also described in Part I, B.2. of the PoA-DD.	--	OK
VVS D.9.17	8	18. The validating DOE shall determine whether the eligibility criteria are sufficiently objective and comprehensive to permit the assessment of the inclusion of CPAs in the PoA.	DR/SV	The eligibility criteria are sufficiently objective and comprehensive to permit the assessment of the inclusion of CPAs in the PoA..	--	OK
VVS D.9.18	8	19. The CME shall have the competencies to check the features of potential CPAs and ensure that each CPA meets all requirements and eligibility criteria before inclusion in the registered PoA. The CME shall develop and implement a management system that includes the following made available to the DOE at the time of validation of the PoA: (a) A clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies;	DR/SV	A clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies is provided in Section C of the PoA-DD.	--	OK
VVS D.9.19	8	(b) Records of arrangements for training and capacity development for personnel;	DR/SV	Through the review of NDBMP IP 2010-12, JQA confirms that the training following comprehensive training will be provided under NDBMP and PoA specific requirements are planned to be integrated into them: - Mason Training - Supervisors Training - Refresher Training to the Existing Masons - Refresher Training to the Existing Supervisors - Management Training - Training of Trainers - Slurry Management and Utilization Training - Biogas Users Training - Gender Mainstreaming Training	--	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS D.9.20	8	(c) Procedures for technical review of inclusion of CPAs;	DR/SV	IDCOL (the director who leads NDBMP) is responsible for inclusion of each CPA supported by PEAR. Inclusion is double-checked by IDCOL and PEAR.	--	OK
VVS D.9.21	8	(d) A procedure to avoid double counting (e.g. to avoid the case of including a new CPA that has already been registered either as a CDM project activity or as a CPA of another PoA);	DR/SV	The eligibility riterion (3) in part I, B.2. of the PoA-DD defines procedure to avoid double counding as follows: IDCOL is to prepare the database in order to meet this criterion for the cases mentioned below: (a) User households of the CPA are not covered by other existing CPAs of this PoA, by checking that the period to define the CPA is different from others. Basically this is true, but if some overlap is set for the period, the households in the overlapping period is checked to avoid double-counting; and (b) User households of the CPA used ICS before use of biogas will not result in double counting of emission reductions, by introducing checking system in the database.	--	OK
VVS D.9.22	8	(e) Records and documentation control process for each CPA under the PoA;	DR/SV	Records and documentation control process for each CPA under the PoA is described in Part II, B.7.2. of the PoA-DD.	--	OK
VVS D.9.23	8	(f) Measures for continuous improvements of the PoA management system;	DR/SV	The following measures for continuous improvements of the PoA mamagement system is described in Table 2 of Section C of the revised PoA-DD. - IDCOL review each type of CPAs and the PoA as a whole annually and assess the performance as its integrated part of the Users Survey. If necessary, it revises the current programme. The changes of the programme scheme are to be described in the monitoring plan by IDCOL.	--	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS D.9.24	8	(g) Any other relevant elements.	DR/SV	There is no any other relevant element.	--	OK
VVS D.9.25	8	20. The DOE shall assess the elements of the management system referred to in paragraph 19 as part of the validation of the PoA or as part of the validation of the CPA inclusion.	DR/SV	As described in VVS D.9.18 - 24 above, JQA has assess the elements of the management system referred to in paragraph 19 as part of the validation of the PoA.	--	OK
VVS D.9.26	8	21. The CPAs shall be included in the PoA on the basis that the DOE has confirmed the eligibility of CPAs where applicable undertaking sample-based checks in accordance with the approved guidelines/standard from the Board.	DR	Not applicable.	NA	NA
VVS D.9.27	8	22. For PoAs that include combinations of technologies/measures and/or methodologies, distinct eligibility criteria shall be developed per combination as specified in paragraph 31(a) to 31(d), in Section C below.	DR	The proposed PoA includes only one technologies/measures and methodology.	NA	NA
VVS D.10		Crediting period of a PoA/CPA				
VVS D.10.01	2	197. The DOE shall determine whether the length of a PoA does not exceed 28 years (60 years for A/R).	DR	The duration of the PoA is 28 years 0 month	OK	OK
VVS D.11		Monitoring plan for a PoA/CPA				
VVS D.11.01	2	198. The DOE shall determine whether the monitoring plan for a CPA is in accordance with the approved monitoring methodology, including applicable tool(s).	DR/SV	Refer to VVS L.14.	--	OK
VVS D.12		Environmental analysis of a PoA				
VVS D.12.01	2	199. The DOE shall determine whether an analysis of the environmental impacts of the PoA was undertaken as per the requirements of the CDM modalities and procedures.	DR/SV	Refer to VVS M.	--	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS D.12.02	2	200. If the analysis was not undertaken for the PoA but conducted at the CPA level, the DOE shall determine whether the analysis of the environmental impacts was conducted as described in the CDM-PoA-DD and the CDM-CPA-DD.	DR	The einvronmental analysis is undertaken at the PoA level.	NA	NA
VVS D.13		Local stakeholder consultation				
VVS D.13.01	2	201. The DOE shall determine whether the local stakeholder consultation process was carried out for the whole PoA or at the CPA level. If comments by local stakeholders were invited with regard to the whole PoA, the DOE shall determine how these comments were invited; whether the summary of the comments received is complete and how due account was taken of all comments received.	DR/SV	Refer to VVS N.	--	OK
VVS D.13.02	2	202. If the local stakeholder consultation is conducted at the CPA level, the DOE shall determine whether it is in accordance with the level of consultation specified by the coordinating/managing entity and whether the local stakeholder comments were taken into account and described in the CDM-PoA-DD and the CDM-CPA-DD.	DR/SV	Ditto.	--	OK
VVS D.14		Determination of occurrences of debundling under a PoA29				

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
VVS D.14.01	2	203. The DOE shall ascertain that the proposed small-scale CPA of a PoA is not a debundled component of a large-scale project activity in accordance with the Guidelines on assessment of debundling for SSC project activities. 29 If each of the independent subsystems/measures (e.g. biogas digester, solar home system) included in the CPA of a PoA is no larger than 1% of the small-scale thresholds defined by the methodology applied, i.e. 150 kW installed capacity or 0.6 GWh annual energy savings or 0.6 ktCO2e annual emission reductions, then that CPA of PoA is exempted from the de-bundling check, i.e. is considered as not being a debundled component of a large-scale activity.	DR	According to "Guidelines on assessment of de-bundling for SSC project activities" (ver. 03), Section II, "Guidance for determining the occurrence of de-bundling under a programme of activities (PoA)", Paragraph 10, CPAs under the PoA is exempted from performing de-bundling check.	NA	NA
VVS D.15		Inclusion or renewal of a crediting period of a CPA under a registered PoA				
VVS D.15.01	2	204. The DOE shall assess the CPA and the specific CDM-CPA-DD against the latest version of the PoA to determine whether the CPA meets the requirements of the PoA.	DR	Inclusion of the CPA is not relevent for the validation of the PoA	NA	NA
SSS		Standard for sampling and surveys for CDM project activities and programme of activities				
SSS 01	9	21. The proposed sampling plans shall be validated by DOEs21 to determine whether they will provide parameter value estimates in an unbiased and reliable manner including determining: (a) Whether the proposed sample size and sampling method is adequate to achieve the minimum confidence/precision requirements. DOEs shall be able to reproduce the sample size calculation in order to validate the proposed sample size; 20 Recommended evaluation criteria are included in “Guidelines for sampling and surveys for CDM project activities and programme of activities”.	DR	The proposed sample size for RO,y, which is calculated by based on Equation (1) (proportion parameter of interest; simple random sampling) in Appendix 1 of “Guidelines for sampling and surveys for CDM project activities and programme of activities”, and sampling method (simple random sampling) is adequate to achieve 90/10 for annual sampling. JQA is able to reproduce the sample size calculation in order to validate the proposed sample size.	--	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
SSS 02	9	(b) Whether the proposed sampling plan will ensure that samples are randomly selected and are representative of the population.	DR	The proposed sampling plan ensures that samples are randomly selected and are representative of the population.	--	OK
GSS		Guideline for sampling and surveys for CDM project activities and programme of activities				
GSS 01	10	8. Recommended evaluation criteria for DOE validation 41. The following questions and evaluation criteria serve as examples and should be utilized by DOEs to validate the proposed sampling plans: (a) Does the sampling plan present a reasonable approach for obtaining unbiased, reliable estimates of the variables? (i) In terms of assessing reliability, are the elements of Objectives and Reliability Requirements complete? Do the requirements specified agree with those stated in the appropriate standards? If not, is there a reason why they are not met?	DR	Since sampling is applied to BHHPJ and nCCS, sampling plan is to be provided in the PoA-DD with reference to "Standard for sampling and surveys for CDM project activities and programme of activities" so as to present a reasonable approach for obtaining unbiased, reliable estimates of the variables.	CL15	OK
GSS 02	10	(ii) From all the different elements of the Design, is there any reason to suspect that the results from the activity will be biased? For instance, is the population under consideration only urban households? What about rural households? Might this cause a bias when the data are extrapolated to emission reductions?	DR	Ditto.	--	OK
GSS 03	10	(b) Is the population clearly defined, and how well does the proposed approach to developing the sampling frame represent that population? (i) The population should be clear from the Target Population description. Whether or not the sampling frame is possible or appropriate will depend on the detail and the particular situation, for example if a map is going to be used, a question would be whether a map already exists, and how reliable it is. If a map does not exist, then who is going to create it?	DR	The following target population does not clearly describe whether households other than those included in CPAs under the PoA are included or not and how sampling flame will be developed: - BHHPJ: households using biogas already. - nCCS: households using conventional biomass cookstoves, excluding the household with (a) improved cookstove(s).	CL16	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
GSS 04	10	(c) Is the proposed sampling approach clear? (i) Is it clear which sampling method is being proposed? For example, is it simple random sampling, or some other method of sampling?	DR	The proposed sampling approach is not clearly defined.	CL17	OK
GSS 05	10	(ii) Does the method agree with the description of the population? Are there clusters or strata, and if so does it state what they are? For example, are they buildings, villages, etc.?	DR	Ditto.	--	OK
GSS 06	10	(d) Is the proposed sample size adequate to achieve the minimum confidence/precision requirements? Is the ex ante estimate of the population variance needed for the calculation of the sample size adequately justified? (i) All of the information set out in the sampling plans should help answer this question. If not all information is provided then the question cannot be answered;	DR	The CME/PPs are requested to justify the rationale of sampling size of 100 households for BHHPJ and nCCS.	CL18	OK
GSS 07	10	(ii) Is the target value for the population parameter reasonably anticipated?	DR	Ditto.	--	OK
GSS 08	10	(iii) Does the estimate of variability seem reasonable?	DR	Ditto.	--	OK
GSS 09	10	(e) Is the sample representative? (i) Is it clear how the sample is to be selected? For example, is it to be selected randomly?	DR	It is not clear how the sample is to be selected.	CL19	OK
GSS 10	10	(ii) Does the Plan indicate that the sampling frame will be kept (e.g. in hard copy or a computer file of screen shot copy), and that random numbers will be generated and these random numbers will then be used to select the sample?	DR	Ditto.	--	OK

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
GSS 11	10	(f) Is the data collection/measurement method likely to provide reliable data given the nature of the parameters of interest and project, or is it subject to measurement errors? (i) Are the methods of data collection clear and unambiguous? Are there questions which could be subject to respondent error due to sensitivity (e.g. “How much money do you spend on heating?”), lack of recall (e.g. “How many times did you buy fuel last year?”), and the like?	DR	It is not clear how the CME/PPs confirm the followings by what questions: 1) Project woody biomass consumption per household in a year (BHHPJ) and; 2) Number of conventional cookstoves per household (nCCS)	CL20	OK
GSS 12	10	(ii) Are there questions that could be subject to measurement error? For example, is a particular measurement method known to under-record key data, such as the weight of bricks?	DR	Ditto.	--	OK
GSS 13	10	(g) Are the procedures for the data measurements well defined and do they adequately provide for minimizing non-sampling errors? (i) Is the quality control and assurance strategy adequate?	DR	The procedure for the data measurement and QA/QC strategy for sampling are not clear.	CL21	OK
GSS 14	10	(ii) Are there mechanisms6 for avoiding bias in the answer?	DR	Ditto.	--	OK
GSS 15	10	(h) Does the frame contain the information necessary to implement the sampling approach? (i) Are the proposed skill sets, qualifications and experience of the personnel to be engaged to conduct sampling adequate?	DR	The proposed skill sets, qualifications and experience of the personnel to be engaged to conduct sampling are not described.	CL22	OK
GSS 16	9	23. As one means of validation/verification, a DOE may apply a sampling approach when the project proponents have not applied a sampling approach, provided that samples are randomly selected and are representative of the population.	DR	Not applicable.	NA	NA

Appendix A

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
GSS 17	10	24. When a sampling approach is applied by the project proponents, the DOE may use acceptance sampling as described in below steps (paragraphs 25- 27 below) as part of validation21/verification activities to meet the requirements of paragraph 21 and 22 above: (a) Take a random sample of the PPs sample records; (b) Check – using own professional judgment – the acceptability (or otherwise) of the data for each record in the PPs sample records, and then; (c) Based on the number of records where there is agreement, determine if the PPs sample records meet the requirements.	DR	Ditto.	NA	NA
GSS 18	10	25. In order to determine the size of the sample for field/onsite check, the DOE should specify in advance, using own professional judgment: (a) Acceptable quality level or the Level of Assurance, i.e. the proportion of discrepancies between the PP sample records and the DOE sample records (i.e. DOE field/onsite inspection results) that are acceptable, e.g. 1%; (b) The proportion of discrepancies between the PP sample record and DOE sample records that are unacceptable, e.g. 10%.	DR	Ditto.	NA	NA
GSS 19	10	26. The maximum errors associated with the determination indicated in paragraph 25 should remain at levels indicated below: (a) A 5% chance that the DOE will wrongly reject the PPs records (i.e. reject a set of records of acceptable quality);22 (b) A 5% chance that the DOE will wrongly accept the PPs records (i.e. accept a set of records which is unacceptable).23	DR	Ditto.	NA	NA

Section Seq. No.	Ref. No.	Requirement	MoV	Comments	Draft Conc.	Final Conc.
GSS 20	10	27. Using provisions under paragraphs 25 to 26 the DOE should determine: (a) n: the size of the sample;24 (b) c: the acceptance number. If the DOE observes greater than c discrepant records in the sample then the PPs set of records is not accepted. If the number of discrepant records is equal to or less than c then the PPs set of records is accepted.	DR	Ditto.	NA	NA

TABLE 3: Requirements for checking the completeness of CDM-SSC-PoA-DD and comments

Section Seq. No.	Ref. No.	Requirement	Comments	Draft Conc.	Final Conc.
A.0 **Part I**		**Programme of activities (PoA)**			
A		General description of PoA			
A.1		Title of the PoA			
A.1.1	1	(a) The title of the proposed PoA;	Programme for Promotion of Access to Domestic Biogas in Rural Bangladesh	OK	OK
A.1.2	1	(b) The current version number of the PoA-DD;	Version: 5.0	OK	OK
A.1.3	1	(c) The date the PoA-DD was completed (DD/MM/YYYY)	Date: 15/01/2014	OK	OK
A.2		Purpose and general description of the PoA			
A.2.1	1	(a) Policy/measure or stated goal that the PoA seeks to promote;	The goal of the PoA is to accelerate dissemination of biogas application in rural Bangladesh using micro-credit scheme (to reduce the burden for initial investment) with the additional carbon credit-related revenue through the programme.	OK	OK
A.2.2	1	(b) Framework for the implementation of the proposed PoA.	The PoA promotes introduction of biogas digester for rural households coordinated by IDCOL and implemented by the offices of Grameen Shakti (GS) and other partner organizations.	OK	OK
A.2.3	1	Include a confirmation that the PoA is a voluntary action by the CME.	The PoA voluntarily promotes introduction of biogas digesters for rural households coordinated by IDCOL and implemented by the offices of Grameen Shakti (GS) and other partner organizations.	--	OK

Section Seq. No.	Ref. No.	Requirement	Comments	Draft Conc.	Final Conc.
A.2.4	1	Include a brief description of how the proposed PoA contributes to sustainable development (not more than one page).	The PoA will contribute to reduce deforestation as the biogas generated will be used to replace mostly non-renewable biomass consumed by households; and also improve the environment of target rural area and households using animal manures which causes indoor air pollution as well. It also set the trajectory of no carbon development pathway by utilizing indigenous renewable energy source in rural Bangladesh.	--	OK
A.3		CMEs and participants of PoA			
A.3.1	1	(a) Identity of the CME of the proposed PoA, as the entity which communicates with the Board;	- Infrastructure Development Company Limited (IDCOL)	--	OK
A.3.2	1	(b) Project participants to the PoA (project participants may or may not be involved in one of the component project activities (CPAs) related to the PoA).	- Grameen Shakti (GS) - PEAR Carbon Offset Initiative, Ltd.	--	OK
A.4		Party(ies)			
A.4.1.1	1	List in the table Party(ies) and CMEs involved in the proposed PoA and provide contact information in Appendix 1.	Parties (Bangladesh and Japan) and CMEs/PPs involved in the proposed PoA are provided in the table and contact information of them are provided in Appendix 1.	--	OK
A.5		Physical/ Geographical boundary of the PoA			
A.5.1	1	Provide details of the defined boundary of the proposed PoA in terms of a geographical area (e.g. municipality, region within a country, country or several countries) within which all CPAs to be included in the PoA will be implemented.	The PoA covers whole Bangladesh which sits in between 24° 00' North latitude and 90° 00' East longitude	OK	OK
A.6		Technologies/measures			

Section Seq. No.	Ref. No.	Requirement	Comments	Draft Conc.	Final Conc.
A.6.1	1	Describe the technologies and/or measures to be employed and/or implemented by the CPAs in the PoA.	- A typical biogas digester system consists of function parts including inlet, gas tube, movable cover, hydraulic chamber, dome, inlet pipe and fermentation chamber. - A typical biogas cookstove consists of gas supply tube, gas tap/valve, gas injector jet, primary air opening(s) or regulator, throat, gas mixing tube/manifold, burner head, burner ports (orifices), pot supports and body frame.	OK	OK
A.6.2	1	For the description of above, where relevant, consider applicable provisions for application of selected baseline and monitoring methodology for small-scale project activities in the Project standard.	According to Para 94 of PS, for household devices/appliances, project participants may disregard the remaining lifetime.	OK	OK
A.6.3	1	Do not provide information that is not essential to understanding the purpose of the PoA and how it reduces GHG emissions.	Information that is not essential to understanding the purpose of the PoA and how it reduces GHG emissions is not provided.	OK	OK
A.6.4	1	Information related to equipment, systems and measures that are auxiliary to the main scope of the CPAs in the PoA and do not affect directly or indirectly GHG emissions and/or mass and energy balances of the processes related to the CPAs in the PoA should not be included.	Information related to equipment, systems and measures that are auxiliary to the main scope of the CPAs in the PoA and do not affect directly or indirectly GHG emissions and/or mass and energy balances of the processes related to the CPAs in the PoA are not be included.	OK	OK
A.7		Public funding of PoA			
A.7.1	1	Indicate whether the PoA receives public funding from Parties included in Annex I.	The PoA receives public funding from Parties included in Annex I including Government of Netherlands, DGIS, ABP and KfW.	--	OK

Section Seq. No.	Ref. No.	Requirement	Comments	Draft Conc.	Final Conc.
A.7.2	1	If so: (a) Provide information on Parties providing public funding;	Out of the total amount required for implementing the programme, Government of Netherlands/DGIS/ABP provides Euro 1.35 million for programme operation cost whereas Government of Bangladesh is expected to contribute about Euro 0.37 million on part of subsidy at the rate of 15 percent of subsidy amount while KfW fund of about Euro 2.1 million will be utilized for covering the subsidy for the period of 2010-2012. In addition KfW will also provide Euro 3.1 million for refinancing the construction of biogas plants.	--	OK
A.7.3	1	If so: (b) Attach in Appendix 2: the affirmation obtained from such Parties in accordance with applicable provisions related to official development assistance in the Project standard.	It is also noted that any Annex I Party government will not obtain CERs in compensation for the ODA.	--	OK
B		Demonstration of additionality and development of eligibility criteria			
B.1		Demonstration of additionality for PoA			
B.1.1	1	Describe how in the absence of CDM, none of the implemented CPAs would occur.	As per the “Guidelines for Demonstrating Additionality of Microscale Project Activities” (paragraph 2, (c)), all CPA are additional, because the capacity of each household biogas cookstove (independent sub-system) is around 1.65–1.93 kWth (for single burner), i.e., much less than the threshold 1,500 kWe (4,500 kWth) and all end users of the sub-systems are households. It is noted that since all CPAs are regarded as additional, the aggregated PoA delivers additional emission reductions.	--	OK
B.2		Eligibility criteria for inclusion of a CPA in the PoA			
B.2.1	1	Describe the eligibility criteria in accordance with the applicable provisions in the PoA standard.	The eligibility criteria are described in accordance with the applicable provisions in the PoA standard.	--	OK
B.3.		Application of methodologies			

Section Seq. No.	Ref. No.	Requirement	Comments	Draft Conc.	Final Conc.
B.3.1	1	Describe the technology/measures and indicate the methodology chosen.	AMS-I.E. (Version 05) “Switch from non-renewable biomass for thermal applications by the user” is applied to the biogas digesters for domestic cooking energy use, i.e., replacing biomass which is considered to be non-renewable for the calculation of CO2 emission reductions	--	OK
B.3.2	1	In cases where multiple technologies/measures or multiple methodologies are being applied, list all the combinations of technologies/measures and methodologies that will be used in the PoA.	Only single technology/measure and single methodology is applied and thus not applicable.	--	NA
B.3.3	1	If applicable, provide a description of the sampling plan and demonstrate how it meets applicable provisions in the “Standard for sampling and surveys for CDM project activities and programme of activities”.	For sampling plan, see Appendix 5 which is consistent with the relevant Standard	--	OK
C		Management system			
C.1	1	Describe the management system in accordance with applicable provisions in the PoA standard.	The management system are described in accordance with Para 19 in the PoA standard.	--	OK
D		Duration of PoA			
D.1		Start date of PoA			
D.1.1	1	Describe how the start date was determined.	The start date of the PoA is the date of the publication of the PoA-DD for global stakeholder consultation. This date is 13/12/2011.	--	OK
D.2		Length of the PoA			
D.2.1	1	State the length of the proposed PoA in years.	28 years 0 month	OK	OK
E		Environmental impacts			
E.1		Level at which environmental analysis is undertaken			

Section Seq. No.	Ref. No.	Requirement	Comments	Draft Conc.	Final Conc.
E.1.1	1	Indicate whether the analysis of environmental impacts is performed at the PoA and/or the CPA level, and justify the choice of level at which the analysis is undertaken.	Biogas digester promotion projects are seen to have few negative impacts on environment. Especially domestic biogas digester promotion projects are implemented at household level and their impact on environment is identical in most extension regardless of location; therefore, environmental clearance certificate will be gained at the PoA level.	OK	OK
E.2		Analysis of the environmental impacts			
E.2.1	1	If applicable, provide a summary of analysis of the environmental impacts and reference to all related documentation in accordance with applicable provisions related to environmental impacts for PoAs in the Project standard.	No environmental impact assessment is required by the Government for the activities implemented under the PoA.	OK	NA
F		Local stakeholder comments			
F.1		Solicitation of comments from local stakeholders			
F.1.1	1	Indicate whether the local stakeholder consultation process is performed at the PoA and/or the CPA level, and justify the choice of level at which the local stakeholder consultation is undertaken.	Since CPAs under the PoA will be implemented dispersedly in all rural Bangladesh, which is also the geographical boundary for the PoA and the program design, distribution and implementation aspects including the CDM issues are essentially uniform across the country with no CPA specific characteristics, hence it is appropriate to conduct a stakeholder consultation at a PoA level. It is undertaken on 03/10/2011 in Mowna, Gazipur.	OK	OK

Section Seq. No.	Ref. No.	Requirement	Comments	Draft Conc.	Final Conc.
F.1.2	1	Describe the process by which comments from local stakeholders were invited and compiled.	The local stakeholder consultation was conducted as per requirements of the Gold Standard process. A brief programme introduction was given by the representatives of the project participants followed by giving clarifications to questions and comments. The floor was then open for the stakeholders for their sustainable development assessment on the programme and then for evaluation the consultation process.	OK	OK
F.2.		Summary of comments received			
F.2.1	1	Identify stakeholders that have made comments and provide a summary of these comments.	-The most of the potential poultry farm owners unfolded their interests to have access to microcredit facility for installation of biogas digesters with the size (capacity) of above 4.8 m3/day. - Stakeholders also requested clarifications of benefits for them from the programme. - All participants showed their positive attitudes to the programme and there were no comments regarding objections to the proposed PoA.	OK	OK
F.3.		Report on consideration of comments received			
F.3.1	1	Provide information demonstrating that all comments received have been considered.	The following consideration is made against the comments received: - Tthe PoA will encourage installation of bigger digesters through the micro utility scheme. - Some portion of the carbon benefits could be used for sustainable maintenance and management of biogas digesters	OK	OK
G		Approval and authorization			
G.1	1	Indicate whether the letter(s) of approval from Party(ies) which wishes to be involved in the PoA, is available at the time of submitting the PoA-DD to the validating DOE.	The approval and authorization letters from both Bangladesh and Japanese Governments have been obtained.	--	OK

Section Seq. No.	Ref. No.	Requirement	Comments	Draft Conc.	Final Conc.
G.2	1	If so, provide along with the PoA-DD the letter(s) of approval of the: (a) Party(ies) involved in the proposed PoA; (b) CME letters of authorization of its coordination of the PoA from each Party.	Letters of approval from Japan DNA and Bangladesh DNA, as well as authorization of coordination of the PoA by IDCOL, were obtained.	--	OK
Part II		**Generic component project activity (CPA)**			
Part II.1	1	Use this section to demonstrate the application of the PoA framework to implement generic CPAs and to demonstrate that each type of CPA meets the requirements.	This section is used to demonstrate the application of the PoA framework to implement generic CPAs and to demonstrate that CPA meets the requirements.	--	OK
Part II.2	1	Where multiple technologies/measures and/or multiple methodologies are being applied, the demonstration of the application of the PoA framework to implement generic CPAs must be done for each of the combinations of technologies/measures and/or methodologies. Therefore, repeat all of Part II of these guidelines for each of the combination of technologies/measures and/or methodologies.	Only one technology/measure and/or only single methodology is applied and thus not applicable.	--	NA
A		General description of a generic CPA			
A.1		Purpose and general description of generic CPAs			
A.1.1	1	Provide a description of each generic CPA within the PoA.	The purpose of any CPA under the PoA entitled “Programme for Promotion of Access to Domestic Biogas in Rural Bangladesh” is to introduce micro-type biogas digesters and supply biogas for households in rural Bangladesh	--	OK
B		Application of a baseline and monitoring methodology			
B.1		Reference of the approved baseline and monitoring methodology(ies) selected			

Section Seq. No.	Ref. No.	Requirement	Comments	Draft Conc.	Final Conc.
B.1.1	1	Indicate exact reference (number, title, version) of: (a) The selected methodology (e.g. AMS-I.A. “Electricity generation by the user” (Version 14.0)) or multiple methodologies (see “Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities”);	AMS-I.E. (Version 05) “Switch from non-renewable biomass for thermal applications by the user”	--	OK
B.1.2	1	Indicate exact reference (number, title, version) of: (b) Any tools and other methodologies to which the selected methodology refers (e.g. “Tool to calculate the emission factor for an electricity system” (Version 02.2.1)).	No tool/methodology is referred.	NA	NA
B.1.3	1	Refer to the UNFCCC CDM website for the exact reference of approved baseline and monitoring methodologies and tools.	AMS-I.E. is exactly referred.	--	OK
B.1.4	1	Note: Confirm that the selected methodology(ies) is(are) approved for application to CPAs under PoAs by the Board.	AMS-I.E. is approved for application to CPAs under PoAs.	--	OK
B.2		Application of methodology(ies)			
B.2.1	1	Justify the choice of the selected methodology(ies) by showing that each generic CPA meets each applicability condition of the methodology(ies). If applicable, provide a general description of the sampling plan.	The choice of AMS-I.E. is justified by showing that each generic CPA meets Para 1 - 2 of AMS-I.E.	--	OK
B.2.2	1	Demonstrate that the CPA qualifies as Type I, II, and/or III during every year of the crediting period in accordance with applicable provisions for project activity eligibility in the Project standard.	Demonstration that the CPA qualifies as Type I micro-scale activity during every year of the crediting period is demonstrated in accordance with Para 96 (c) of PS.	--	OK
B.2.3	1	Explain documentation that has been used as a basis of justification and provide references or include the documentation in Appendix 3.	Documentation that has been used as a basis of justification of compliance with Para 2 of AMS-I.E. is explained and its reference is included.	--	OK

Section Seq. No.	Ref. No.	Requirement	Comments	Draft Conc.	Final Conc.
B.3		Sources and GHGs			
B.3.1	1	Describe the sources and GHGs included in each generic CPA boundary.	The sources and GHGs included in each generic CPA boundary are CO2 from the combustion of non-renewable biomass.	--	OK
B.3.2	1	Where possible, present a flow diagram physically delineating each generic CPAs, based on the descriptions provided in section A.6 “Technologies/measures” of Part I above.	Figure 9 presents a flow diagram physically delineating each generic CPAs	--	OK
B.3.3	1	Include in the flow diagram all the equipment, systems and flows of mass and energy described in that section. In particular, indicate in the diagram the emissions sources and GHGs included in the project boundary and the data and parameters to be monitored.	Figure 9 includes equipment, systems and flows of mass and energy.	--	OK
B.4		Description of baseline scenario			
B.4.1	1	Describe how the baseline scenario is identified for each generic CPA.	Possible options (for thermal energy demand mainly for cooking) comply with all applicable and enforced legislation, technically feasible and accessible for households as the main energy source are assessed.	--	OK
B.4.2	1	Explain how the baseline scenario is established in accordance with the selected methodology(ies) and applicable provisions for establishment and description of baseline scenarios in the Project standard. Where the procedure in the selected methodology(ies) involves several steps, describe how each step is applied and transparently document the outcome of each step. Explain and justify key assumptions and rationales. Provide and explain all data used to establish the baseline scenario (variables, parameters, data sources, etc.). Provide all relevant documentation and/or references.	The applied methodology AMS-I.E. does not provide procedure to determine the baseline scenario. Para 4 of AMS-I.E. specifies the baseline scenaro that: "It is assumed that in the absence of the project activity, the baseline scenario would be the use of fossil fuels for meeting similar thermal energy needs."	--	NA

Section Seq. No.	Ref. No.	Requirement	Comments	Draft Conc.	Final Conc.
B.4.3	1	Provide a transparent description of the baseline scenario as established above.	The methodology utilizes the following baseline scenario for calculation of emission reductions: "It is assumed that in the absence of the project activity, the baseline scenario would be the use of fossil fuels for meeting similar thermal energy needs." while continuation of current practice is demonstrated as the most plausible scenario for baseline.	--	OK
B.4.4	1	Note: The full description of the technology of the baseline scenario is to be provided in section A.6 of Part I above.	AMS-I.E. specifies the baseline scenaro as: It is assumed that in the absence of the project activity, the baseline scenario would be the use of fossil fuels for meeting similar thermal energy needs. Since the baseline scenario is assumption, baseline technology is not applicable.	--	NA
B.5		Demonstration of eligibility for a generic CPA			
B.5.1	1	Demonstrate how each generic CPA meets the eligibility criteria of the PoA including confirmation of additionality of the generic CPA for its inclusion into the PoA.	It is demonstrated that how a generic CPA meets the five eligibility criteria of the PoA including confirmation of additionality of the generic CPA for its inclusion into the PoA.	--	OK
B.6		Estimation of emission reductions of a generic CPA			
B.6.1		Explanation of methodological choices			
B.6.1.1	1	Explain how the methods or methodological steps, in the selected methodology, for calculating baseline emissions, project emissions, leakage emissions and emission reductions are applied to each generic CPA. Clearly state which equations will be used in calculating emission reductions.	Methods or methodological steps in AMS-I.E. for calculating emission reductions applied to each generic CPA are explained. Equations (1) and (2) in AMS-I.E. are used in calculation of emission reductions.	--	OK
B.6.2		Data and parameters that are to be reported ex-ante			

Section Seq. No.	Ref. No.	Requirement	Comments	Draft Conc.	Final Conc.
B.6.2.1	1	Include a compilation of information on the data and parameters that are not monitored during the crediting period but are determined before the validation and remain fixed throughout the crediting period. Data that become available only after the registration/inclusion of the CPAs in the PoA (e.g. measurements after the implementation of the CPAs in the PoA) should not be included here but in the table in section B.7.1 below.	The compilation of information on the data and parameters that are not monitored during the crediting period but are determined before the validation and remain fixed throughout the crediting period is included.	--	OK
B.6.2.2	1	The compilation of information may include data that are measured or sampled, and data that are collected from other sources (e.g. official statistics, expert judgment, proprietary data, IPCC, commercial and scientific literature, etc.). Data that are calculated with equations provided in the selected methodology(ies) or default values specified in the methodology(ies) should not be included in the compilation.	The compilation of information includes data that are collected from other sources.	--	OK
B.6.2.3	1	For each piece of data or parameter, complete the table below, following these instructions: (a) “Value(s) applied”: Provide the value applied. Where a time series of data is used, where several measurements are undertaken or where surveys have been conducted, provide detailed information in Appendix 4. To report multiple values referring to the same data or parameter, use one table. If necessary, reference(s) to electronic spreadsheets may be used;	“Value(s) applied” are completed for all data and parameters. One table is used for to report multiple values referring to parameter "Conversion factors from biogas generation capacity to physical internal volume".	--	OK
B.6.2.4	1	For each piece of data or parameter, complete the table below, following these instructions: (b) “Choice of data”: Indicate and justify the choice of data source. Provide clear and valid references and, where applicable, additional documentation in Appendix 4.	“Choice of data” are filled for all data and parameters. Data source is indicated and choice of data source is justified.	--	OK

Section Seq. No.	Ref. No.	Requirement	Comments	Draft Conc.	Final Conc.
B.6.2.5	1	For each piece of data or parameter, complete the table below, following these instructions: (c) “Measurement methods and procedures”: Where values are based on measurement, include a description of the measurement methods and procedures applied (e.g. which standards have been used), indicate the responsible person/entity that undertook the measurement, the date of the measurement and the measurement results. More detailed information can be provided in Appendix 4.	There is no data and parameters their values are based on measurement, include a description of the measurement.	--	NA
B.6.2.6	1	For each piece of data or parameter, complete the table below, following these instructions: (d) “Purpose of data”: Choose one of the following: (i) Calculation of baseline emissions; (ii) Calculation of project emissions; (iii) Calculation of leakage.	“Purpose of data” are described as "Calculation of emission reductions".	--	OK
B.6.3		Ex-ante calculations of emission reductions			
B.6.3.1	1	Provide a transparent ex ante calculation of project emissions, baseline emissions(or, where applicable, direct calculation of emission reductions) and leakage emissions expected during the crediting period, applying all relevant equations provided in the selected methodology. For data or parameters available before validation, use values contained in the table in section B.6.2 above.	A transparent ex ante calculation of emission reductions for the most typical digester is provided. For data or parameters available before validation, values contained in the table in Part II, B.6.2 are used.	--	OK
B.6.3.2	1	For data/parameters not available before validation and monitored during the crediting period, use estimates for parameters contained in the table in section B.7.1. If any of these estimates has been determined by a sampling approach, provide a description of the sampling efforts in accordance with the “Standard for sampling and surveys for CDM project activities and programme of activities”.	For data/parameters not available before validation and monitored during the crediting period in Part II, B.7.1, ex-ante estimation cannot be made and descerbed as "xxx".	--	OK

Section Seq. No.	Ref. No.	Requirement	Comments	Draft Conc.	Final Conc.
B.6.3.3	1	Document how each equation is applied, in a manner that enables the reader to reproduce the calculation. Where relevant, provide additional background information and/or data in Appendix 4:, including relevant electronic spreadsheets.	It is documented how each equation is applied, in a manner that enables the reader to reproduce the calculation.	--	OK
B.6.3.4	1	Provide a sample calculation for each equation used, substituting the values used in the equations.	A sample calculation for each equation used, substituting the values used in the equations, is provided.	--	OK
B.7		Application of the monitoring methodology and description of the monitoring plan			
B.7.1		Data and parameters to be monitored by each generic CPA			
B.7.1.1	1	Include specific information on how the data and parameters that need to be monitored would actually be collected during monitoring. Include here data that are determined only once for the crediting period but that will become available only after registration/inclusion of the CPAs in the PoA (e.g. measurements after the implementation of the CPAs in the PoA).	Specific information on how the data and parameters that need to be monitored would actually be collected during monitoring are included. There is no data that are determined only once for the crediting period but that will become available only after registration/inclusion of the CPAs in the PoA.	--	OK
B.7.1.2	1	For each piece of data or parameter, complete the table below, following these instructions: (a) “Source of data”: Indicate the source(s) of data that will be used for the CPAs in the PoA (e.g. which exact national statistics). Where several sources may be used, justify which data sources should be preferred;	“Source of data” are completed for all data and parameters.	--	OK

Section Seq. No.	Ref. No.	Requirement	Comments	Draft Conc.	Final Conc.
B.7.1.3	1	For each piece of data or parameter, complete the table below, following these instructions: (b) “Value(s) applied”: The value applied is an estimate of the data/parameter that will be monitored during the crediting period, but is used for the purpose of calculating estimated emission reductions. To report multiple values referring to the same data or parameter, use one table. If necessary, reference(s) to electronic spreadsheets may be used;	“Value(s) applied” are not completed in the data compilation tables in E.7.1 (Part II, B.7.1) of the PoA-DD.	CL23	OK
B.7.1.4	1	For each piece of data or parameter, complete the table below, following these instructions: (c) “Measurement methods and procedures”: Where data or parameters are to be monitored, specify the measurement methods and procedures, standards to be applied, accuracy of the measurements, person/entity responsible for the measurements, and, in case of periodic measurements, the measurement intervals;	“Measurement methods and procedures” are described as follows: - N and Vi: The management system is used to manage all biogas digesters with a number of attributions. - ROi,y: Sampling through Annual Biogas Users Survey - Di,y: Database of the installation of biogas digesters as well as the user households.	--	OK
B.7.1.5	1	For each piece of data or parameter, complete the table below, following these instructions: (d) “QA/QC procedures”: Describe the Quality Assurance (QA)/Quality Control (QC) procedures to be applied, including the calibration procedures, where applicable;	“QA/QC procedures” are described as follows: - N and Vi: QA/QC procedures of NDBMP are applied. - ROi,y and Di,y: Monitoring, recording and reporting by each implementer is integrated to existing IDCOL’s management system.	--	OK
B.7.1.6	1	For each piece of data or parameter, complete the table below, following these instructions: (e) “Purpose of data”: Choose one of the following: (i) Calculation of baseline emissions; (ii) Calculation of project emissions; (iii) Calculation of leakage.	“Purpose of data” are described as "Calculation of emission reductions".	--	OK

Section Seq. No.	Ref. No.	Requirement	Comments	Draft Conc.	Final Conc.
B.7.1.7	1	Provide any relevant further background documentation in Appendix 5.	No further background documentation about the parameters is provided in Appendix 5.	--	NA
B.7.2		Description of the monitoring plan for a generic CPA			
B.7.2.1	1	Describe the monitoring plan for a generic CPA developed in accordance with the approved monitoring methodology(ies).	Monitoring plan for a generic CPA in accordance with AMS-I.E. is provided.	--	OK
B.7.2.2	1	If data and parameters monitored in section B.7.1 above are determined by a sampling approach, provide a description of the sampling plan in accordance with the recommended outline for a sampling plan in the “Standard for sampling and surveys for CDM project activities and programme of activities”.	RO,y is determined by sampling approach. Description of sampling plan is provided in Appendix 5.	--	OK
B.7.2.3	1	Provide any relevant further background information in Appendix 5.	Information about the sampling plan is to be provided in Appendix 5.	CL24	OK
Appendix 1		Contact information on entity/individual responsible for the			
Appendix 1.1	1	For each organisation listed in section A.4 above, complete the table below, with the following mandatory fields: Organization, Street/P.O. Box, City, Postcode, Country, Telephone, Fax and E-mail, and Name of contact person. Copy and paste the table as needed.	Contact information for IDCOL, GS and PEAR is provided.	--	OK
Appendix 2		Affirmation regarding public funding			
Appendix 2.1	1	If applicable, attach the affirmation obtained from Parties included in Annex I providing public funding to the PoA.	The description about public funding from KfW, Government of Netherlands, DGIS, ABP, etc is described. Any Annex I Party government will not obtain CERs in compensation for the ODA	--	OK
Appendix 3		Application of methodology(ies)			

Section Seq. No.	Ref. No.	Requirement	Comments	Draft Conc.	Final Conc.
Appendix 3.1	1	Provide any further background information on the applicability of the selected methodology(ies).	No further background information on the applicability of the selected methodology is provided.	--	NA
Appendix 4		Further background information on ex ante calculation of emission reductions			
Appendix 4.1	1	Provide any further background information on the ex-ante calculation of emission reductions. This may include data, measurement results, data sources, etc.	No further background information on the ex-ante calculation of emission reductions is provided.	--	NA
Appendix 5		Further background information on the monitoring plan			
Appendix 5.1	1	Provide any further background information used in the development of the monitoring plan. This may include tables with time series data, additional documentation of measurement equipment, procedures etc.	Information about the sampling plan is to be provided in Appendix 5.	--	OK

Table 4 Resolution of CARs and CLs

Draft Conc.	CARs/CLs raised by the Validation Team	Summary of CME / Project Participant Response	Final Conc.
CAR01	The information provided in “Part I. Programme of activities” and “Part II. Generic component project activity (CPA)” in the PoA-DD shall be consistent.	“Part II. Generic component project activity (CPA)” is entirely revised based on the final design of the PoA. Information provided in “Part I. Programme of activities” and “Part II. Generic component project activity (CPA)” is made mutually consistent.	OK
CL01	The following confusing description in A.2. (Part I, A.2.) of the PoA-DD is to be reviewed since it could be read as if GS was CME: - Page 3-4: In order to expand biogas utilization in rural Bangladesh, GS plans to implement its biogas promotion programme as a Programme of Activities (PoA) that generates additional carbon benefit to enable more rural households to install biogas digester under the micro-credit scheme by utilizing the IDCOL’s financing scheme of NDBMP or by its own scheme for non-covered digesters by the program. - Page 5: GS, currently facing financial deficits to continue this biogas programme, is willing to promote the programme as a CME supported by the revenue of CERs and related financial arrangements.	The descriptions are revised as follows: - Page 3-4: In order to expand biogas utilization in rural Bangladesh, IDCOL voluntarily plays a role as a Coordinating and/or Managing Entity (CME) to implement the biogas promotion programme as a Programme of Activities (PoA) that generates additional carbon benefit to enable more rural households to install biogas digester under the micro-credit scheme by utilizing the IDCOL’s financing scheme of NDBMP or by GS and other organizations’ own scheme for non-covered digesters by the NDBMP. - Page 5: The description is totally deleted.	OK
CL02	The description "The first CPA is to include biogas digesters installed from the December 01 of 2011 onward regardless of geographical location in Bangladesh" in A.2 (Part I, A.2.) of the PoA-DD is to be corrected as the start date of the PoA is 13/12/2011.	The description is revised as follows: “The first CPA is to include biogas digesters installed from the December 13 of 2011 to January 31 of 2012 regardless of geographical location in Bangladesh”.	OK
CL03	Regarding the justification for the applicability condition No. 3 in the table in E.2. (Part II, B.2.) of the PoA-DD, number of the eligibility criterion, (4), is not correct.	The number of the associated eligibility criterion is corrected from (4) to (5).	OK

Draft Conc.	CARs/CLs raised by the Validation Team	Summary of CME / Project Participant Response	Final Conc.
CL04	The description "Excluded for simplification and conservativeness" for baseline CH4 and N2O in Table 7 in E.3. (Part II, B.3.) of the PoA-DD are to be rectified since negligence of baseline emissions will not results in a conservative estimate.	The term “and conservativeness" is deleted.	OK
CL05	The correctness for the following statements in E.4. (Part II, B.4.) of the PoA-DD are to be demonstrated: - It is also noted that only 30% of rural households can access to grid electricity. - Moreover, 84 million people live in rural area of Bangladesh. Only 0.1% of people have enjoyed the benefits of the biogas so far.	The following revisions are made in Part II, B.4. of the PoA-DD: - The source of “It is also noted that only 30% of rural households can access to grid electricity” is added as footnote 33 (http://www.worldenergyoutlook.org/database_electricity/electricity_access_database.htm) - Based on the updated data, the description is revised as follows: "According to NDBMP Implementation Plan 2010–12 , over 80 percent population of Bangladesh resides in rural area. Only 0.7% of people have enjoyed the benefits of the biogas so far."	OK
CL06	Relevant national and/or sectoral policies and circumstances, such as sectoral reform initiatives, local fuel availability, power sector expansion plans, and the economic situation in the project sector, are to be discussed in the identification of the baseline scenario, if applicable.	There are no national and/or sectoral policies and circumstances relevant to household cooking fuel or domestic biogas system in Bangladesh. Therefore, the baseline scenario identified for a CPA under the PoA is considered to be appropriate.	OK
CL07	There is a registered PoA project, "Improved Cooking Stoves in Bangladesh (PoA 4791), which aims to disseminate the installation of Improved Cooking Stoves (ICS) for cooking purpose. The effect of the project PoA 4791, i.e., switching from ICS to biogas digester, is not taken into consideration for the equations to calculate emission reductions.	As a result of the revision of equation to calculate emission reductions to comply with the latest version of the methodology AMS-I.E. (Version 5.0), a parameter $\eta_{old,i}$ (efficiency of the biomass stoves being replaced in biogas digester system i) is introduced. As per AMS-I.E. (Version 5.0), 10% is applied for or three stone fire, or a conventional systems with no improved combustion air supply or flue gas ventilation system, i.e. without a grate or a chimney and 20% for other types of systems. 20% will be applied for switching from ICT to biogas digester and the emission reductions are conservatively estimated.	OK

Draft Conc.	CARs/CLs raised by the Validation Team	Summary of CME / Project Participant Response	Final Conc.
CL08	The capacity of biogas cookstove (independent sub-system), around 1.65 kWth, is calculated based on the biogas flow rate of 0.3m3/hr for a cookstove. However, according to the source of this biogas flow rate, Model Biogas Plant Construction Manual, IDCOL/SNV/KFWIDCOL, January 2011, provided from GS, single burner biogas stove consumes 300 to 350 liter biogas per hour while using for household purposes. If higher value, 0.35 m3/hr and default net calorific value of biogas provided in AMS-I.I. (Version 4.0; 0.0215 GJ/m3) is applied, the capacity of each household cookstove (independent sub-system) is estimated as 2.09kWth and, if microscale threshold is applied, the number of biogas shall be capped by 7,177, which is smaller than 8,000 currently applied. CME/PPs are requested to review the description of relevant parts	The relevant descriptions in the PoA-DD are revised in line with Model Biogas Plant Construction Manual, namely, from 1.65 kWth to 1.79 - 2.09kWth. The upper limit of the number of biogas cookstove included in a CPA is also revised from 8,000 to 7,100.	OK
CL09	The evidence of the starting date of the PoA (the date on which contracts have been signed for equipment or construction/ operation services required for the first CPA; 13/12/2011) is to be provided.	As a result of update of PoA related rules, the definition of the start date of the PoA has been changed to either (a) The date of notification of the intention to seek the CDM status by the coordinating/managing entity to the secretariat and the DNA; or (b) The date of publication of the PoA-DD for global stakeholder consultation (Para 159 of PS). JQA confirms that the selected start date of the proposed PoA, 13/12/2011, complies with Para 159 (b) of PS.	OK
CL10	The number of eligibility criterion quoted in the data compilation table for niburner in E.7.1 (Part II, B.7.1) of the PoA-DD is not correct.	As a result of the revision of equation to calculate emission reductions to comply with the latest version of the methodology AMS-I.E. (Version 5.0), this parameter is deleted.	OK
CL11	According to E.7.1 (Part II, B.7.1) of the PoA-DD, BHHPJ and nCCS are monitored once by GS by undertaking a sample survey. It is requested to be demonstrated how it satisfies the monitoring requirement specified in Para 14 of AMS-I.E.	As a result of the revision of equation to calculate emission reductions to comply with the latest version of the methodology AMS-I.E. (Version 5.0), these parameters are deleted. monitoring requirement specified in Para 14 of AMS-I.E. is correctly applied to monitoring of RO,y (Ratio of biogas systems in normal operation in year y).	OK

Draft Conc.	CARs/CLs raised by the Validation Team	Summary of CME / Project Participant Response	Final Conc.
CL12	The CME/PPs has provided the analysis of the environmental impact assessment of the PoA in the PoA-DD, with reference to "Implementation Plan National Domestic Biogas and Manure Programme in Bangladesh", by IDCOL and SNV . The data for "Better sanitation (toilet)", 10-15%, in Table 3 in Part I, E.2 of the PoA-DD is not correctly quoted.	The CME/PPs deleted the table because it included irrelevant information such as non-environmental benefits. The following sentence is added instead: "IDCOL expected that better sanitation (toilets) is for around 20% of the total households, while reduction of indoor air pollution is for all households." JQA confirms that the description is correctly quoted from the Implementation Plan of NDBMP.	OK
CL13	About the eligibility criterion (2), it is not clearly described how CME ensures the compliance of performance of biogas digester systems, biogas delivery lines and biogas cookstoves with IDCOL standards.	The following description was added: “Inspection procedures have been introduced in NDBMP by IDCOL for proper installation of the system. Each partner organization already has the maintenance system/service for proper operation of the biogas digesters as the eligibility requirements by IDCOL to be a partner organization.” Through the review of “Participation Agreement between IDCOL and POs” and its relevant annexes, JQA confirms that the added description is correct.	OK
CL14	About the eligibility criterion (4), the document quoted (Infrastructure Development Company Ltd. (IDCOL) Model Biogas Plant Construction Manual, IDCOL/SNV, April 2006) only provides standards for installations/operations of fixed dome type biogas digester and not covers fiberglass digesters, which may included in a CPA according to A.4.2. (Part I, A.6.) of the PoA-DD. Standards for the fiberglass digester and non-NDBMP digesters are also to be defined here.	The eligibility criterion (4) was revised as follows: “Installations/operations of biogas digesters shall be in compliance with related national and sectorial standards and regulations, if any”. The following description was added under the eligibility criterion (4) about the fiberglass digester and non-NDBMP digesters: - For installation, NDBMP-covered activities shall utilize equipment approved by the IDCOL’s technical committee (e.g., recently, the committee approved fiberglass type digester). - For digesters not covered by NDBMP, there are no standards so far. Therefore, the each CPA operator applies its own rules similar to those above. JQA also confirms that GS has its own biogas technology guide, which is comparable to NDBMP.	OK

Draft Conc.	CARs/CLs raised by the Validation Team	Summary of CME / Project Participant Response	Final Conc.
CL15	Since sampling is applied to BHHPJ and nCCS, sampling plan is to be provided in the PoA-DD with reference to "Standard for sampling and surveys for CDM project activities and programme of activities" so as to present a reasonable approach for obtaining unbiased, reliable estimates of the variables.	As a result of the revision of equations to calculate emission reductions to comply with the latest version of the methodology AMS-I.E. (Version 5.0), BHHPJ and nCCS are deleted and RO,y become the parameter to be determined by sampling. Sampling plan for RO,y is provided in Appendix 5 of the PoA-DD. Objective of the sampling is to determine RO,y (Ratio of biogas systems in normal operation in year y) annually with a 90/10 confidence/precision. Since it complies with Para 17 of AMS-I.E., the approach is considered to be reasonable for obtaining unbiased, reliable estimates of the variables.	OK
CL16	The following target population does not clearly describe whether households other than those included in CPAs under the PoA are included or not and how sampling flame will be developed: - BHHPJ: households using biogas already. - nCCS: households using conventional biomass cookstoves, excluding the household with (a) improved cookstove(s).	As a result of the revision of equations to calculate emission reductions to comply with the latest version of the methodology AMS-I.E. (Version 5.0), BHHPJ and nCCS are deleted and RO,y become the parameter to be determined by sampling. Sampling plan for RO,y is provided in Appendix 5 of the PoA-DD. The target population for RO,y is defined as all biogas digester systems installed by a CPA under this PoA. The IDCOL's database format of CPA is used as the sampling frame. JQA confirms that the population is clearly defined and the sampling frame appropriately represents the population.	OK
CL17	The proposed sampling approach is not clearly defined.	As a result of the revision of equations to calculate emission reductions to comply with the latest version of the methodology AMS-I.E. (Version 5.0), BHHPJ and nCCS are deleted and RO,y become the parameter to be determined by sampling. Sampling plan for RO,y is provided in Appendix 5 of the PoA-DD. The proposed sampling approach is simple random sampling. JQA considers the approach is appropriate since the population is homogeneous (rural households) and dispersed across Bangladesh.	OK

Draft Conc.	CARs/CLs raised by the Validation Team	Summary of CME / Project Participant Response	Final Conc.
CL18	The CME/PPs are requested to justify the rationale of sampling size of 100 households for BHHPJ and nCCS.	As a result of the revision of equations to calculate emission reductions to comply with the latest version of the methodology AMS-I.E. (Version 5.0), BHHPJ and nCCS are deleted and RO,y become the parameter to be determined by sampling. Sampling plan for RO,y is provided in Appendix 5 of the PoA-DD. The sample size for RO,y is correctly calculated according to Equation (1) in Appendix 1 of "Guidelines for sampling and surveys for CDM project activities and programme of activities" for simple random sampling for proportional parameter of interest. The expected proportion of RO,y (Number of biogas systems in normal operation in year y), 70%, is considered to be conservative considering that the biogas plant operational rates were 73.9% in 2010 Annual Biogas Users Survey 2010 and 74.8% in 2009 Annual Biogas Users Survey 2009 .	
CL19	It is not clear how the sample is to be selected.	As a result of the revision of equations to calculate emission reductions to comply with the latest version of the methodology AMS-I.E. (Version 5.0), BHHPJ and nCCS are deleted and RO,y become the parameter to be determined by sampling. Sampling plan for RO,y is provided in Appendix 5 of the PoA-DD. As described in Appendix 5 of the PoA-DD, simple random sampling is applied with the aid of a computerized randomizer. The sampling list is the whole available listing of all biogas digester systems (including digester user households and owner households) covered by a CPA of the PoA until the designing date of the Annual Biogas Users Survey in the year. The associated file is kept in the management system.	OK
CL20	It is not clear how the CME/PPs confirm the followings by what questions: 1) Project woody biomass consumption per household in a year (BHHPJ) and; 2) Number of conventional cookstoves per household (nCCS)	As a result of the revision of equations to calculate emission reductions to comply with the latest version of the methodology AMS-I.E. (Version 5.0), BHHPJ and nCCS are deleted and RO,y become the parameter to be determined by sampling. Sampling plan for RO,y is provided in Appendix 5 of the PoA-DD. As describe Appendix 5 of the PoA-DD, the parameter RO,y will be corrected by questionnaire and interview by Annual Biogas Users Survey. The questionnaire used by Annual Biogas Users Survey to confirm RO,y is composed of a simple question ("Is the biogas plant functioning?") with three choice of answers ("Yes", "Yes, partly" or "No") and would not subject to respondent error due to sensitivity or measurement error.	OK

Draft Conc.	CARs/CLs raised by the Validation Team	Summary of CME / Project Participant Response	Final Conc.
CL21	The procedure for the data measurement and QA/QC strategy for sampling are not clear.	As a result of the revision of equations to calculate emission reductions to comply with the latest version of the methodology AMS-I.E. (Version 5.0), BHHPJ and nCCS are deleted and RO,y become the parameter to be determined by sampling. Sampling plan for RO,y is provided in Appendix 5 of the PoA-DD. As a QA/QC measure, the interviewer is to check the obtained information from various aspects. If some inconsistencies are found in the interview, the interviewer is trying to clarify such inconsistencies. If the interviewer concluded that the obtained data is not reliable, the household should be outside of the sample group. JQA considers that the proposed QA/QC measures are appropriate.	OK
CL22	The proposed skill sets, qualifications and experience of the personnel to be engaged to conduct sampling are not described.	As a result of the revision of equations to calculate emission reductions to comply with the latest version of the methodology AMS-I.E. (Version 5.0), BHHPJ and nCCS are deleted and RO,y become the parameter to be determined by sampling. Sampling plan for RO,y is provided in Appendix 5 of the PoA-DD. As described in the Appendix 5 of the PoA-DD, IDCOL will choose a consultant firm with the expertise every year and ask it with the requirements for CDM and other routine elements to be surveyed. According to Annual Biogas Users Survey 2009, the following intensive training was given to the personnel to engage to conduct field survey: “Field Supervisors (5) and Field Investigators (15) having master's degree in social sciences, life sciences, agriculture, marketing, etc. were employed for the purpose of data collection from the field. The selected field supervisors and field investigators had previous experience in field research and data collection. One week long intensive classroom training and field testing were given to the recruited field staffs for basic ideas about the project, its objectives and purpose, design of the survey, basis of different questions set in the questionnaires and their probable answers, guidelines for administration of the survey, and procedures for administration of the questionnaires and data management procedures in the field. The weeklong training was arranged by the study team for preparing the supervisors and field interviewers suitable for collection of high quality survey data and feedback. During the training period a pre-test was organized in consultation with the NDBMP officials at Savar thana of Dhaka district to make the training more effective.”	OK
CL23	“Value(s) applied” are not completed in the data compilation tables in E.7.1 (Part II, B.7.1) of the PoA-DD.	“Value(s) applied” are filled in all data compilation tables in Part II, B.7.1 of the PoA-DD.	OK

Draft Conc.	CARs/CLs raised by the Validation Team	Summary of CME / Project Participant Response	Final Conc.
CL24	Information about the sampling plan is to be provided in Appendix 5.	The sampling plan for RO,y is described in Appendix 5 in detail.	OK

Certificate

Name	**Mr. Shigenari Yamamoto**
Assessor No.	**CDM-AS-101**
Date of registration	**11th August 2003**

This is to certify that Mr. Shigenari Yamamoto

is registered as CDM Assessor

by Japan Quality Assurance Organization.

Date 16th April 2012

Japan Quality Assurance Organization

Senior Executive

Team Leader Qualification

The above mentioned assessor is qualified as Team Leader.

Date of qualification **27th July 2005**

Date 16th April 2012

Japan Quality Assurance Organization

Senior Executive

Appendix B

Grant of technical area within CDM/JI sectoral scope

Name: Mr. Shigenari Yamamoto

Sectoral Scope(SS)		Technical Area(TA)		Granted date
SS1	Energy industries (renewable / non-renewable sources)	TA 1.1:	Thermal energy generation from fossil fuels and biomass including thermal electricity from solar (COMPLEX)	28th Dec. 2010
		TA 1.2:	Energy generation from renewable energy sources	28th Dec. 2010
SS2	Energy distribution	TA 2.1:	Electricity distribution	
		TA 2.2:	Heat distribution	28th Dec. 2010
SS3	Energy demand	TA 3.1:	Energy demand	28th Dec. 2010
SS4	Manufacturing industries	TA 4.1:	Cement sector (COMPLEX)	
		TA 4.2:	Aluminum (COMPLEX)	
		TA 4.3:	Iron and steel (COMPLEX)	28th Dec. 2010
		TA 4.4:	Refinery (COMPLEX)	
		TA 4.5:	Chemical industry (COMPLEX)	
		TA 4.6:	Other production	28th Dec. 2010
SS5	Chemical industry	TA 5.1:	Chemical process industries (COMPLEX)	
SS6	Construction	TA 6.1:	Construction	
SS7	Transport	TA 7.1:	Transport	
SS8	Mining/Mineral production	TA 8.1:	Mining and mineral processes, excluding those included in TA 8.2 below	28th Dec. 2010
		TA 8.2:	Oil and gas industry, coal mine methane recovery and use (COMPLEX)	
SS9	Metal production	TA 9.1:	Metal production	28th Dec. 2010
SS10	Fugitive emissions from fuels (solid, oil and gas)	TA 10.1:	Mining and mineral processes, excluding those included in TA 10.2 below	28th Dec. 2010
		TA 10.2:	Oil and gas industry, coal mine methane recovery and use (COMPLEX)	
SS11	Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride	TA 11.1:	Chemical process industries (COMPLEX)	
		TA 11.2:	GHG capture and destruction	
SS12	Solvents use	TA 12.1:	Chemical process industries (COMPLEX)	
SS13	Waste handling and disposal	TA 13.1:	Waste handling and disposal	28th Dec. 2010
		TA 13.2:	Animal waste management	
SS14	Afforestation and reforestation/Land-use, land-use change and forestry	TA 14.1:	Forestry	
SS15	Agriculture	TA 15.1:	Agriculture	
		TA 15.2:	Animal waste management	

This is to certify that Mr. Shigenari Yamamaoto is granted the above technical areas within sectoral scopes by the Japan Quality Assurance Organization.

Date: 16th Apr. 2012

Director of the Global Environment Department
Japan Quality Assurance Organization

浅輪紀男

Norio Asawa

Certificate

Name	**Mr. Jun Takata**
Assessor No.	**JI-AS-103**
Date of registration	**23rd June 2009**

This is to certify that Mr. Jun Takata

is registered as JI Assessor

by Japan Quality Assurance Organization.

Date 16th April 2012

Japan Quality Assurance Organization

Senior Executive

Team Leader Qualification

The above mentioned assessor is qualified as Team Leader.

Date of qualification 26th February, 2013

Date 26th February, 2013

Japan Quality Assurance Organization

Senior Executive

Appendix B

Grant of technical area within CDM/JI sectoral scope

Name: Mr. Jun Takata

Sectoral Scope(SS)		Technical Area(TA)		Granted date
SS1	Energy industries (renewable / non-renewable sources)	TA 1.1:	Thermal energy generation from fossil fuels and biomass including thermal electricity from solar (COMPLEX)	
		TA 1.2:	Energy generation from renewable energy sources	16th Apr.2012
SS2	Energy distribution	TA 2.1:	Electricity distribution	
		TA 2.2:	Heat distribution	
SS3	Energy demand	TA 3.1:	Energy demand	
SS4	Manufacturing industries	TA 4.1:	Cement sector (COMPLEX)	
		TA 4.2:	Aluminum (COMPLEX)	
		TA 4.3:	Iron and steel (COMPLEX)	
		TA 4.4:	Refinery (COMPLEX)	
		TA 4.5:	Chemical industry (COMPLEX)	
		TA 4.6:	Other production	
SS5	Chemical industry	TA 5.1:	Chemical process industries (COMPLEX)	
SS6	Construction	TA 6.1:	Construction	
SS7	Transport	TA 7.1:	Transport	28th Dec. 2010
SS8	Mining/Mineral production	TA 8.1:	Mining and mineral processes, excluding those included in TA 8.2 below	
		TA 8.2:	Oil and gas industry, coal mine methane recovery and use (COMPLEX)	
SS9	Metal production	TA 9.1:	Metal production	
SS10	Fugitive emissions from fuels (solid, oil and gas)	TA 10.1:	Mining and mineral processes, excluding those included in TA 10.2 below	
		TA 10.2:	Oil and gas industry, coal mine methane recovery and use (COMPLEX)	
SS11	Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride	TA 11.1:	Chemical process industries (COMPLEX)	
		TA 11.2:	GHG capture and destruction	
SS12	Solvents use	TA 12.1:	Chemical process industries (COMPLEX)	
SS13	Waste handling and disposal	TA 13.1:	Waste handling and disposal	1st Feb. 2011
		TA 13.2:	Animal waste management	
SS14	Afforestation and reforestation/Land-use, land-use change and forestry	TA 14.1:	Forestry	
SS15	Agriculture	TA 15.1:	Agriculture	
		TA 15.2:	Animal waste management	

This is to certify that Mr. Jun Takata is granted the above technical areas within sectoral scopes by the Japan Quality Assurance Organization.

Date: 16th Apr. 2012

Director of the Global Environment Department
Japan Quality Assurance Organization

浅輪紀男 Norio Asawa

Certificate

Name	**Ms. Akiko Furuya**
Assessor No.	**CDM-AS-106**
Date of registration	**1st June 2011**

This is to certify that Ms. Akiko Furuya

is registered as CDM Assessor

by Japan Quality Assurance Organization.

Date 16th April 2012

Japan Quality Assurance Organization

Senior Executive

Team Leader Qualification

The above mentioned assessor is qualified as Team Leader.

Date of qualification

Date

Japan Quality Assurance Organization

Senior Executive

Appendix B

Grant of technical area within CDM/JI sectoral scope

Name: Ms. Akiko Furuya

Sectoral Scope(SS)		Technical Area(TA)		Granted date
SS1	Energy industries (renewable / non-renewable sources)	TA 1.1:	Thermal energy generation from fossil fuels and biomass including thermal electricity from solar (COMPLEX)	
		TA 1.2:	Energy generation from renewable energy sources	1st June.2011
SS2	Energy distribution	TA 2.1:	Electricity distribution	
		TA 2.2:	Heat distribution	
SS3	Energy demand	TA 3.1:	Energy demand	
SS4	Manufacturing industries	TA 4.1:	Cement sector (COMPLEX)	
		TA 4.2:	Aluminum (COMPLEX)	
		TA 4.3:	Iron and steel (COMPLEX)	
		TA 4.4:	Refinery (COMPLEX)	
		TA 4.5:	Chemical industry (COMPLEX)	
		TA 4.6:	Other production	
SS5	Chemical industry	TA 5.1:	Chemical process industries (COMPLEX)	
SS6	Construction	TA 6.1:	Construction	
SS7	Transport	TA 7.1:	Transport	
SS8	Mining/Mineral production	TA 8.1:	Mining and mineral processes, excluding those included in TA 8.2 below	
		TA 8.2:	Oil and gas industry, coal mine methane recovery and use (COMPLEX)	
SS9	Metal production	TA 9.1:	Metal production	
SS10	Fugitive emissions from fuels (solid, oil and gas)	TA 10.1:	Mining and mineral processes, excluding those included in TA 10.2 below	
		TA 10.2:	Oil and gas industry, coal mine methane recovery and use (COMPLEX)	
SS11	Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride	TA 11.1:	Chemical process industries (COMPLEX)	
		TA 11.2:	GHG capture and destruction	
SS12	Solvents use	TA 12.1:	Chemical process industries (COMPLEX)	
SS13	Waste handling and disposal	TA 13.1:	Waste handling and disposal	1st June.2011
		TA 13.2:	Animal waste management	1st June.2011
SS14	Afforestation and reforestation/Land-use, land-use change and forestry	TA 14.1:	Forestry	
SS15	Agriculture	TA 15.1:	Agriculture	
		TA 15.2:	Animal waste management	1st June.2011

This is to certify that Ms. Akiko Furuya is granted the above technical areas within sectoral scopes by the Japan Quality Assurance Organization.

Date: 16th Apr. 2012

Director of the Global Environment Department
Japan Quality Assurance Organization

浅輪紀男
Norio Asawa

Certificate

Name	**Mr. Hiroshi KOBAYASHI**
Technical Expert No.	**CDM-TE104**
Date of registration	**20th June, 2013**

This is to certify that Mr. Hiroshi KOBAYASHI is registered as CDM Technical Expert by Japan Quality Assurance Organization.

Date **20th June, 2013**

Japan Quality Assurance Organization

Senior Executive

Appendix B

Grant of technical area within CDM/JI sectoral scope

Name: Mr. Hiroshi Kobayashi

Sectoral Scope(SS)		Technical Area(TA)		Granted date
SS1	Energy industries (renewable / non-renewable sources)	TA 1.1:	Thermal energy generation from fossil fuels and biomass including thermal electricity from solar (COMPLEX)	28th June 2011
		TA 1.2:	Energy generation from renewable energy sources	
SS2	Energy distribution	TA 2.1:	Electricity distribution	
		TA 2.2:	Heat distribution	
SS3	Energy demand	TA 3.1:	Energy demand	29th October 2012
SS4	Manufacturing industries	TA 4.1:	Cement sector (COMPLEX)	
		TA 4.2:	Aluminum (COMPLEX)	
		TA 4.3:	Iron and steel (COMPLEX)	28th June 2011
		TA 4.4:	Refinery (COMPLEX)	
		TA 4.5:	Chemical industry (COMPLEX)	
		TA 4.6:	Other production	28th June 2011
SS5	Chemical industry	TA 5.1:	Chemical process industries (COMPLEX)	
SS6	Construction	TA 6.1:	Construction	
SS7	Transport	TA 7.1:	Transport	
SS8	Mining/Mineral production	TA 8.1:	Mining and mineral processes, excluding those included in TA 8.2 below	
		TA 8.2:	Oil and gas industry, coal mine methane recovery and use (COMPLEX)	
SS9	Metal production	TA 9.1:	Metal production	
SS10	Fugitive emissions from fuels (solid, oil and gas)	TA 10.1:	Mining and mineral processes, excluding those included in TA 10.2 below	
		TA 10.2:	Oil and gas industry, coal mine methane recovery and use (COMPLEX)	
SS11	Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride	TA 11.1:	Chemical process industries (COMPLEX)	
		TA 11.2:	GHG capture and destruction	
SS12	Solvents use	TA 12.1:	Chemical process industries (COMPLEX)	
SS13	Waste handling and disposal	TA 13.1:	Waste handling and disposal	
		TA 13.2:	Animal waste management	
SS14	Afforestation and reforestation/Land-use, land-use change and forestry	TA 14.1:	Forestry	
SS15	Agriculture	TA 15.1:	Agriculture	
		TA 15.2:	Animal waste management	

This is to certify that Mr. Hiroshi Kobayashi is granted the above technical areas within sectoral scopes by the Japan Quality Assurance Organization.

Date: 29th October 2012

Director of the Global Environment Department
Japan Quality Assurance Organization

浅輪紀男 Norio Asawa

Certificate

Name	**Dr. Tadashi Yoshida**
Reviewer No.	**CDM-TR-104**
Date of registration	**8th October 2010**

This is to certify that Dr. Tadashi Yoshida is registered as CDM Technical Reviewer by Japan Quality Assurance Organization.

Date **16th April 2012**

Japan Quality Assurance Organization

Senior Executive

Appendix B

Grant of technical area within CDM/JI sectoral scope

Name: Dr.Tadashi Yoshida

Sectoral Scope(SS)		Technical Area(TA)		Granted date
SS1	Energy industries (renewable / non-renewable sources)	TA 1.1:	Thermal energy generation from fossil fuels and biomass including thermal electricity from solar (COMPLEX)	17th Sep. 2013
		TA 1.2:	Energy generation from renewable energy sources	28th Dec. 2010
SS2	Energy distribution	TA 2.1:	Electricity distribution	
		TA 2.2:	Heat distribution	
SS3	Energy demand	TA 3.1:	Energy demand	17th Sep. 2013
SS4	Manufacturing industries	TA 4.1:	Cement sector (COMPLEX)	
		TA 4.2:	Aluminum (COMPLEX)	
		TA 4.3:	Iron and steel (COMPLEX)	
		TA 4.4:	Refinery (COMPLEX)	28th Dec. 2010
		TA 4.5:	Chemical industry (COMPLEX)	28th Dec. 2010
		TA 4.6:	Other production	28th Dec. 2010
SS5	Chemical industry	TA 5.1:	Chemical process industries (COMPLEX)	28th Dec. 2010
SS6	Construction	TA 6.1:	Construction	
SS7	Transport	TA 7.1:	Transport	
SS8	Mining/Mineral production	TA 8.1:	Mining and mineral processes, excluding those included in TA 8.2 below	
		TA 8.2:	Oil and gas industry, coal mine methane recovery and use (COMPLEX)	
SS9	Metal production	TA 9.1:	Metal production	
SS10	Fugitive emissions from fuels (solid, oil and gas)	TA 10.1:	Mining and mineral processes, excluding those included in TA 10.2 below	
		TA 10.2:	Oil and gas industry, coal mine methane recovery and use (COMPLEX)	
SS11	Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride	TA 11.1:	Chemical process industries (COMPLEX)	28th Dec. 2010
		TA 11.2:	GHG capture and destruction	
SS12	Solvents use	TA 12.1:	Chemical process industries (COMPLEX)	28th Dec. 2010
SS13	Waste handling and disposal	TA 13.1:	Waste handling and disposal	29th May 2012
		TA 13.2:	Animal waste management	
SS14	Afforestation and reforestation/Land-use, land-use change and forestry	TA 14.1:	Forestry	
SS15	Agriculture	TA 15.1:	Agriculture	
		TA 15.2:	Animal waste management	

This is to certify that Dr. Tadashi Yoshida is granted the above technical areas within sectoral scopes by the Japan Quality Assurance Organization.

Date: 17 September 2013

Director of the Global Environment Department
Japan Quality Assurance Organization

浅輪紀男

Mr. Norio Asawa

Appendix C

Expertise and Experience of Assessors and Technical Reviewers

Shigenari YAMAMOTO

He holds a Bachelor's and a Master's degree in Mechanical Engineering. Before joining JQA, he had been engaged in the operation and maintenance of processes for manufacturing steel as an expert of mechanical engineering for more than 16 years. He was a qualified ISO14001 Lead Assessor. He has successfully completed GHG Validator/Verifier Training Program. He has participated in various CDM projects as a team leader, both validation and verification in JQA.

Jun TAKATA

He holds a Master's Degree in Urban Environmental Engineering. Before joining JQA, he had been engaged in road network planning at Consulting firm. He gained the knowledge for assessment of the environmental impact such as CO2 and NOx from vehicles by road improvement. He has successfully completed GHG Validator/Verifier Training Program also ISO 14001 Training Course to be qualified as a provisional auditor. He has participated in various CDM projects, both validation and verification in JQA.

Akiko FURUYA

She holds a Bachelor's degree in agriculture and Master's degree in environmental study. Before joining JQA, she had worked as an environmental consultant and engaged in environmental and social impact analysis of overseas large-scale development projects, survey of overseas environmental legislation and Official Development Assistance (ODA) projects, writing PDD and monitoring reports for CDM projects. She has successfully completed GHG Validator/Verifier Training Program, also ISO 14001 Training Course to be qualified as a provisional auditor. She has participated in various CDM projects, both validation and verification in JQA.

Hiroshi KOBAYASHI

He holds a Bachelor's degree in mechanical engineering. He is a qualified Energy Management Engineer of Heat and Electricity, an Administrator for Pollution Prevention (Air Pollution 1st Class) and also a Boiler Engineer (Special Class).
He had been engaged in an Iron and Steel field for thirty years and also had been involved in the planning and operation in the field of Electricity and Heat production. In JQA, he has participated in several CDM assessments as a technical expert. Also he has done technical review on several verification projects.

Appendix C

Tadashi YOSHIDA

He holds a Bachelor's degree, a Master's degree and Ph.D. in chemical engineering. Before joining JQA, he had been engaged in the research and development in a field of chemical processes for 34 years at a national research institute and published over 100 technical papers and articles mainly about the coal liquefaction and natural gas convention technologies. He has successfully completed GHG Validator/Verifier Training Program and also ISO 14001 Training Course to be qualified as provisional auditor. He has participated in various CDM projects, both validation and verification in JQA.