SMALL-SCALE PoA CDM VALIDATION REPORT

WORLD BANK

VALIDATION OF THE PROGRAM OF ACTIVITIES:

UGANDA MUNICIPAL WASTE COMPOST PROGRAMME

REFERENCE NUMBER: 2008/018/CDM/005.1

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Validation Report Type	
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AENOR Asociación Española de Normalización y Certificación

VALIDATION REPORT

Date of first issue:	**Reference No:**
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Client: WORLD BANK	

Summary of the PoA:

The Spanish Association for Standardization and Certification (AENOR) has carried out the validation of the Programme of Activities "**Uganda Municipal Waste Compost Programme**" located in Uganda, on the basis of UNFCCC criteria for the Programme of Activities (PoA), as well as relevant decisions of the EB.

The scope of the validation covers the additionality assessment of the PoA, the elegibility criteria for the Programme Activities (CPAs), the environmental impact assessment process and the stakeholder consultation process as well. In addition it covers the application of the baseline and the monitoring methodology for the calculation of the emission reductions to quantify the emissions reductions during the operational life of the PoA.

The validation carried out by AENOR has involved a desk study of the CDM-SSC-POA-DD, CDM-SSC-CPA-DD and CDM-SSC-Jinja-CPA-DD (first CPA of the PoA), associated documentation and the approved methodology. The next step was the visit of the validation team to Uganda, specifically to Kampala where the Administration is located. The Validation team also visited Jinja Municipality (first CPA), where not only key personnel involved in the CPA, but also Representatives of the Municipality of Jinja were interviewed. The audit team also visited the Uganda Electricity Transmission Company Limited head office in Kampala in order to acquire a deeper knowledge of the electricity situation in Uganda. Conformance with legal and environmental regulations was also confirmed in the headquarters of the coordinating/managing entity, NEMA (National Environmental Management Agency) also in Kampala.

Clarifications and corrective actions on a number of issues were requested by AENOR according to desk review and on-site visit findings; these were satisfactorily amended by World Bank and resulted in a new version of the original CDM-SSC-POA-DD, CDM-SSC-CPA-DD and CDM-SSC-Jinja-CPA-DD.

In the opinion of AENOR the Programme of Activities meets all relevant UNFCCC requirements for the CDM and for the Programme of Activities and all relevant host country criteria, therefore the PoA shall be recommended for registration.

Report No.:	
2008/018/CDM/005.1	

Report title:

VALIDATION REPORT ***UGANDA MUNICIPAL WASTE COMPOST PROGRAMME***

Members of the validation team:

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Indexing terms

Landfill, CH_4, CO_2, climate change, Programme of Activities (PoA), Porgramme Activity (CPA), CDM project, Uganda National Grid, Composting process

Abbreviations

AMS III.F	Avoidance of methane emissions through controlled biological treatment of biomass – version 06
CAR	Corrective Action Requested
CL	Clarification
CDM	Clean Development Mechanism
CDM-SSC-CPA-DD	CDM Programme Activity design document
CDM-SSC-POA-DD	Small scale CDM Programme of Activities design document
CER	Certified Emission Reductions
CPA	CDM Programme activity
DECISION 3/CMP.1	Modalities and Procedures for a Clean Development Mechanism as Defined in Article 12 of the Kyoto Protocol
DNA	Designated National Authority
EB	Executive Board of the CDM of the Kyoto Protocol
EIA	Environmental Impact Assessment
GHG	Greenhouse Gases
IPCC	Intergovernmental Panel on Climate Change
MP	Monitoring Plan
MWh	Mega Watt hour
NEMA	National Environment Management Agency
OM	Operating Margin
PoA	Programme of activities
tC	Carbon tonnes
$tCOB_{2B}$	Carbon dioxide equivalent tonnes
Tool	Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site
EF Tool	Tool for the calculation of the emission factor of the electricity system
Additionality tool	Tool for the demonstration and assessment of the additionality
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual

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1 INTRODUCTION

This validation concerns a small scale CDM Programme of Activities (hereinafter PoA) implemented by World Bank, in different municipalities of Uganda to reduce emissions of CO_2 by recovering the organic matter from municipal solid waste as compost and avoiding methane emission through the Programme. Each landfill of each municipality will be considered as a small scale Programme Activity (hereinafter CPA). This report summarises the findings of the validation of the PoA design document (CDM-SSC-POA-DD, hereinafter POA-DD), the Jinja CPA Design Document (CDM-SSC-Jinja-CPA-DD, hereinafter Jinja-CPA-DD), and the generic CPA Design Document (CDM-SSC-CPA-DD, hereinafter CPA-DD) with generic information relevant to all CPAs to be included in this PoA.

The objectives of the validation exercise are:

1. To confirm that the PoA meets the necessary CDM criteria for Programmes of Activities.
2. To assess that the PoA and CPAs follow the approved methodology AMS III.F (Version 06) and,
3. To confirm that the proposals presented by World Bank in the POA-DD and CPAs-DD will lead to a realistic determination of the emissions reductions.

The scope of the validation covers the additionality assessment, the environmental impact assessment process and the stakeholder consultation. In addition it covers the baseline methodology, the calculation of the ex-ante emission reductions and the monitoring methodology to quantify the emissions reductions during the operational life of the PoA.

The goal of the PoA is to avoid methane emissions from Municipal waste landfills by undertaking composting of the wastes and using the organic matter in wastes as humus for soil conditioning and plant growth.

Validation team:

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Mercedes García Madero (Biology Degree) is qualified as Chief CDM Validator and Chief Verifier in the Climate Change Unit of AENOR. She is 5 years experience in Environmental consultancy, developing Project Design Documents of different projects in the sectoral scopes 1 and 14. Since she is working in AENOR, she

has participated in CDM Validation and Verification processes in several countries in America and Africa as well as methodologies assessment.

Jose Antonio Gesto Vilacoba (Economy Degree) is financial expert of the Climate Change Unit of AENOR. He is 10 years of experience in environmental and quality management sector. He has developed plenty climate change activities, especially in CDM sector preparing Document Design Documents of several CDM project activities. Since he is working in AENOR, he has participated in CDM Validation and Verification processes specially the additionality assessment and technical reviews.

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Marcelino Pellitero Martinez (MSc in Economics and Diploma in Operations, Logistics and Transportation) is one of the financial experts of AENOR for the Climate Change Unit. In addition, he has ten years work experience in economic and financial analysis of environmental projects, he has been member of the Economic Analysis Group of the Spanish Ministry of Environment and he is co-author of several national and international articles and books.

1.1 Objective

World Bank has commissioned AENOR to validate "**Uganda Municipal Waste Compost Programme**". The purpose of a validation is to have an independent third party assessment of the PoA design document (POA-DD) and the CPA-DD with generic information relevant to all CPAs to be included in this PoA. In particular, the eligibility criteria for inclusion and demonstration of additionality of CPAs, the Programme's baseline determination, monitoring plan, and the Programme's compliance with relevant UNFCCC and host Party criteria are validated in order to confirm that the PoA design, as documented, is sound and reasonable and meets the identified criteria.

Validation is a requirement for all CDM Programmes of Activities and is seen as necessary to provide assurance to stakeholders of the quality of the Programme and its intended generation of certified emission reductions (CERs).

UNFCCC criteria refer to the Kyoto Protocol criteria and the CDM rules and modalities as agreed in the Bonn Agreement and the Marrakech Accords.

1.2 Scope

The validation scope is defined as an independent and objective review of the POA-DD, the CPA-DD with generic information relevant to all CPAs to be included in this PoA and the specific Jinja-CPA-DD (first CPA to be included in the PoA). These documents were reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords, the simplified modalities and procedures for small-scale CDM project activities, the procedures for registration of a programme of activities as a single CDM project activity and the relevant decisions by the CDM Executive Board, including the approved baseline and monitoring methodology AMS-III.F and the involved Tools.

AENOR, based on the Specific Instruction for the Processing and Conducting of Validation, Registration, Verification and Certification of Kyoto Protocol CDM Project Activities (IE/DTC/039.00), and the Validation and Verification Manual, has used a risk-based approach in the validation, focusing on the identification of significant risks for programme implementation and the generation of CERs.

As stated above, the validation of the programme has also considered the completed Jinja-CPA-DD for the Programme Activity titled "**Municipal waste composting Project for Jinja Municipality**" submitted together with the POA-DD. The validation is not meant to provide any consulting towards the programme participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the programme design.

The following documents were reviewed as part of the scope of the activity:

- CDM-SSC-POA-DD, including baseline study and monitoring plan /1/
- CDM-SSC-Jinja CPA-DD /2/
- CDM-SSC-generic-CPA-DD /3/
- Approved small scale methodology - Avoidance of methane emissions through controlled biological treatment of biomass. AMS.III.F (Version 06) /4/
- Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site (hereinafter Tool) (Version 04) /5/
- Approved small scale methodology - Grid connected renewable electricity generation. AMS.I.D - (Version 13). /6/
- Tool for the demonstration and assessment of the additionality (Version 05.2) /7/
- Decision 3/CMP.1 and relevant decisions and guidelines from the EB.
- *CDM Executive Board:* Validation and Verification Manual. Version 01. /8/
- Associated documentation (environmental requirements, investment analysis, etc.)

The validation is not meant to provide any consultancy services to the Client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the POA-DD.

2 METHODOLOGY

The validation of the programme was started in November 2008 and concluded in July 2009. The validation was performed in the manner of an audit, where a desk review of the documentation POA-DD, Jinja-CPA-DD and CPA-DD was first undertaken against the approved methodologies and CDM and other relevant criteria for the Programmes of Activities. The desk review was followed by a site visit to NEMA (coordinating/managing entity) and other key stakeholders in Uganda.

In order to ensure transparency, two validation protocols were customized for the PoA and the CPA_S, according to Specific Instruction IE/DTC/039.00. The protocols show, in a transparent manner, criteria (requirements), means of verification and the results from validating the identified criteria. The validation protocols serve the following purposes:

- They organize, provide details and clarify the requirements a CDM Programme of Activities and a Programme Acitivity are expected to meet
- They ensure transparent validation processes where the validator will document how a particular requirement has been validated and the result of the validation.

Both validation protocols consist of three tables. The different columns in these tables are described in Figure 1. The Table 1 and Table 2 describe the first stage of the validation process, and the table 3 details

the complete process of resolution of all the CARs and CLs. The completed validation protocol of the PoA is enclosed in Appendix A. A specific validation report including the specific validation protocol of each CPA is developed and it will be submitted to the EB during this validation process.

Validation Protocol Table 1: Mandatory Requirements			
Requirement	**Reference**	**Conclusion**	**Cross reference**
The requirements the Programme must meet.	Gives reference to the legislation or agreement where the requirement is found.	This is either acceptable based on evidence provided *(***OK***),* or a **Corrective Action Request *(*CAR*)*** of risk or non-compliance with stated requirements. The corrective action requests are numbered and presented to the client in the Validation report.	Used to refer to the relevant checklist questions in Table 2 to show how the specific requirement is validated. This is to ensure a transparent Validation process.

Validation Protocol Table 2: Requirement checklist				
Checklist Question	**Reference**	**Means of verification *(*MoV*)***	**Comment**	**Draft and/or Final Conclusion**
The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organized in five different sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.	Gives reference to documents where the answer to the checklist question or item is found.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review *(*DR*)* or interview *(*I*)*. N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided *(***OK***),* or a **Corrective Action Request *(*CAR*)*** due to non-compliance with the checklist question *(*See below*)*. **Clarification** is used when the validation team has identified a need for further clarification.

Validation Protocol Table 3: Resolution of Corrective Action and Clarification Requests			
Draft report clarifications and corrective action requests	**Ref. to checklist question in table 2**	**Summary of participant owner response**	**Validation conclusion**
If the conclusions from the draft Validation are either a Corrective Action Request or a Clarification Request, these should be listed in this section.	Reference to the checklist question number in Table 2 where the Corrective Action Request or Clarification Request is explained.	The responses given by the Client or other project participants during the communications with the validation team should be summarized in this section.	This section should summarize the validation team's responses and final conclusions. The conclusions should also be included in Table 2, under "Final Conclusion".

Figure 1 Validation protocol tables

2.1 Review of Documents

The Documents submitted by World Bank were reviewed against the approved methodology and against CDM and other relevant criteria for Programmes of Activities. Additional background documents related to the design of the programme and baseline were also made available before and during the on-site visit in Uganda. These documents were reviewed as well.

To address the corrective actions and clarification requests that arose from the desk review and on-site visit, World Bank revised several times the POA-DD and CPAs-DD submitted on November 2008 and developed a final version *(version 01.6)* submitted to the audit team on 10th July 2009.

The final validation findings are presented in this report related to the programme as described in the POA-DD and CPAs-DD versions 01.6.

The reviewed documents used during all the validation process are detailed in the Chapter 6 of this report.

2.2 Follow-up Interviews

AENOR conducted interviews with project developers in Uganda to confirm selected information and to resolve identified issues in the document review.

On 26-29th November 2008, representatives of NEMA and main stakeholders were interviewed.

The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization Person/Position	Interview topics
National Environment Management Agency *(coordinating/managing entity)* Kampala *(Uganda)* - Aryamanya-Mugisha, Henry *(Ph.D)*. Executive Director. - Gerald Musoke Sawula, Ph.D *(Bristol)*. Deputy Executive Director. - Kasekende Mujuzi Aristarco. Director, Finance and Administration. - Allan Kasagga. Chief Accountant. **TIDE Technocrats Private Limited *(Consultancy firm contracted by the World Bank)*** - N. Sampath Kumar	✓ Programme design. ✓ Additionality assessment ✓ Baseline determination. ✓ EIA approval and related conditions. ✓ Monitoring of environmental impacts.

Interviewed organization Person/Position	Interview topics
National Environment Management Agency (Environmental Authority) Kampala (Uganda) - Waiswa Ayazika Arnold. Environmental Impact Assessment Co-ordinator. - Fred Onyai. Internal Monitoring and Evaluation Specialist. - Herbert Oule. Senior Environmental Inspector. **TIDE Technocrats Private Limited (Consultancy firm contracted by the World Bank)** N. Sampath Kumar	✓ Opinion about the Programme. ✓ Knowledge of the environmental impacts. ✓ Benefits for the community. ✓ Consultation with municipality's authorities, land owners and other stakeholders. ✓ EIA approval process and related conditions. ✓ Monitoring of environmental impacts.
DNA. Ministry of Water and Environment (Department of meterorology) - Paul Isabirye. Principal Meteorologist.	✓ Compliance with law applicable to landfills ✓ Project's sustainable development contribution ✓ Consultation with municipality's authorities, land owners and other stakeholders. ✓ DNA´s opinion.
Makerere University - Dr. Joseph Kyambadde. Senior Lecturer/Head of Dept Biochemistry.	✓ Study of Discards in ten municipalities of Uganda. ✓ Analysis of the decay factor of the wastes of Uganda Landfills.
Uganda Transmission UTC – Kampala, Uganda - Transmission Planning Manager.	✓ Operation of the Electricity system in the country. ✓ Data analysis for the Emission Factor of the national grid
Jinja Municipal Council - Ernest Nabihamba. Principal Production and Environmental Officer.	✓ Jinja CPA design. ✓ Additionality assessment ✓ EIA approval and related conditions. ✓ Monitoring of environmental impacts. ✓ Compliance with law applicable to landfills ✓ Benefits for the community. ✓ Consultation with stakeholders.

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this validation phase was to resolve the requests for corrective actions and clarifications and any other outstanding issues that needed to be clarified for AENOR's positive conclusion on the project design. The corrective action requests *(CARs)* and clarification requests *(CLs)* raised by AENOR were resolved during communications with project participants. To guarantee the transparency of the validation process, the concerns raised and responses given are summarized in chapter 3 below and documented in more detail in the validation protocol in Appendix A.

Since modifications to the programme design were necessary to resolve AENOR's concerns, the Client decided to revise several times the documentation and finally resubmitted the CDM-SSC-POA-DD documentation on 10th July 2009. After reviewing the revised and resubmitted programme documentation, AENOR issued this final validation report and opinion.

3 VALIDATION FINDINGS

The main findings of the validation are stated in the following sections. The validation findings for each validation subject are presented as follows:

1) The findings from the desk review of the original PoA design documents and the findings from interviews during the on-site visit are summarized. A more detailed record of these findings can be found in the Validation Protocol in Appendix A.

2) Where AENOR had identified issues that needed clarification or that represented a risk to the fulfillment of the project objectives, a Clarification or Corrective Action Request, respectively, have been issued. The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Validation Protocol in Appendix A. During the validation process, ten Clarifications, twenty eight Corrective Actions and one Forward Action were requested.

3) Where Clarification or Corrective Action Requests have been issued, the exchanges between project participants and AENOR to resolve these Clarification or Corrective Action Requests are summarized.

4) The conclusions for validation subjects are presented.

The final validation findings are related to the design of the Programme of Activities as documented and described in the revised and resubmitted POA-DD and other relevant documentation.

3.1 Participation Requirements

The Annex I participant of the Programme of Activities is the International Bank for Reconstruction and Development (IBRD) as the Trustee of the Community Development Carbon Fund (CDCF) of the World Bank. The Government of Netherlands is going to participate as participant party and meets all relevant participation requirements:

- Netherlands has confirmed that is a party of the Kyoto Protocol (2002, 31st May)
- Netherlands has confirmed its voluntary participation and the contribution of the project to the sustainable development through the National Approval of the Programme of Activities (dated on 23th April 2009 and requested by CAR 2).

The LoA of Netherlands /9/ establishes that any information indicates that the project can be seen as a diversion of ODA funding towards the host country. During the on site visit, the Agreement signed between NEMA and IBRD has been provided to the validation team in order to check also the origin of the financing (CL 1). AENOR has not come across any indication about ODA during the validation process.

On the other hand, the first version of the POA-DD included Italy as Annex I participant, but it was consistently changed as result of CAR 2. The Letter of Approval of Netherland and the Modalities of Communication form indicate Netherland as only Annex I participant. It is consistent with the UNFCCC requirements.

The host Party Uganda meets also all relevant participation requirements following detailed:

- Uganda has confirmed that is a party of the Kyoto Protocol (2002, 25th March)
- Uganda has confirmed its voluntary participation and the contribution of the project to the sustainable development through the National Approval of the project (dated on 5th February 2008 requested by CAR 1). The authenticity of the Letter of Approval was checked against the on site visit in DNA headquarters, in Kampala, and through interviews with the people in charge of the approval.

The Letter of Approval of Uganda /10/ details the names of the nine first municipalities involved in the Programme of Activities. The DNA confirmed that only the first stage of CPAs was going to be included in the LOA, and the second stage will require a new Letter of Approval. For this reason, FAR 1 was requested regarding the validation of CPAs not approved yet by the DNA.

Both Letters of Approval (Uganda and Netherlands) are established in accordance with the UNFCCC requirements regarding the exact title of the Programme and clearly references. AENOR obtained both LoAs through the project participant. Nevertheless, the authenticity of Uganda LoA was assessed during the on site visit to the DNA of Uganda. The contribution of the project to the sustainable development of Uganda was also confirmed by the DNA of the Host Country, and the CDM Sustainable Development Criteria process was explained and the template /11/ provided.

In accordance with the *Guidance on the registration of project activities under a programme of activities as a single CDM project activity* (Version 02.1), the project participant has nominated the National Environmental Management Agency (NEMA) as Coordinating Entity. NEMA would support providing technical *know how* and monitoring the implementation and operation of the individual compost plants. NEMA, as the Coordinating/Managing Entity (C/ME) has been clearly defined in the POA-DD as result of CAR 8, and is a project participant authorized by the host country DNA as it is established in the LoA of Uganda. During the validation process, some inconsistencies were detected regarding the Coordinating Agency (CL 2) but the project participant immediately clarified them in the new version of the POA-DD.

3.2 Programme Design

The CDM-SSC-POA-DD of "***Uganda Municipal Waste Compost Programme"*** has been prepared in accordance with latest template (version 01-EB33) and guidance from the CDM Executive Board for PoAs. The first version of the POA-DD had modified the template including a new annex, but as result of the CL 20 it was correctly changed. On the other hand, several editorial mistakes, and the lack of several documentation references were detected (CL 27 and CL 21 respectively), but during the validation process all of them were accordingly solved.

The goal of the programme is to avoid methane emissions from Municipal waste landfills by undertaking composting of the wastes and using the organic matter in wastes as humus for soil conditioning and plant growth. As multiple towns and cities are expected to participate in this Programme, a Programme of Activity CDM was proposed.

The Composting projects would be implemented by the individual municipalities. Each of these compost projects is considered a CDM Programme Activity (CPA). Currently there is no municipal waste composting activity in practice in the country. This PoA would support the municipalities to set up such facilities. The Programme would also generate local employment and help the country development in an environmentally friendly and sustainable way.

The technology is described in the CDM-SSC-POA-DD in a accurate manner: The aerobic composting process produces a saleable compost product from a waste material that would otherwise have been placed in a landfill and generated large quantities of methane and other noxious gases, as well as leachate

that seeps into and pollutes ground and surface waters at the landfill sites. Each of the town / municipal council may handle from about 50 tonnes of waste per day up to 200 tons of waste per day with typical number being about 70 tons per day.

The boundaries of the Programme of Activity would be national boundaries of Uganda since the waste management is governed by the same set of rules and regulations for the whole country. The location would be within the existing 56 districts of the country or any new districts that may be constituted in future. The urban area shall be classified as a town council, urban local body or city. As result of the CL 3 and CL 4 regarding the definition of boundaries in accordance with the UNFCCC guidance) the new version of the POA-DD establishes the way to clearly identify each CPA. This way has been established in terms of geographical area within which all CDM programme activities (CPAs) will be included in the POA.

The description included in the POA-DD is considered clear and provides the reader with clear understanding of the nature of the programme. The following technical documents were provided as result of the CL 5 and the design of the programme has been checked against them:

- Operation and Maintenance Manual for 70 TPD waste compost plants for Municipal solid waste in Uganda. EMBCP-II World Bank and NEMA /12/.
- Promoting Solid waste composting in Uganda. EMBCP-II World Bank and NEMA /13/.
- Farmer Categorization for better targeting of support /14/.
- Design report for 70 TPD compost plants for Municipal Solid waste in Uganda. Prepared by a consultant of the World Bank, to the National Environment Authority of Uganda /15/.
- Proposed Staff requirements for municipal solid waste composting in municipalities/town councils 13TH June 2008 /16/.

All the characteristics included in the POA-DD were checked during the on site visit and against the maps and the documentation submitted by NEMA and World Bank.

3.2.1 Starting date of the Programme of Activities

A renewable 21 years crediting period is selected. The starting date of the Programme of Activities is 31st October 2007 corresponding to the first expenditure made by NEMA in the first CPA, Jinja CPA. It is in accordance with the provisions made by the EB 47 (26th – 28th May 2009) since the validation started on September 2008.

The following documents have been provided to the validation team as result of the CL 26 as evidences of the serious prior consideration of the CDM:

- The EMCBP II aide memoire of Nov – Dec 2006 /17/.
- The Letter of Intention (LOI) for purchase of ERs by World Bank dated 25 April 07 /18/.
- Carbon finance document dated 28th of February of 2007 /19/.

These documents show correctly that the programme considered carbon finance a priori.

3.2.2 Criteria for Inclusion of CDM Programme Activities

The programme clearly establishes eligibility criteria for inclusion of a project as a CPA under the PoA in section A.4.2.2 of the POA-DD. These criteria are identified in the Cooperation Agreement to be signed between NEMA and the municipalities. The Cooperation Agreement includes also specific provisions and declarations that make CPA proponents acknowledged that they are aware and have agreed that their activity is being subscribed under the PoA. The Agreement should also specify that they have not previously been a part of any CDM project. These issues have been established in accordance with the *Guidance on the registration of project activities under a programme of activities as a single CDM project activity* of the UNFCCC.

The template of the Cooperation Agreement and several signed Agreements were provided as result of the CL 6 to the validation team. The documents were in accordance with the provisions detailed in the POA-DD.

3.2.3 Operational, Management and Verification Plan

The Municipalities included in each CPA are responsible for implementing the solid waste composting activity. The municipalities are in charge of all the stages since the construction to the selling of the compost products. NEMA, acting on behalf of the municipalities shall maintain the data about each CPA and share them with the IBRD. The record keeping will be both paper and electronic format. All the details of the Operational and Management Plan are clearly included in the Annex 4 of the POA-DD.

The Coordinating Entity has chosen the option of using a sampling methodology in order to decide the numbers of CPAs to be verified. The first version of the POA-DD included a sample size of 25% of the CPAs to be verified per year. CL 23 regarding the justification of the sample methodology, and finally the latest guidance published in the UNFCCC website for sampling will be used. Since this methodology will be established for this kind of activities, and it will be proposed by the UNFCCC, a FAR 2 has been requested in order to validate this methodology during the first verification of the PoA. This issue has been established in accordance with the Annex 29 of the EB 47 *(Procedures for Registration of a programme of activities as a single CDM project activity and issuance of certified emission reductions for a Programme of Activities)*.

3.3 Baseline methodology

The POA-DD describes the baseline methodology, which is in conformance with the approved baseline methodology AMS.III.F *(*Version 06*)* entitled *Avoidance of methane emissions through controlled biological treatment of biomass* and the "*Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site*" *(*Version 04*)*. CAR 3 was requested in order to update the version of the Tool because it was not in force. The new version of the Tool was correctly included in the last version of the POA-DD, the evidences were provided justifying the veracity and conservativeness of the assumptions and the CAR 3 was finally closed.

The methodology is applicable to the Programme of Activities since during the EB 33 the revision of the methodology increased the scope for its application to PoAs. This methodology comprises measures to avoid the emissions of methane to the atmosphere from biomass or other organic matter that would have otherwise been left to decay anaerobically in a solid waste disposal site. In the programme, controlled biological treatment of biomass is introduced through the first measure established in the methodology*:* **Aerobic treatment by composting and proper soil application of the compost**. This methodology is also applicable to the treatment of the organic fraction of municipal solid waste and biomass waste from agricultural or agro-industrial activities as in the programme case. The technical document justifies exactly this composting process, so these applicability conditions are fulfilled and based in documented evidence.

The application of the baseline methodology has been transparently detailed in the POA-DD. The no consideration of the leakages, the guidance to establish the boundaries of each CPA and the calculations are in accordance with the provisions of the relevant methodology and tool. The guidelines for the application of the methodology in the CPAs have been clearly included in the POA-DD. The eligibility criteria regarding the characteristics of the landfill to be included in the scope of the POA are in accordance with the methodology and the tool as well.

The spreadsheets prepared for the calculations have been provided to the validation team. In the first version of them, the values of the decay factor *(K_j)* used for the emission reductions calculations were not the default values of the Tool. For this reason CAR 7 was issued in order to request a deviation. Considering the high proportion of food and green waste in Uganda's municipal solid waste and favourable climate conditions for fast degradation, the project entities hired an independent and credible research laboratory in Makerere University of Uganda to conduct detailed studies /20/ for the purpose of establishing decay rates specific to Uganda. The request for deviation /21/ was submitted on 5th May 2009, based on the Meth Panel clarification in response to the request for clarification F-CDM-AM-Clar_Resp_ver 01.1 - AM_CLA_0051 /22/. Nevertheless, the deviation was rejected, and new spreadsheets were provided and checked by the validation team.

The formulae included in these new spreadsheets and the values of the factors were checked, and they were in accordance with the methodology and the tool, using the same values and variables.

The following source of data was taken into account, "2006 IPCC Guidelines for National Greenhouse Gas Inventories" /23/.

CL 24 was requested because some mistakes regarding several values used in the spreadsheets were detected. All of them were corrected. The last version of the spreadsheets details all the algorithms of the spreadsheets /24/ for the calculation of the CPAs and baseline emissions, and all of them are in conformance with the methodologies and tool. The spreadsheets are organized in five sheets, linked between them. The validation team has replicated the calculations of the spreadsheets, and the results are in conformance with the relevant methodologies and tools.

All the formulae are listed in the POA-DD, the references of the default values are detailed *(*see CL 11, CL 13-CL18*)* and the values are considered reasonable in the context of the proposed programme taking into account the general characteristics of a landfill with an average waste treatment of 70 tonnes per day. These characteristics were crosschecked against the technical documents provided to the validation team *(*See Section 3.2*)*.

3.4 Additionality

3.4.1 Additionality of the POA

The program aims to promote composting as an alternative means of solid waste processing and disposal in Uganda. The entire program is completely voluntary for NEMA and the municipalities, as there are no specific regulations that require waste composting as the only means of solid waste disposal in the country. During on site visit the validation team was able to confirm the voluntary character of the program and the statements regarding the solid waste regulation in force.

3.4.2 Additionality of typical CPA

The additionality was determined on the basis of the "***Tool for the demonstration and assessment of additionality (version 05.2)".*** The additionality of the POA has been demonstrated through the financial analysis and reinforced by the barrier analysis. All the evidences and assumptions have been assessed and crosschecked by the validation team, and have been considered consistent with the Additionality Tool.

Hence, AENOR has considered the Programme of Activities additional in accordance with the requirements established by the UNFCCC.

Step 1 Identification of alternatives to the project activity consistent with current laws and regulations

Sub-step 1a. Define alternatives to the project activity:

The CDM Programme Activity involves composting of municipal solid waste. Four possible alternatives were initially considered:

1. The Programme Activity, composting, not implemented as a CDM Programme;
2. Disposal of the waste at a landfill where landfill gas captured is flared;
3. Biomethanation of the waste and use of the methane for heat or electricity.
4. Disposal of the waste on a landfill without the capture of landfill gas (business as usual).

The economic and technological context of Uganda makes not viable for the municipalities to undertake advanced options such as options number 2 and 3 (landfill gas capture and flaring and Biomethanation). The reasons to eliminate these alternatives were checked and accepted by the DOE.

Finally two plausible alternatives were considered:

- Alternative 1: The Programme activity, composting, not implemented as a CDM Programme;
- Alternative 4. Disposal of the waste on a landfill without the capture of landfill gas (Continuation of current practice)

The level of the service provided by the alternatives was considered equivalent. Both options imply differences in the way of operation of the landfill, but the service provided to the community (reception and storage of Municipal Solid Wastes) remains the same. Thus, the chosen alternatives have been established in accordance with the Additionality Tool.

Sub step 1 b. Consistency with mandatory laws and regulation

All the alternatives to the Programme Activity are in compliance with the applicable laws and regulatory requirements in Uganda. This has been verified by the validation team through the interviews with the local authorities.

Step 2 Investment Analysis

Sub step 2a. Determine appropriate analysis method:

The project proponent has chosen the option II- "Investment Comparison Analysis" to prove additionality, comparing the proposed alternatives. The DOE has verified that option II was correctly selected in accordance to the "**Tool for the demonstration and assessment of additionality (version 05.2)".**

Sub step 2b. Option II Apply investment comparison analysis:

According to sub step 2b option II, Net Present Value (NPV) was used as a financial indicator as a most suitable for the project type and decision-making context.

The validation team adopted a five points procedure to ascertain the veracity of the conclusion drawn by the project developer, as follows:

a) Evaluating the appropriateness of the investment comparison applied for the type of financial indicator presented;

b) Conducting an assessment of parameters and assumptions used in calculating the financial indicator and determining the accuracy and suitability of parameters;

c) Cross-checking the parameters against, project documentation, third-party or publicly available sources;

d) Assessing the correctness of computations carried out and documented by the project participant; and

e) Assessing of the sensitivity analysis.

a) Suitability of financial indicator and Investment Comparison:

The project developer has chosen NPV to demonstrate the additionality of the project. In accordance with the additionality Tool (Ver. 05.2) the use of financial indicator NPV is allowed for demonstrating the additionality using investment comparison analysis. The main reason for demonstrate the financial unattractiveness of the project through NPV, came from the alternatives selected. One of them is to continue with the current practice of landfilling, alternative that only presents cost. The other option, the composting activity implies cost and revenues (compost selling and/or CERs selling). For these reasons, the selection of NPV as financial indicator to demonstrate the additionality of the project is appropriate according to the Additionality Tool.

The following table of the POA-DD shows the results of the NPV analysis of the chosen alternatives:

	Option Considered		
	Continuation of Current Practice	Composting without CDM	Composting with CDM
Description of the Options	Disposal of MSW at Landfills/Controlled Dump Sites without LFG Capture and Flare	Processing of waste in the compost plant followed by landfilling of rejects without considering the CDM benefits	Processing of waste in the compost plant followed by landfilling of rejects considering the CDM benefits
Quantity of waste handled (TPD)	70	70	70
Capital Investments (US$)	-	421,344	421,344
Operating Costs (US$/Year)	16,004	47,525	47,525
NPV (US$)	**- 237,529**	**- 433,835**	**787,634**

Source: POA-DD (version 1.6)

The financial analysis shows that the current practice of disposing wastes in the landfills is the least costly alternative. Without the CDM revenues, the composting operations have negative return and composting process becomes viable only with the CDM revenues.

b) Parameters and assumptions used:

The two main parameters, which determine the project NPV, are project cost and profitability estimate:

1. The project cost considered in the financial analysis is based on the detailed documents /13/ /15/ which constitutes the basis of the program. The project cost includes access road, skips, civil works, area management equipment, and plant and office equipment, among others. Project costs were based on quotations and documents that were assessed by the validation team.
2. The profitability estimate of the project is based on processing capacity yield, compost selling price and costs of the following inputs:
    - Manpower
    - Machinery
    - Operation and maintenance.

The following assumptions have been assessed by the validation team:

- The processing capacity is estimated based on waste generation and collection of 70 tons per day, assuming 365 working days per annum. This is a standard proposed size due to the fact that the waste generation estimated for the selected towns has a range from 60 TPD to 105 TPD in accordance with the document /20/ assessed by the validation team.
- Compost Selling price has been assumed at 13 USD/MT based on the invoices of "sewage sludge" taken as a proxy and checked by the validation team during the on site visit. This assumption has been considered consistent in accordance with the current situation of the market in Uganda: there is no organized market for organic compost in Uganda, but the sludge generated at sewage treatment plants are in demand and there are examples of floriculture units using this kind of wastes. The selling price has been escalated at 5% per annum based on the ruling inflation rate and taken as a conservative figure.
- Regarding the Operation and Maintenance activities, the project developer has submitted detailed spreadsheets of the calculations for each of the inputs of O&M cost and quotations for the respective input, transparently documented in /12/ and /13/:
    - Fuel consumption is based on the working hours per annum of vehicles, the consumption per hour and the current fuel cost;
    - Wages are based on the detailed organizational chart and process and the current wage rate of the country. The manpower requirement has been minimized to keep the minimum costs since the composting operations proposed are basic.
    - Water and power cost is based on the working hours of machinery, hourly consumption of power and ruling power tariff.
    - O&M expenses have been escalated by 5% per annum. based on Wholesale Price Index.

  These assumptions are considered conservative and only with higher compost sale and revenues the manpower needs to be appropriately increased. Nevertheless this situation is unlikely, due to the context of the future compost market. The details of O&M costs for composting activities have been transparently included in the financial spreadsheets and evaluated and crosschecked by the validation team.

- The composting yield ratio has been taken at 22%. The ratio depends on the composition of wastes, moisture content, and the atmospheric conditions. There is no experience of solid waste composting in the country. Nevertheless, this yield was conservative considered based on international experience in composting technologies and other registered CDM project activities, which hover around 15-20%, in regions and countries with similar sociological and geoclimatological conditions. For these reasons a 22% yield, under manual operation and atmospheric conditions, can be considered as conservative regarding the demonstration of the financial additionality.

The key assumptions in the financial analysis are shown below:

Assumptions	Units	Values	Remarks
Waste Processing Capacity	TPD	70	Standard design as per the program.
First Year Processing Capacity	TPD	70	Standard design as per the program.
Operational life of the Plant	Years	15	It is assumed that the vehicles and equipments will depreciate completely over a period of 7 years (after 20,440 operation hours). Therefore, new investments in equipments have been considered in the 8th year of operation of the plant, and the NPV has been calculated over a period of 15 years.
No. of operational days in a year	days/year	365	As per the design.
Exchange rate per USD	Ush	1800	Average (426 days, 2008-2009) 1773.374 Ush/USD.
Increase in operation costs per annum	%	5%	2008: inflation rate 5.5%.
Price of CER	USD/CER	10	As per the letter of Intent signed with the World Bank.
Compost Production (% of Waste handled)	% of Compost	22%	As per the design, in line with production capacity yield in regions and countries with similar sociological and geoclimatological conditions.
Sale of compost in first year (for the purpose of revenues)	% of production	30%	New market to be created.
Rate of increase in sale of compost from second year onwards	%/year	10%	Expected.
Saturation of sale of compost - max. that can be expected (for the purpose of revenues)	%	80%	Expected.
Price of compost per ton	USD/Ton	13.0	Price of a similar product (sewage sludge) taken as proxy.
Annual increase in Compost Price	%/annum	5%	Expected.

Source: own elaboration based on information provided by the project participant.

According to the project proponent it is expected that 30 % of the compost production would be sold from the first year of operation and this would increase annually by 10% till about 80% of the compost production. Taking into account that the compost market has to be developed in the country, is highly difficult estimate whether this product will be accepted. The market projection proposed by the project developer, ensure that the revenue from sale of compost would cover the operations cost from the 4th year, that is considered as a conservative assumption, taken in consideration that the operational lifetime is 15 years.

c) d) Cross checking parameters and Assessment of correctness of computation

The main inputs of project cost have been crosschecked with quotations, invoices, contract agreements, detailed design reports, similar international projects and official statistic. The values of the inputs provided by the project participant were considered reasonable and consistent with the references used by the validation team.

The assessment has involved checking the data taken from quotation/documents, adoption of correct accounting principle and arithmetical accuracy.

The validation team has checked the documents and has ensured that right input has been taken in the project cost and projections. The accounting principles adopted with respect to computation of NPV, block of assets and depreciation were found to be reasonable and conservative. The calculations were replicated by the validation team and the same result was obtained, so the arithmetical accuracy was adequate.

e) Sensitivity

The project participant applies the sensitivity analysis assessment using different scenarios with variations (plus and minus 10%) in:

- capital costs and
- compost price

The results of the sensitivity analysis have been transparently included in the POA-DD (version 1.6). The NPV is negative in all the considered scenarios, and the calculations have been made in accordance with the additionality tool.

Regarding to the compost generation yield (initially estimated as 22%), the validation team carried out its own independent assessment, which reveals that the project would become non additional only if this yield goes to 27.5% of the waste handled. The validation team considered such increase in capacity production unlikely to happen, due among other reasons, although there are no similar experiences in the region, the estimation is done based on analysis of the handled waste and the climatological conditions. Furtheremore it is in line with other similar CDM projects, so it is unlikely that the processing yield goes up beyond 22%.

For all the above reasons, the financial analysis proves in a transparent and consistent way that the programme activity is additional and in line with the guidelines established by the UNFCCC.

Step 3 barrier Analysis

In order to reinforce the results of the financial analysis, the project participant decided to carry out a barrier analysis as well. The project participant proposed the existence of a technological barrier, due to the proposed CDM program would introduce a new technology for solid wastes management in Uganda. The proposed technology is an aerobic windrow. This is a common technology in several developed countries, but completely unknown in Uganda, so it fronts some issues to be taken in consideration:

Training manpower.

Development of a new market.

Promotion of alternative operation of the landfill.

The prevailing practice in Uganda is the dumping the municipal waste in landfills or dumpsites.

The technological and prevailing practice barriers argued by the project participants could be verified during the *on site* visit through interviews with the project developer and local authorities.

The technological developments would only be feasible with CDM consideration, as an incentive for improvement of municipal solid waste management.

Step 4. Common practice analysis

The validation team during the on site visit confirmed that the current practice is the dumping of solid wastes through the interview with local authorities and visiting the landfill of Jinja city.

3.4.3 Approach for Demonstrating Additionality of CPAs

The POA-DD states several criteria that shall be used for assessing the additionality of each CPA:

1. There should not be any existing organized or small scale composting operations of capacity greater than 5 tons of waste handled per day in the urban local body proposing a CPA.
2. The common practice for waste disposal in the urban local body area should be disposal of wastes at landfills/dumpsites.
3. A variation beyond 20% in the design capacity will require separate financial analysis.

The financial analysis is the base of the assessment of the additionality, and this analysis has been carried out for a "prototype plant of 70 TPD". The project proponent assumes that there is the possibility to build a CPA with a different design capacity, considering that a variation of the same under 20% is covered by the current financial assessment. In case the CPA is designed for a different size, beyond 20%, a new financial assessment is required to prove the additionality of this CPA. *(*This criterion *(* nº 3*)* is consistent with the sensitivity analysis*)*

The Approach for demonstrating additionality of CPAs has been analyzed by the validation team and it is considered reasonable because it provides transparent criteria for the assessment of the potential CPAs, and is in accordance with the guidelines proposed by the UNFCCC for Programme of Activities.

3.5 Monitoring Plan

3.5.1 Compliance of the Monitoring Plan with the approved methodology

As stated above, the PoA and CPAs use the approved methodology "*Avoidance of methane production from biomass decay through composting*", AMS.III.F *(*version 06*)*, and "*Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site*" *(*version 04*)*. Nevertheless, for the project emissions of the energy consumption CAR 10 was requested because the monitoring of the emission factor of the grid was not established in accordance with AMS.I.D. The project participant revised the application of the methodology AMS.I.D and additional monitoring parameters were accordingly included in the Monitoring Plan Section.

All parameters to be monitored have been included in the section E.7.2 of the POA-DD. The Annex 4 details the information to be monitored regarding the data sources, recording frequency and storage of material. CL 22 was requested regarding several inconsistencies in the parameters detailed in Validation Protocol*)*.

On the other hand, regarding the changes required for methodology implementation in 2nd and 3rd crediting periods, CL 12 was requested, and five default values suggested in the IPCCC guidelines were included. CL 12 was clarified since these values are in accordance with the methodology.

The revised Monitoring Plan was then established in accordance with the guidelines stated in the version 06 of the methodology AMS.III.F and the relevant Tool.

According to AMS.III.F *(*Version 06*)* requirements , the monitoring Plan provides the relevant data necessary for determine the baseline emissions frequency and monitoring information regarding responsibility for controlling and reporting during the crediting period,

3.5.2 Implementation of the Monitoring Plan

The implementation of the Monitoring Plan is guarantee in three ways*:*

1. A CDM Management Unit has been established within NEMA organizational Structure to manage the preparation and implementation phases of the CDM program activities. It will be the responsible unit for organizing and supervising all of the monitoring activities required.
2. A CDM Operations and Monitoring Manual will be developed in order to provide the requirements for accuracy in collecting, recording and managing data for CDM purposes.
3. A CDM Steering Committee will be constituted with Management and Operational structures as it is detailed in the Section E.7.2 of the POA-DD.

The Operational and Management plan is clearly described in section A.4.4.1 of the POA-DD.

3.5.3 Methodological choices and equations to be used for Calculation of Emission Reductions of a CPA

In accordance with the methodology, the emission reductions are calculated as follows*:*

$$ER_y = BE_y - PE_y$$

Baseline Emissions *(*BE_y*)*: calculated using the formulae provided in the tool. The spreadsheet prepared for this calculation in each CPA has been transparently organized including the formulae of the yearly methane generation potential of the solid waste composted by each CPA as described in the tool.

Project emissions *(*PEy*)*: the project emissions for the composting process are the sum of different kind of project emissions in each CPA. All the data used for the ex-ante calculations provides from the first CPA, the Jinja Landfill. The assumptions made are following detailed*:*

- **Project emissions from fuel used in transport of compost***:* as the compost facility will be located at the same landfill there is not additional transport of waste and the project emissions due the incremental transport of waste will be zero. The compost production is estimated as 22% of the input waste, as it has been estimated in different studies provided *(*[12-16]*)* and accordingly assessed by the validation team. On the other hand, as it is established in the POA-DD, all the variables will be monitored during the crediting period.

- **Project emissions from *on site* energy use***:* the composting process involves electricity consumption only for lighting and water pumping. CO_2 emission factors of fuels have been taken from 2006 IPCC Guidelines for National Greenhouse Gas Inventories. The fuel consumption in the tractor for waste windrow formation and turning has been estimated in 8 liters/h in accordance with the Operation and Maintenance Manual. On the other hand, as required by AMS-III.F, the emission factor for grid electricity is determined in accordance with AMS-I.D which refers to the "*Tool to calculate the emission factor for an electricity system*". The most recent data by the Uganda Transmission Limited Company available at the time of submission of the PoA for validation were applied. As it has been established in above sections, CAR 5 was raised because in the first version of the POA-DD the emission factor of the grid was not calculated in accordance with the tool. It was solved, and the weighted average method calculation was determined as it is clearly indicated in the Annex 3 of the POA-DD. The data were checked during the on site visit to the headquarters of UTC in Kampala and all of them are real and valid for the emission reduction calculations. The emission factor of

the grid will be calculated and monitored in an annual basis. Nevertheless, the calculations of this emission factor will be revised during the second and third crediting period using the most recent version of the methodology AMS.I.D published in that moment.

- **Emissions from Composting**: they are calculated taking into account the methane emission factor of composting waste of 4 kg CH_4/ton wet waste in accordance with table 4.1, chapter 4, Volume 5, 2006 IPCC Guidelines for National Greenhouse Gas Inventories (referenced in the methodology).
- **Emissions from runoff water**[1]: the POA-DD clearly provides the formulae and the factors for the calculation of this kind of emissions in accordance with the methodology. As it was checked during the on site visit, and against the technical documents, the composting process is proposed under a roof. No rain *run off* is expected. The process management would ensure that no leachate from excess watering is generated. Nevertheless, in case it occurs, the leachate will be accumulated in the tank over a period of 24 hours. The measurements will be carried out quaterly and the average leachate generation rate (m^3/day) shall be converted to annual leachate generation. Analytical methods will be made in order to calculate the value of $COD_{y, ww,runoff}$.
- **Emission from anaerobic storage/disposal of residual waste**: compost and inert materials are the two types of residual wastes expected to be generated in each CPA. Only the inert materials will be disposed off in the landfill once in 3 days, which would not lead to any methane emissions unlike disposal of sludge and compost in the landfill. Compost produced in the plant is not intended to be disposed off in the landfill. Nevertheless, the POA-DD provides the formulae in accordance with the tool in order to take into account all the possibilities.

In the validation team opinion the emissions reductions are estimated using the same formulae than in the relevant tools and methodologies. The default values comes from the 2006 IPCC, as it is recommended in the methodologies, and the veracity of the values used has been evidenced with the technical documents of the first CPA, Jinja.

3.5.4 Provisions regarding the revisions of the CPAs in case the methodology is put on hold or withdrawn.

Provisions regarding the revisions of the CPAs in case the methodology is put on hold or withdrawn have been established (as result of requested CAR 6) in accordance with the "*Guidance on the registration of project activities under a programme of activities as a single CDM project activity* (Version 02.1)" and the "*Procedures for registration of a Programme of Activities as a single CDM project activity and issuance of certified emission reductions for a Programme of Activities*" (version 03):

- No new CPAs shall be included to the PoA.
- the PoA shall be revised accordingly and the changes shall be validated by a DOE and approved by the Board if new CPAs are to be included.
- Once changes have been approved by the Board, each new CPA shall use the latest version of the PoA specific CDM-CPA-DD.
- CPAs that were included before the methodology was put on hold, shall apply the latest version of the PoA specific CDM-CPA-DD at the time of the renewal of the crediting period.

[1] The value of $COD_{y, ww,runoff}$ detailed in the POA-DD comes from the most conservative value of reference chosen from three technical papers (|25-27|).

3.6 Environmental Impacts

The analysis of environmental impacts is established at the CPA level. Each one of the CPAs will develop an Environmental Impact Assessment process in accordance with the issue 12 of the Annex 3 (Projects to be considered for Environment Impact Assessment) of the National Environmental Act, 1998: "12. *Waste Disposal including Sites for solid disposal*".

The Town Council is responsible for developing the Environmental Impact Study and providing it to the Environmental Authority (NEMA). During the on site visit, the validation team interviewed the people in charge of the EIA process in NEMA headquarters in order to check this process. The Municipalities will have Terms of Reference provided by NEMA in order to guarantee the correct development of the environmental assessment process.

Several EIAs and Approval Certificates of different landfills /28/ /30/ were provided to the validation team, and all of them were in accordance with provisions detailed in the POA-DD and the national regulation as well.

3.7 Comments by Local Stakeholders

Stakeholders consultation process was undertaken at PoA level through different mechanism as it is detailed in the CDM-SSC-POA-DD.

During the on-site visit to the first CPA location in November 2008, the Jinja Town Council was visited in order to check the social consultation process. As it was checked, local communities have been consulted and have demonstrated their support for the development of the programme by signing the corresponding minutes of the meetings. Several minutes /31/ of the signed meetings were reviewed and all of them are in conformance with the POA-DD. No significant feedback was detected.

Each municipality signs a Cooperation Agreement with NEMA, and there are several provisions included in it regarding the contracting of local people, and the inversion of the money in social activities. Different Cooperation Agreements /32/ /33/ were revised by the validation team and all of them were in accordance with the provisions included in the POA-DD regarding the eligibility, technical characteristics and social compromises.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

According to Decision 3/CMP.1, the validator shall make publicly available the POA-DD, specific CPA-DD (Jinja CPA in this case) and generic CPA-DD, and receive, within 30 days, comments on the validation requirements from parties, stakeholders and UNFCCC accredited NGOs and make them publicly available.

AENOR published the project documents on CDM website (http://unfccc.cdm.int) on 23th of September of 2008 and invited comments by Parties, stakeholders and non-governmental organizations. No comments were received during this period.

5 VALIDATION OPINION

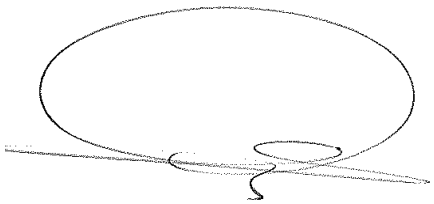
AENOR has performed a validation of the Programme of Activities "**Uganda municipal waste compost programme**" in Uganda. The validation was performed on the basis of UNFCCC criteria and host country criteria, as well as criteria given for the Programmes of Activities to provide for consistent operations, monitoring and reporting.

The review of the programme design documentation, the on-site visit and the subsequent follow-up interviews have provided AENOR with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the programme meets all relevant UNFCCC requirements for the CDM Programme of Activities and all relevant host country criteria. Moreover, AENOR have received the Letters of Approval from the Ugandan DNA and Netherlands DNA. The PoA will hence be recommended by AENOR for registration with the UNFCCC.

Avoiding methane emissions from municipal waste landfills by undertaking composting of the wastes and using the organic matter in wastes as humus for soil conditioning and plant growth is the goal of the programme. It will result in reductions of CO_2 emissions that are real, measurable and give long-term benefits to the mitigation of climate change. Provisions in order to demonstrate the additionality in each CPA have been transparently taken into account in the PoA. Emission reductions attributable to each CPA are hence additional to any that would occur in the absence of the programme.

Given that the PoA will be implemented as designed, each CPA is likely to achieve the estimated amount of emission reductions.

The validation is based on the information made available to us and the engagement conditions detailed in this report.



Luis Robles Olmos	Mª Carmen González Galán
Authorized person	Validation team leader

6 REFERENCES

Category 1 documents: Documents provided by the project proponents that relate directly to the GHG components of the programme. These have been used as direct sources of evidence for the determination conclusions.

Category 2 documents: Background documents related to the design and/or methodologies employed in the design or other reference documents. Where applicable, Category 2 documents have been used to check project assumptions and confirm the validity of information given in the category 1 documents.

Category	Ref	Document Name	Date	Author/Competent Authority
1	1	CDM-SSC-POA-DD version 1.6	July 2009	WORLD BANK
1	2	CDM-SSC-Jinja-CPA-DD versión 1.4	July 2009	WORLD BANK
1	3	CDM-SSC-generic-CPA-DD	July 2009	WORLD BANK
2	4	AMS.III.F Avoidance of methane emissions through controlled biological treatment of biomass – version 06	August 2008	CDM-EB
2	5	Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site - version 04.	August 2008	CDM-EB
2	6	Tool to calculate the emission factor for an electricity system - Version 01.1	July 2008	CDM
2	7	Tool for the demonstration and assessment of Additionality – Version 05.2	August 2008	CDM
2	8	VVM Manual	November 2008	CDM
1	9	Letter of Approval of Netherlands	June 2006	UGANDA DNA
1	10	Letter of Approval of Uganda	June 2006	NETHERLANDS DNA
2	11	CDM Sustainable Development Template	--	UGANDA DNA
1	12	Operation and Maintenance Manual for 70 TPD waste compost plants for Municipal solid waste in Uganda. EMBCP-II World Bank and NEMA	June 2006	WORLD BANK
1	13	Promoting Solid waste composting in Uganda. EMBCP-II World Bank and NEMA	June 2006	WORLD BANK
1	14	Farmer Categorization for better targeting of support	July 2002	WORLD BANK
1	15	Design report for 70 TPD compost plants for Municipal Solid waste in Uganda. Prepared by a consultant of the World Bank, to the National Environment Authority of Uganda	June 2006	WORLD BANK

Category	Ref	Document Name	Date	Author/Competent Authority
1	16	Proposed Staff requirements for municipal solid waste composting in municipalities/town councils	June 2006	WORLD BANK
1	17	The EMCBP II aide memoire	December 2006	WORLD BANK
1	18	The LOI for purchase of ERs by World Bank	April 2007	WORLD BANK
1	19	Carbon finance document	February 2007	WORLD BANK
	20	Municipal Solid Waste composition and Decay rate constant.	November 2006	MAKERERE UNIVERSITY
1	21	Request for Deviation form: "*Using laboratory derived decay factors (Ki) in place of default values to estimate emission reductions*".	May 2009	CDM-EB
1	22	F-CDM-AM-Clar_Resp_ver 01.1 - AM_CLA_0051	September 2007	WORLD BANK
2	23	2006, IPCC Guidelines.	2006	IPCC
1	24	ER Spreadsheets for the calculation of the CPAs and baseline emissions	July 2009	WORLD BANK
2	25	Combined anaerobic-aerobic treatment of landfill leachates under mesophilic, submesophilic and psychrophilic conditions	1992	Moscow State University,
2	26	The Composition Of Leachates From Very Large Landfills: An International Review.	June 2007	Enviros Consulting Limited, United Kingdom
2	27	Full scale, on-site, complete treatment solution for landfill leachate	2000	STRACHAN LJ, ROBINSON H, TROIS C and OLUFSEN JS° Durban Solid Waste
1	28	Environmental Impact Study of Jinja	January 2007	WORLD BANK
1	29	Certificate of Approval of Environmental Impact Assessment of Jinja Landfill and composting plant	March 2007	WORLD BANK
1	30	Environmental Impact Study of other municipalities.	June 2007	WORLD BANK
1	31	Minutes of the public meetings with the communities	2005-2006	WORLD BANK
1	32	Cooperation Agreements signed between Jinja and NEMA	July 2007	WORLD BANK
1	33	Cooperation Agreements signed between other municipalities and NEMA	2007	WORLD BANK
1	34	Agreement signed between NEMA and IBRD	2006	WORLD BANK

CDM VALIDATION PROTOCOL

WORLD BANK

VALIDATION OF THE PROGRAM OF ACTIVITIES:

UGANDA MUNICIPAL WASTE COMPOST PROGRAMME

REFERENCE NUMBER: 2008/018/CDM/005.1

REPORT NUMBER: 01

Validation Type Validation of a project activity	
Validation team: Mª Carmen González Galán *(Chief Validator)* Pablo Taboada Utrera *(Validator)* Mercedes García Madero *(Validator)* Jose Antonio Gesto Vilacoba *(Financial expert)*	
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Table 1 Mandatory Requirements for Clean Development Mechanism (CDM-POA) Programme of Activities

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
1. The Small scale Programme of Activities shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3	Kyoto Protocol Art.12.2	OK	Table 2, Section A.3
2. The Small scale Programme of Activities shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof	Kyoto Protocol Art. 12.2, Marrakesh Accords, CDM Modalities §40a	OK	Table 2, Section A.3
3. The Small scale Programme of Activities shall assist non-Annex I Parties in contributing to the ultimate objective of the UNFCCC	Kyoto Protocol Art.12.2.	OK	Table 2, Section A.3
4. The Small scale Programme of Activities shall have the written approval of voluntary participation from the designated national authorities of each party involved	Kyoto Protocol Art. 12.5a, Marrakesh Accords, CDM Modalities §40a	~~**CAR 1**~~ ~~**CAR 2**~~ OK (Resolution details included in Table 3)	The approval letter of the Ugandan Designated National Authority has to be obtained. The approval letter of the Italian Designated National Authority has to be obtained. The Italian participation in the Fund has changed by Netherlands participation. The Letter of Approval of Netherlands has been obtained.
5. The emission reductions shall be real, measurable and give long-term benefits related to the mitigation of climate change	Kyoto Protocol Art. 12.5b	OK	Table 2, Section B
6. Reduction in GHG emissions shall be additional to any that would occur in absence of the Small scale Programme of Activities, i.e. a CDM Small scale Programme of Activities is additional if anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the registered CDM Small scale Programme of Activities	Kyoto Protocol Art. 12.5c, Marrakesh Accords, CDM Modalities §43	OK	Table 2, Section B.2
7. Potential public funding for the Programme of Activities from Parties in	Marrakech	~~**CL 1**~~	~~**CL 1 - The documented evidences that**~~

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REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
Annex I shall not be a diversion of official development assistance	Accords	OK (Resolution details included in Table 3)	~~**the same IDA money is not being used for purchasing emission reductions shall be submitted to the validation team.**~~ During the on site visit, the Agreement signed between NEMA and IBRD has been provided to the validation team in order to check the origin of the financing. There is not foreseen to receive or seek any public funding from any Annex I Party and AENOR has not come across any indication about ODA during the validation process.
8. Parties participating in the CDM POA shall designate a national authority and a coordinating/managing entity for the PoA.	Marrakech Accords, CDM Modalities §29 EB Decisions	~~**CL 2**~~ OK	Government of Uganda has designated "*Ministry of Lands, Water and Environment*" to act as DNA. ~~Government of Italy has designated "*Ministry for the Environment and Territory, Department for Global Environment, International and Regional Conventions*" to act as a DNA.~~ The Annex I party has changed, Netherlands instead Italy. Government of Netherlands has designated *Ministry of Housing, Spatial Planning and the Environment* to act as DNA. The National Environmental Management Authority (NEMA) has been designated to act as Coordinating Agency. Some inconsistencies have been

VALIDATION PROTOCOL

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
			detected regarding the Agency on page 3 of the CDM-SSC –POA – DD. **CL ~~2 – The inconsistencies regarding the Coordinating Entity shall be solved.~~**
9. The host country shall be a Party to the Kyoto Protocol	Marrakech Accords, CDM Modalities §30	OK	Uganda´s date of ratification: 25/03/2002 Source: UNFCCC
10. Comments by local stakeholders shall be invited, a summary of these and how due account was taken of any comments received shall be provided	Marrakech Accords, CDM Modalities §37b	OK	Table 2, Section E
11. Documentation on the analysis of the environmental impacts of the Small scale Programme of Activities, including transboundary impacts, shall be submitted, and, if those impacts are considered significant by the Programme of Activities participants or the Host Party, an environmental impact assessment in accordance with procedures as required by the Host Party shall be carried out.	Marrakech Accords, CDM Modalities §37c	OK	Table 2, Section D
12. Baseline and monitoring methodology shall be previously approved by the CDM Methodology Panel	Marrakech Accords, CDM Modalities §37e	OK	Table 2, Section B.1
13. Provisions for monitoring, verification and reporting shall be in accordance with the modalities described in the Marrakech Accords and relevant decisions of the COP/MOP	Marrakech Accords, CDM Modalities §37f	OK	Table 2, Section B
14. Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days, and the Programme of Activities design document and comments have been made publicly available	Marrakech Accords, CDM Modalities, §40	OK	The CDM-SSC-POA-DD has been made publicly available on 2008-09-24 on UNFCCC web site.
15. A baseline shall be established on a Programme of Activities-specific basis, in a transparent manner and taking into account relevant national and/or sectoral policies and circumstances	Marrakech Accords, CDM Modalities, §45c,d	OK	Table 2, Section B.2
16. The baseline methodology shall exclude to earn CERs for decreases in	Marrakech	OK	Table 2, Section B.2

VALIDATION PROTOCOL

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
activity levels outside the Small scale Programme of Activities or due to force majeure	Accords, CDM Modalities, §47		
17. The CDM-SSC-POA-DD shall be in conformance with the CDM-SSC-POA-DD format.	Marrakech Accords, CDM Modalities, Appendix B, EB Decisions	~~**CL 27**~~ OK (Resolution details included in Table 3)	The format of the CDM-SSC-POA-DD used (Version 01) is in accordance with the last format published in the UNFCCC web page. ~~**CL 27 - Some editorial mistakes have been detected, among others, the reference of project activity instead Programme of Activities.**~~
18. The project participants of the PoA shall make arrangements with the coordinator or managing agency, relating to communications, distribution of CERs and change of project participant	EB 32 Annex 38	OK	The arrangements between the project participants and the Coordinating Agency have been described in section A.2 of the POA-DD, but some inconsistencies have been detected. See CL 2 in table 2.

Table 3 Resolution of Corrective Action and Clarification Requests

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A. Programme of Activities Description *The Programme of Activities design is assessed.*					
A.1. Small Scale Programme of Activities *It is assessed whether the Programme of Activities qualifies as small scale CDM Programme of Activities*					
A.1.1. Do the CPAs of the Programme of Activities qualify as a small scale CDM as defined in paragraph 6c of decision 17/CMP.7 on the modalities and procedures for the CDM?		DR I	According to paragraph 6 c of decision 17/CMP.7 on the modalities and procedures for the CDM, the first CPA included in the Programme of Activities falls into category *(iii) "Other project activities that both reduce anthropogenic emissions by sources and directly emit less than* 15 *kilotonnes of carbon dioxide equivalent annually;"*. So, the PoA falls in the same category. The average project emissions calculated in first version of Jinja CPA *(*first CPA included in the proposed Programme of Activities*)* is 2.833 kilotonnes of carbon dioxide equivalent annually thus under the limit of 15 kt. Furthermore, the PoA will reduce anthropogenic emissions avoiding the potential methane generation in the landfill. After the revision of the calculations, the project emissions have been reduced to 1.849 kilotonnes of carbon dioxide equivalent annually, under the limit of 15 kt as well.	~~**OK**~~	OK
A.1.2. Does the coordinating entity of the PoA identify measures to ensure that all CPAs under its PoA are neither registered as an individual CDM project activity nor included in another registered PoA and that the CPA is subscribed to the PoA? *(*Double accounting methodology*)*		DR I	In accordance to the guidance on the de-bundling for SSC projects activities *(*EB 36*)*, the CPAs included in the PoA cannot be a de-bundled component of another CDM Programme of Activities. As it is established in section A.4.4.1 of the POA-DD, a Cooperation Agreement would be signed by each of the CPA municipality with NEMA This agreement would require to confirm that they have not previously been a part of any CDM project, including an annex of the Cooperation Agreement. See Section A.2.4 – **CL 6**	~~**CAR 1**~~ ~~**CL 6**~~ **FAR 1**	**OK**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			The Cooperation Agreement has been provided, ~~nevertheless, the annex including a declaration that they have not been a part of any CDM project has not been prepared.~~ On the other hand, the programme would be the first PoA for municipal waste composting in Uganda, and it will be confirmed as part of the host country approval letter of the DNA of Uganda. **CAR 1 – The final letter of approval of Uganda DNA has to be obtained and submitted to the validation team.** *(*Resolution details included in Table 3*)* The draft of the letter of Approval was submitted to the validation team. Contrary to the POA-DD the Letter of Approval does not include provisions regarding the first composting project in Uganda. Furthermore, the title of the project was not correctly detailed. On the other hand, the Letter of Approval details exactly the locations of several CPAs, so following CPAs will require a new Letter of Approval. **FAR 1 – The following CPAs belonging to stage 2 of the Programme will require a new Letter of Approval of the Ugandan DNA.** *(*Resolution details included in Table 3*)* During the on site visit, a meeting was held with the DNA. According to the national procedure, the CDM project *(*PoA in this case*)* shall fulfill four requirements for the sustainable development according with the official template provided to the validation team. The Uganda PoA accomplishes these requirements as it is established in the draft Letter of Approval of the DNA. During the meeting, the DNA informed to revise the Letter of Approval and provide a new one.		
A.1.3. Does the proposed Programme of Activities confirm to one of the PoAs categories defined for small scale CDM		DR	As state in Section A.1.1, the proposed Programme of Acitvities is small scale category. Since the goal of the program is to avoid methane emissions from	**OK**	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
Activities?			Municipal waste landfills by undertaking composting of the wastes and using the organic matter in wastes as humus for soil conditioning and plant growth it, falls into category III.F: *Avoidance of methane emissions through controlled biological treatment of biomass.*		
A.2. Programme of Activities Design *Validation of Programme of Activities design focuses on the choice of technology and the design documentation of the Programme of Activities.*					
A.2.1. Is the definition of the boundary for the PoA established in terms of a geographical area within which all CPAs will be implemented?		DR I	According to the methodology AMS III.F version 06, the project boundary is the physical geographical site where the solid waste would have been disposed and the methane emissions occurs in absence of the proposed project activity. The Programme of Activities will be implemented in several municipalities of Uganda (Africa). The municipalities are spread across Uganda and their locations are shown in a map on page 6 of the POA-DD. The boundaries of each CPA are correctly described in section E.3 of the POA-DD. **CL 3 – The guidelines (geographical reference of other means of identification) for the description of the boundaries of each CPA should be included in the POA-DD.** (Resolution details included in Table 3)	~~**CL 3**~~	**OK**
A.2.2. Have the requirement that all applicable national and/or sectoral policies and regulations of the host country within the boundaries chosen taken into account?		DR I	**CL 4 - The sectoral and national regulation is not mentioned in the POA-DD. Definition of the boundary for the PoA in terms of a geographical area shall be established taking into consideration the requirement of all applicable national and/or sectoral policies and regulations.** (Resolution details included in Table 3).	~~**CL 4**~~	**OK**
A.2.3. Are the CPAs system boundaries (components and facilities used to mitigate GHGs) clearly defined?		DR	Yes, as it is referred in Section A.4.2 of the POA-DD, the municipalities would undertake improvement of their waste collection systems within the municipal area and the wastes collected would be transported to the compost facilities. The collection system is not included in the scope of the Programme of Activities as it was confirmed during the on site visit. The incoming waste would be aerobically composted, the compost would	~~**CL 5**~~	**OK**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			be sold, recyclables would be removed and sold, and the rejects from the process would be disposed off at the landfills/disposal sites. The organic components of the waste would not be landfilled subsequent to the implementation of the Programme of Activities and the potential methane generation in the landfill would be avoided. These boundaries are in accordance with the guidelines established in the methodology AMS. III.F: "*the Programme of Activities boundary is the physical and geographical site where the solid waste would have been disposed and the methane emission occurs in absence of the proposed Programme of Activities*". Even though, CL 5 has been identified. **CL 5 – The documented evidence of the technical description of the Programme of Activities shall be submitted to the validation team:** • **An official copy of the document "*Design report for 70 TPD compost plants for municipal solid waste in Uganda*" shall be provided to the validation team.** (Resolution details included in Table 3). During the on site visit, the following documents were provided to the validation team: • "*Design report for 70 TPD compost plants for municipal solid waste in Uganda*", prepared by a consultant of the World Bank. • "*Bidding documents for Procurement of civil works for 70 TDP compost plants*". The technical description included in the POA-DD is in accordance with these documents.		
A.2.4. Are the eligibility criteria for inclusion of a CPA in the PoA clearly defined?		DR	Yes, four eligibility criteria are included and transparently described in Section A.4.2.2. **CL 6 - The Cooperation Agreement should be submitted to the Validation team. The Annex of the Cooperation Agreement should be also prepared and submitted.** (Resolution details included in Table 3). During the on site visit and against the Cooperation Agreement the criteria were analyzed and considered in accordance with the "*Guidance on the registration of a Programme of Activities as a single CDM project activity*".	~~**CL 6**~~	**OK**

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A.2.5. Does the Programme of Activities design engineering reflect current good practices?		DR I	As it is established in Section A.4.2.1 of the POA-DD, the technology that would be used for solid waste composting is the *aerobic windrow composting*. This practice is proposed to set up compost plants at each one of the municipalities, representing a CPA, with the necessary equipment and facilities to undertake aerobic composting. During the construction stage and according to the *Bidding documents for Procurement of civil works for 70 TDP compost plants* the materials and equipment shall comply with British Standard, specifically the concrete and the structural steel works and electrical material among others. The design engineering reflects current good practices as follows: • The facility would be covered with a roof to avoid leachate´s generation due to rainwater percolation through the wastes. • Simple manual sieving equipment which would be upgraded as required in future will be used. • During the initial periods, portion of the matured unsold compost, would be given to urban agriculture and government agencies for demonstration purposes. • Financial/budgetary provisions to develop the compost market through awareness and education of the farming community have been made in the overall program. These characteristics have been detailed in the POA-DD in accordance with the "*Bidding documents for Procurement of civil works for 70 tpd compost plants and the annexed drawings*".	**OK**	**OK**
A.2.6. Will the Programme of Activities result in technology transfer to the host country?		DR I	As it is established in the POA-DD, composting of solid waste is new in Uganda. There are no specific requirements in Uganda pertaining to capturing and flaring of landfill gas (LFG), so the Programme of Activities results in technology transfer to the host country, Uganda.	**OK**	**OK**
A.2.7. Does the Programme of Activities require extensive initial training and maintenance efforts in order to work as presumed during the Programme of Activities period? Does the Programme		DR I	The Programme of Activities requires initial training and maintenance efforts to the municipalities as responsible of each CPA. As it is established in the POA-DD, training programs will be conducted for	~~**CL 6**~~	**OK**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
of Activities make provisions for meeting training and maintenance needs?			the municipalities to make them aware of the rules of the CDM and PoA. A Cooperation Agreement will be signed by each CPA proponent, and it includes specific provisions and declarations that make CPA proponents acknowledge that aware and have agreed that their activity is being subscribed under the PoA. **CL 6 - ~~The Cooperation Agreement should be submitted to the Validation team.~~ The Annex of the Cooperation Agreement should be also prepared and submitted.** *(*Resolution details included in Table 3*).* During the on site visit, several Cooperation Agreements were provided to the validation team. Provisions regarding the training were included in all of them *(*Section 3.0- 3.1*).*		
A.3. Contribution to Sustainable Development *The Programme of Activities's contribution to sustainable development is assessed.*					
A.3.1. Will the Programme of Activities create other environmental or social benefits than GHG emission reductions?		DR I	Municipal waste composting is a new concept in Uganda and the World Bank is supporting the transfer of the technology. Furthermore, the nodal agency, NEMA, will provide technical and financial support to the municipalities to set up and operate the facilities, through their own staff or contract it out the private sector. So, the Programme of Activities will contribute to generate work in the areas of the CPAs. On the other hand, as it is established in Section A.4 of the POA-DD, this Programme will undertake aerobic composting of the waste to stabilize the waste and minimize local pollution and completely eliminate the production of methane. So, it will create other environmental benefits than GHG emissions reductions. During the on-site visit, the DNA was consulted and they confirmed the contribution of the Programme of Activities to create jobs and benefits to the community. So, it will contribute to the sustainable development, as it	**~~CL 7~~** **~~CAR 9~~**	**OK**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			was detailed in the CDM Sustainable Development Criteria Template. On the other hand, an Environmental Impact Assessment has been done at CPA level, and NEMA has taken all required actions as per Ugandan requirements. ~~**CL 7 – The Environmental Impact Assessment shall be submitted to the validation team.**~~ *(*Resolution details included in Table 3*).* The Environmental Impact Assessment Study and License of Jinja were provided. As it was confirmed during the on site visit, the Environmental Impact Assessment was done at CPA level. So it should be changed in the POA-DD. **CAR 9 – The environmental Section of the POA-DD shall be changed deleting the Environmental Impact Assessment at PoA level.** *(*Resolution details included in Table 3*).*		
A.3.2. Will the Programme of Activities create any adverse environmental or social effects?		DR I	According to the summary of the Environment Analysis included in Section C of the POA-DD, the Programme of Activities carries out negative environmental impacts. But, different mitigation and management measures have been taken into account and they will be implemented and managed by the National Management Authority during the project design. NEMA will assist the municipalities in order to comply with these measures, as it is established in the Cooperation Agreement.	**OK**	**OK**
A.3.3. Is the Programme of Activities in line with sustainable development policies of the host country?		DR I	The Programme of Activities is in line with sustainable development policies of Uganda according to the interview with the DNA representative, but the Letter of Approval has to be obtained. **CAR 1 – The final letter of Approval has to be obtained and submitted to the validation team.** *(*Resolution details included in Table 3*).*	~~**CAR 1**~~ ~~**CAR 2**~~	**OK**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			CAR 2 – The letter of Approval of Italy has to be obtained and submitted to the validation team. *(*Resolution details included in Table 3*).*		
A.3.4. Is the Programme of Activities in line with relevant legislation and plans in the host country?		DR I	Conformance with relevant legislation has been audited during the on-site visit. No special requirements have been found regarding the capturing and flaring of landfill gas. ~~**CL 8 - The relevant permits of the landfill have to be submitted and checked by the validation team.**~~ *(*Resolution details included in Table 3*).* The relevant permits of Jinja Landfill were submitted to the validation team, so it was in conformance with the relevant legislation.	~~**CL 8**~~	**OK**
B. Programme of Activities Baseline and Monitoring *The validation of the Programme of Activities baseline establishes whether the selected baseline methodology is appropriate and whether the selected baseline represents a likely baseline scenario.*					
B.1. Baseline Methodology *It is assessed whether the Programme of Activities applies an appropriate baseline methodology.*					
B.1.1. Is the selected baseline methodology in line with the baseline methodologies provided for the relevant category?		DR	Yes, the Programme of Activities applies approved baseline methodology AMS III.F version 06, "*Avoidance of methane emissions through controlled biological of biomass*" approved by the Executive Board *(*EB 41st meeting - 30 July - 02 August 2008*).* The Programme of Activities also uses the "*Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site*" *(*Version 02*).* **CAR 3 - The version 02 of the Tool has expired, so it shall be updated and the calculations shall be updated using the correct version of the Tool. All the tools and methodologies used in the PoA shall be the latest published in the UNFCCC website.** *(*Resolution details included in Table 3*).*	~~**CAR 3**~~ ~~**CL 21**~~	**OK**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			CL 21 - Some mistakes have been detected between the values included in the POA-DD and the spreadsheets, among others, the value of DOCf 0.5 instead 0.77. (Resolution details included in Table 3).		
B.1.2. Is the baseline methodology applicable to Programmes of Activities?		DR	Yes, on July 2007, the methodology III.F was revised in order to increase the applicability of the methodology to the PoAs.	~~**OK**~~	**OK**
B.2. Baseline Determination *It is assessed whether the Programme of Activities itself is not a likely the baseline scenario and whether the selected baseline scenario represents a likely baseline scenario.*					
B.2.1. It is demonstrated that in the absence of the CDM, the proposed voluntary measure would not be implemented or the mandatory policy would be systematically not enforced and that non compliance with those requirements is widespread in the country, or that the PoA will lead to a greater level of enforcement of the existing mandatory policy?		DR I	According to AMS III.F. (Ver. 06), and as it is established in the POA-DD, the baseline scenario is the situation where in the absence of the project activity, biomass and other organic matter are left to decay within the project boundary and methane is emitted to the atmosphere. Currently, the present practice in Uganda is controlled tip type landfills. The typical landfills are transparently described in Section A.4.3 of the POA-DD. The baseline scenario has been identified based on a review of current practices of disposal wastes in Uganda and an assessment of feasibility and economic attractiveness of other alternatives. **CL 9 - Documented evidences of the cost of alternatives 2 and 3 included in the additionality analysis shall be submitted to the validation team.** (Resolution details included in Table 3). The additionality of the Programme of Activities is justified applying the Investment Analysis and reinforced by the barrier analysis. The financial spreadsheets have been submitted to the validation team.	~~**CL 9**~~ ~~**CL 10**~~	**OK**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			CL 10 – The additionality assessment analysis shall be improved: **a) The input values included in the investment analysis shall be justified and documented.** **b) The documented evidence of each data shall be provided to the validation team.** (Resolution details included in Table 3). **CL 28 – The guidance on the Assessment of Investment Analysis shall be taken into account in the additionality demonstration.** (Resolution details included in Table 3).		
B.2.2. Does the PoA define the type of information which is to be provided for each CPA to ensure the additionality?		DR	Yes, the Section E.5.2 includes the key criteria and data for assessing the additionality. Nevertheless, the first condition seems not to be adequate. It has to be further clearly stated. **CAR 4 – The first criteria for the assessment of additionality of a SSC-POA shall be revised and/or justified.**	~~**CAR 4**~~	**OK**
B.2.3. Is the application of the baseline methodology and the discussion and determination of the chosen baseline transparent and conservative?		DR I	The method used to calculate the baseline is established according to the small scale methodology AMS.III.F and the "*Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site*". Nevertheless, the versions used are not updated. See. B.1.1 CAR 3 The Tool has been followed step by step, only some minor differences are detected. **CL 11 – The description of the emission reduction calculation shall be exactly explained than in the approved methodology. The following differences should be corrected among others:** • **The equation number 5 shall be written with the co-composting factor included. Although it would be cero.** (Resolution details	~~**CAR 3**~~ ~~**CL 11**~~ ~~**CAR 5**~~	**OK**

VALIDATION PROTOCOL

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			included in Table 3*)*. Regarding the emissions of the electricity consumption *(*$PE_{electricity,y}$*)*, the emission factor of the grid has not been calculated. The related PDD is not registered. No spreadsheets have been submitted to the validation team. Not transparent calculations have been included in the POA-DD. **CAR 5 – The emission factor of the grid shall be calculated according to the AMS.I.D and the spreadsheets of this calculation shall be submitted to the validation team.** *(*Resolution details included in Table 3*)*.		
B.2.4. Are provisions regarding the updating the CPAs in case of held or withdraw the methodology be taken into account in the POA-DD?		DR	No. There are not provisions for the revisions of the CPAs, in order to update the baseline methodology in case of the EB hold or withdrawn the methodology. **CAR 6 – Provisions regarding the revisions of the CPAs in case of hold or withdrawn the methodology shall be included in the POA-DD.** *(*Resolution details included in Table 3*)*.	~~**CAR 6**~~	**OK**
B.2.5. Are relevant national and/or sectoral policies and circumstances taken into account?		DR I	As it is established in the POA-DD no relevant national policies and circumstances relevant to the baseline of the proposed Programme of Activities are detected.	**OK**	**OK**
B.2.6. Is the baseline selection compatible with the available data?		DR	The selection of the baseline seems to be compatible with the available data but, as it is established in Section B.2.1 documented evidences of the cost of the alternatives 2 and 3 not considered shall be submitted to the validation team. See B.2.1 CL 9 and CL 10.	~~**CL 9**~~ ~~**CL 10**~~	**OK**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
Monitoring Plan *The monitoring plan review aims to establish whether all relevant Programme of Activities aspects deemed necessary to monitor and report reliable emission reductions of each CPA are properly addressed.*					
B.3. Monitoring Methodology *It is assessed whether the Programme of Activities applies an appropriate baseline methodology.*					
B.3.1. Is the selected monitoring methodology in line with the monitoring methodologies provided for the relevant Programme of Activities category?		DR	Yes, as it is detailed in Section B.1.1 the Programme of Activities applies monitoring methodology AMS.III.F category "*Avoidance of methane emissions through controlled biological of biomass*" approved by the Executive Board (EB 41st meeting - 30 July - 02 August 2008). Specifically, the monitoring parameters are described according to the "*Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site*" (Version 02). **CAR 3 - The version 02 of the Tool has expired, so it shall be updated and the calculations shall be updated using the correct version of the Tool. All the tools and methodologies used in the PoA shall be the latest published in the UNFCCC website.** (Resolution details included in Table 3). **CL 12 - The Changes required for methodology implementation in 2nd and 3rd crediting period shall be edited in accordance with the monitoring methodology.** (Resolution details included in Table 3).	~~**CAR 3**~~ ~~**CL 12**~~	**OK**
B.3.2. Is the monitoring methodology applicable to the Programme of Activities being considered?		DR	The methodology was approved on July 2007 in order to allow for its application under a Programme of Activities.	**OK**	**OK**
B.3.3. Is the application of the monitoring methodology transparent?		DR I	The application of the monitoring methodology has been developed according to the UNFCCC guidelines, and its application seems transparent. Some differences between the monitoring parameters detailed in the Tool	~~**CAR 7**~~ ~~**CL 13**~~ ~~**CL 22**~~	**OK**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			and those detailed in the POA-DD have been detected. **CAR 7 – The Ky factor has to be applied as the guidelines established in the methodology and the tool. A request for deviation regarding this factor shall be submitted to the EB.** **The monitoring methodology has to be followed step by step.** *(*Resolution details included in Table 3*).* ~~**CL 13 – The double consideration of the variable MWh has to be explained.**~~ *(*Resolution details included in Table 3*).* This consideration was correctly explained and it is in accordance with the methodology. **CL 22 - The sources of information should be correctly described and detailed. It is recommendable to use the last applicable version of the IPCC.** *(*Resolution details included in Table 3*).* **CL 23 - Some inconsistencies have been detected in the Annex 4, regarding some variables, among others:** • **Data variable ID 2.1: Value "measured" instead "estimated".** • **Data variable ID 2.2 recording frequency "quarterly" instead "monthly".** • **Data variable ID 3.1: Procedure for collection will be double, purchase records and consumption stated by manufacturer.** *(*Resolution details are included in Table 3*).*	~~**CL 23**~~	
B.3.4. Will the monitoring methodology give opportunity for real measurements of achieved emission reductions?		DR I	Yes, the monitoring methodology is adequate to monitor the real emissions reductions. The Coordinating Agency has forecasted the different obligations and characteristics of the systems of the Operational and Management stages.	**OK**	**OK**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			NEMA will provide a Manual for the different responsible people of the CPAs in order to guarantee the compliance with the Monitoring Plan established in the PDD.		
B.3.5. Are the monitoring provisions and data parameters that a CPA has to apply correctly described?		DR I	Yes, the provisions for the monitoring will be included in the Manual. Furthermore, the Annex 4 includes in a transparent way the detail of the monitoring of each parameter involved in the emission reduction calculations. On the other hand, the K_i parameter is not applied as the guidelines included in the methodology. The K factor is estimated experimentally for Uganda at the Department of Biochemistry, Makerere University, in Kampala. A deviation of the methodology will be requested. See B.3.3 CAR 7	~~**CAR 7**~~	**OK**
B.4. Monitoring of each CPA Emissions *It is established whether the monitoring plan provides for reliable and complete CPA emission data over time.*					
B.4.1. Will it be possible to monitor/measure the specified Programme of Activities emission indicators?		DR	Yes. The considered project emissions for the composting process are following detailed: 1. Incremental transportation of waste: considered as 0. 2. Energy consumption for lighting and water dumping: measured by a continuous meter installed in each waste site. It is crosschecked by the monthly bills. **CL 14 - The value of 2.92 MWh included in the DD shall be justified in the POA-DD.** (Resolution details are included in Table 3). 3. Fuel used for turning waste: measured by purchase records. The fuel consumption per hour stated by manufacturer is used as a reference. 4. Methane emissions of the composting waste. Some issues are	~~**CL 14**~~ ~~**CL 15**~~ ~~**CL 16**~~ ~~**CL 23**~~	**OK**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			not clarified in the PDD: **CL 15 - The value of 0 for Qy shall be justified in the POA-DD.** (Resolution details are included in Table 3). **CL 16 - The table corresponding to adjustment factor shall be completed in the POA-DD.** (Resolution details are included in Table 3). See B.3.3 **CL 23**		
B.4.2. Do the measuring technique and frequency proposed in the PoA, comply with good monitoring practices?		DR	Yes. The measuring (or calculation) technique is transparently described in Annex 4 of the POA-DD. **CAR 10 - The monitoring of the calculations regarding the emission factor of the grid should be updated in accordance with the AMS.I.D.** (Resolution details are included in Table 3).	~~**CAR 10**~~	**OK**
B.4.3. Is the proposed sampling methodology used by the DOE for verification correctly described?		DR	Yes, as it is established in Section A.4.4, the DOE will verify the 25% of the CPAs requesting verification in a given year. In case there were discrepancies between the emission reductions included in the report and the emissions reduction confirmed by the DOE, an adjustment factor shall be worked out and applied in all the CPAs. **CL 24 – The selection methodology of the value of 25% should be justified and referenced.** (Resolution details are included in Table 3).	~~**CL 24**~~	**OK**
B.4.4. In case of no sampling methodology would be used, the system used to assure that no double counting occurs and that the status of verification can be determined anytime for each CPA is transparently described?		DR	Not applicable since the sampling methodology is chosen.	**OK**	**OK**
B.4.5. Are the provisions made for archiving Programme of Activities emission data sufficient to enable later verification?		DR	Yes. The provisions are transparently detailed in the Annex 4 of the POA-DD.	**OK**	**OK**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
B.5. Monitoring of Leakage *It is assessed whether the monitoring plan provides for reliable and complete leakage data over time.*					
B.5.1. If applicable, are the choices of leakage indicators reasonable?		DR	No leakage is considered as there is no equipment being transferred from existing compost facility and the proposed projects are completely new facilities.	**OK**	**OK**
B.5.2. If applicable, will it be possible to monitor / measure the specified leakage indicators?		DR	Not applicable since no leakage is considered.	**OK**	**OK**
B.5.3. If applicable, do the measuring technique and frequency comply with good monitoring practices?		DR	Not applicable since no leakage is considered.	**OK**	**OK**
B.5.4. If applicable, are the provisions made for archiving leakage data sufficient to enable later verification?		DR	Not applicable since no leakage is considered.	**OK**	**OK**
B.6. Monitoring of Baseline Emissions *It is established whether the monitoring plan provides for reliable and complete Programme of Activities emission data over time.*					
B.6.1. Is the choice of baseline indicators, in particular for baseline emissions, reasonable?		DR I	According to the methodology, and the Section E.6.2 of the POA-DD, the baseline indicator is following detailed: ➢ Methane generation potential of the solid waste composted calculated as it is established in the "*Tool to determine methane emissions avoided from dumping waste at solid disposal site*". The monitoring of the variables involved in the calculation of the methane generation is transparently described in the POA-DD and is in accordance	~~**CAR 7**~~	**OK**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			with the tool. Nevertheless, as it is established in B.3.5 the K_i parameter is not applied as the guidelines included in the methodology. The K_i factor is estimated experimentally for Uganda at the Department of Biochemistry, Makerere University, in Kampala. A deviation of the methodology will be request. See B.3.5 **CAR 7**.		
B.6.2. Will it be possible to monitor/measure the specified baseline emission indicators?		DR I	The measurements of the variables involved in the baseline emissions are transparently described in the POA-DD as follows: ➢ Φ, GWP_{CH4}, OX, F DOC and MCD are fixed and they do not require on site measurements. ➢ The monitoring of the other parameters is correctly described in the POA-DD. Nevertheless, some issues are not clarified: **CL 17 - The value of 0 of the "f" factor should be justified.** (Resolution details are included in Table 3). **CL 18 - The origin of the value of quantity of waste supplied to composting pads of 25,550 t/year shall be included in the POA-DD.** (Resolution details are included in Table 3). Regarding the monitoring of K_y See B.3.3 – **CAR 7.**	~~**CL 17**~~ ~~**CL 18**~~ ~~**CAR 7**~~	**OK**
B.6.3. Do the measuring technique and frequency comply with good monitoring practices?		DR I	Yes. The measurement technique is transparently described in the POA-DD and in accordance with the methodology AMS.III.F "*Avoidance of methane emissions through controlled biological of biomass*".	~~**OK**~~	**OK**
B.6.4. Are the provisions made for archiving baseline emission data sufficient to enable later verification?		DR I	Yes. The archiving of the records of the variables involved in the emission reduction calculation is included in the tables of the Annex 4 of the POA-DD. All of them will be stored two more years of the crediting period, so it is in accordance with the provisions included in the methodology.	~~**OK**~~	**OK**

VALIDATION PROTOCOL

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
B.7. Programme of Activities Management Planning *It is checked that Programme of Activities implementation is properly prepared for and that critical arrangements are addressed.*					
B.7.1. Is the authority and responsibility of the coordinating/management entity clearly described?		DR	The authority and responsibility of the coordinating agency is established in Section A.2 of the DD. The Coordinating Entity will be National Environmental Management Authority (NEMA). See Table 1 **- CL 2 – An inconsistency detected in the PDD, page 3, regarding the IBRD as Coordinating Agency shall be solved.** (Resolution details are included in Table 3).	~~**CL 2**~~	**OK**
B.7.2. Is the Coordinating Agency a project participant authorized by all participating host countries DNAs involved and identified in the modalities of communication as the entity which communicates with the Board?		DR	The letter of approval of the Uganda DNA has to be obtained. The letter of Italian DNA has also to be obtained. The International Bank for Reconstruction and Development (IBRD) as Trustee of its Carbon Funds would manage communications with the CDM Executive Board. **CAR 8 – As it is established in the Glossary of terms, the entity who manages the communications with the EB should be the Coordinating Agency.** (Resolution details are included in Table 3).	~~**CAR 1**~~ ~~**CAR 2**~~ ~~**CAR 8**~~	**OK**
B.7.3. Is the authority and responsibility for registration, monitoring, measurement and reporting of each CPA clearly described?		DR	Yes. As it is established in Section E.7.2 of the DD a CDM Steering Commitee will be constituted and it will meet periodically to review the CDM Programme of Activities. The first line of responsibility for implementing the Monitoring Plan of each CPAs will be the Town Clerk of the individual municipalities. The NEMA will lead the preparing of the CPAs in order to include them in the PoA. The NEMA will participate in the Monitoring activities having a	~~**OK**~~	**OK**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			team of inspectors and monitoring staff to supervision as well. The proposed staff requirements for municipal solid waste composting in municipalities/town councils was prepared on 13th June 2008, and it was submitted to the validation team.		
B.7.4. Are procedures identified for training of monitoring personnel?		DR	NEMA, as coordinating agency will evaluate the training needs and they will carry out the training programs. ~~**CL 19 - An evidence of the training provision should be submitted to the validation team.**~~ (Resolution details are included in Table 3). The Cooperation Agreement includes provisions regarding the training. These activities will be undertaken as soon as construction of the compositing plants is completed. The budget of the training was considered as an item included inside the Operation Activities item (1.7.2 of the general budget).	~~**CL 19**~~	**OK**
B.7.5. Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?		DR	No unintended emissions produced by an emergency situation have been identified, so, no procedure has been prepared. But, emergency response procedures in case of unexpected problems with data quality access have been forecasted as it is established in Annex 5 of the POA-DD. **CL 20 - The annex 5 shall be removed from the POA-DD because the template shall not be altered. It could be submitted as separate documentation.** (Resolution details are included in Table 3).	~~**CL 20**~~	**OK**
B.7.6. A record keeping system for each CPA under the PoA is forecasted?		DR	Yes, a data handling, quality assurance and reporting section has been included in the Operation and Management Plan (Annex 5). See B.7.5 **CL 20.**	~~**CL 20**~~	**OK**
B.7.7. Are procedures identified to ensure that those operating the CPAs are aware		DR	Yes. The procedure used to ensure that those operating the CPAs are aware and have agreed that their activity is being subscribed is the Cooperating Agreement including a declaration of this issue.	**OK**	**OK**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
and have agreed that their activity is being subscribed to the PoA?					
B.7.8. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)		DR	Yes, there are procedures for the records handling as it is established in the Operational and Management Plant. This procedure details the responsibilities and the main activities of each stage involved in the emission reduction calculation. Furthermore, the NEMA will develop the supervision of the monitoring activities through the inspection team.	**OK**	**OK**
B.7.9. Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?		DR I	Yes. NEMA will be responsible of these activities, and they have established QA/QC procedures including methods for ensuring the accuracy of measuring equipment. Furthermore, NEMA will prepare quarterly reports on the project´s performance and as needed for audit and verification purposes.	**OK**	**OK**
B.7.10. Are procedures identified for internal audits of GHG Programme of Activities compliance with operational requirements where applicable?		DR	Yes. This activity has been forecasted in the Operation and Management Plan included in the Annex 5 of the POA-DD. The entity in charge of it will be NEMA through a group of inspectors.	**OK**	**OK**
B.7.11. Are procedures identified for Programme of Activities performance reviews?		DR	Yes. This activity has been forecasted in the Operation and Management Plan included in the Annex 5 of the POA-DD. The entity in charge of it will be NEMA through the inspectors. Table 2.1 of the Annex 5 includes the activity of the CDM Reviewers. **CL 25 - The Table 2.1 of the Annex 5 should be revised. It is not necessary to include the DOE team activities and it could be confuse.** (Resolution details are included in Table 3).	~~**CL 25**~~	**OK**
B.7.12. Are procedures identified for corrective actions?		DR	Yes. This activity has been forecasted in the Operation and Management Plan included in the Annex 5 of the POA-DD. The entity in charge of it will be NEMA through the inspectors. See B.7.11 CL 25.	~~**CL 25**~~	**OK**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
C. Duration of the Programme of Activities/ Crediting Period *It is assessed whether the temporary boundaries of the Programme of Activities are clearly defined.*					
C.1.1. Are the Programme of Activities's starting date clearly defined?		DR I	The starting date of a CDM Programme of Activities is the earliest date at which either the implementation or construction or real action of a Programme of Activities begins. The start date of the PoA is 31 October of 2007. According to the Annex 46 of the EB 41, proposed project activities 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, are required to demonstrate that the CDM was seriously considered in the decision to implement the project activity. Such demonstration requires the following elements to be satisfied: **CL 26 – An evidence to support the serious prior consideration of the CDM as indicated above has to be submitted to the validation team.** (Resolution details are included in Table 3).	~~**CL 26**~~	**OK**
C.1.2. Is the crediting period clearly defined (not exceeding 28 years)?		DR I	This crediting period is a renewable crediting period of 21 years (3 periods of 7 years)	**OK**	**OK**
D. Environmental Impacts *Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the validator.*					
D.1.1. Does host country legislation require an analysis of the environmental impacts of the Programme of Activities?		DR I	An environmental Analysis has been carried out at the CPA level. Due to the nature of the individual projects, each CPA would require an individual site level environmental analysis as applicable under Uganda Law. This issue was checked against the National Environment (Conduct and certification of environmental Practitioners) regulations, 2003, and the	~~**CAR 9**~~	**OK**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			Environment impact assessment regulations, 1998. **CAR 9 – The environmental Section of the POA-DD shall be changed deleting the Environmental Impact Assessment at PoA level.** (Resolution details are included in Table 3).		
D.1.2. Does the Programme of Activities comply with environmental legislation in the host country?		DR I	As it is established in the section C.2 the environmental impact assessment process carried out has been developed in accordance with the local regulation in the field. This issue was assessed during the on site visit with the NEMA personnel in charge of the environmental impact assessments of the country.	**OK**	**OK**
D.1.3. Is the environment analysis undertaken at PoA level? In negative case, is this issue correctly described and reflected in the CDM-POA-DD?		DR	The Environmental impact Assessment will be developed at CPA level as it is detailed in the POA-DD. See D.1.1 **CAR 9.** As it is included in the Cooperation Agreement, the Coordinating Agency will assist the municipalities in Environmental Impact Assessment process.	~~**CAR 9**~~	**OK**
D.1.4. Will the Programme of Activities create any adverse environmental effects?		DR	Yes, several topics of the EIA are summarized in section C.2 of the POA-DD: ➢ Air emissions and odor control. ➢ Control of leachate ➢ Control compost quality ➢ Vector control ➢ Worker health and safety ➢ Aesthetics All of them are managed through mitigation measures. See D.1.1 **CAR 9.**	~~**CAR 9**~~	**OK**
D.1.5. Have environmental impacts been identified and addressed in the POA-DD?		DR	The environmental impacts have been correctly identified and addressed in the Section C.2 of the POA-DD.	~~**CAR 9**~~	**OK**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			See D.1.1 **CAR 9.**		
E. Stakeholder Comments *The validator should ensure that a stakeholder comments have been invited and that due account has been taken of any comments received.*					
E.1.1. Have relevant stakeholders been consulted?		DR I	Stakeholders consultation process has been carried out with the municipalities involved in the first stage of the Programme of Activities. Different minutes of the meetings hold on November 2005 and July 2007 were provided to the validation team.	**OK**	**OK**
E.1.2. Is the stakeholders consultation process undertaken at PoA level? In negative case, is this issue correctly described and reflected in the CDM-POA-DD?		DR	The stakeholders consultation process has been developed at PoA level as it is detailed in Section D of the POA-DD. It was confirmed during the on site visit, and against the minutes of the meetings provided to the validation team.	**OK**	**OK**
E.1.3. Have appropriate media been used to invite comments by local stakeholders?		DR I	During the public consultation the media use to inform the people were official invitation letters to the town clerk of the municipalities involved in the first stage of the PoA. On the other hand, in order to create public awareness and public interest, radio programmes were developed. During these meetings, the market manure was identified in different communities.	**OK**	**OK**
E.1.4. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?		DR I	As it is established in the "*Guidelines for environmental impact assessment in Uganda*", provided to the validation team by the Coordinating Agency, the Environment Impact Assessment process includes a public consultation process, and it was made in accordance with the relevant regulation. Issue crosschecked during the on site visit in NEMA offices.	**OK**	**OK**
E.1.5. Is a summary of the stakeholder comments received provided?		DR I	A summary of the stakeholders' comments is included in section D.3 of the POA-DD. During the on site visit, the validation team visited the town clerk of Jinja, and they confirmed the consultation stakeholder process.	**OK**	**OK**

VALIDATION PROTOCOL

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
E.1.6. Has due account been taken of any stakeholder comments received?		DR I	The POA-DD *(section D.4)* describes that the comments received during the consultation process were incorporated in the design of the project, as the identification of farmers who will use the compost or the obtaining of skips among others.	**OK**	**OK**

Table 3 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2	Summary of Programme of Activities owner response	Validation team conclusion
CAR 1 The approval letter of the Ugandan Designated National Authority has to be obtained.	A.1.2 A.3.3 B.7.2	The Letter of Approval of Uganda has been obtained and submitted to the Validation Team.	**CAR 1 is solved.** **The Letter of Approval of Uganda DNA has been provided and it is in accordance with the UNFCCC requirements.**
CAR 2 The approval letter of the Italian Designated National Authority has to be obtained.	A.3.3 B.7.2	The Annex 1 Party involved in the project has been changed to Netherlands, and its Letter of approval has been obtained and provided to the validation team.	~~**CAR 2 is not completely solved as it is following detailed.**~~ ~~**Letter of Approval from Netherlands DNA has been obtained, but not references that this is a Programme of Activities, have been detailed in it.**~~ ~~**On the other hand, according to the Glossary of terms (version 04) a change of PPs shall immediately be communicated to the EB through the secretariat in accordance with the modalities of communication.**~~ ~~**The document of notification of the change of PP shall be prepared and submitted to the validation team.**~~ **CAR 2 is solved** **The LoA of Netherlands has been correctly prepared.** ~~**Nevertheless, CAR 2 is not solved since the Modalities of Communication have not been prepared and submitted**~~ **The Modalities of Communication has been prepared and submitted**
CAR 3 The version 02 of the Tool has expired, so it shall be updated and the calculations shall be updated using the	B.1.1 B.2.3 B.3.1	The POA-DD has been correctly revised using the latest version of the tool.	~~**CAR 3 is not completely solved as it is following detailed.**~~ ~~**The POA-DD has been significantly improved, but following issues have been detected in order to improve it:**~~ • ~~**The symbol *(+)* of the equation 2 should be removed.**~~

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2	Summary of Programme of Activities owner response	Validation team conclusion
correct version of the Tool. All the tools and methodologies used in the PoA shall be valid in the UNFCCC website.			~~• The origin of the emission factors of the fuels of the equation number 5 should be included in the same way as in the case of the fuels of the electricity generation (equation above).~~ ~~• The origin of the value of F_{cons} = 14,600l/yr should be submitted to the validation team.~~ ~~• The two equations located after the equation number 4 should be numbered (4.1/ 4.2…etc)~~ ~~• The relevant Tool for the calculation of the emission from anaerobic storage/disposal of residual waste in case that it occurs should be referenced in the last variable of the project emissions section (page 24 of the clean version of the POA-DD). Also, the inclusion of the abbreviation (PE_{y,re_waste}) is recommendable in order to improve the trazability of the methodology application.~~ ~~• The description of the variable $PE_{y,re,waste7}$ is not in accordance with the document "Design report for 70TPD compost plants for municipal solid waste in Uganda". The document establishes 3 days storage of residual waste.~~ ~~• The year of the IPCC guidelines used shall be included in all the references ($B_{o,ww}$).~~ ~~• The explanation of the value of GWP_{CH4} is recommendable to be included in relevant equations (number 7 and 8), even though it will not be used.~~ ~~The origin of the $COD_{y,ww,runoff}$ should be submitted to the validation team.~~ ~~CAR 3 is not solved since the third and ninth issues have not been addressed~~ **CAR 3 is solved. The assumptions are considered credible and conservative, and the veracity is justified through the following documents:** • **Regarding the fuel consumption, the O&M manual has been submitted (page 6, 5 h x 365 d x 8 l).** • **Regarding the value of $COD_{y,ww,runoff}$ three published technical on leachate management research papers have been submitted in order to justify the chosen value.**
CAR 4 The first criteria for the assessment of additionality of a SSC-POA shall be revised and/or justified.	B.2.2	The revisions have been made. The first criterion is modified to state that the town or municipality shall not have an existing compost facility of capacity greater than 5 tons per	**CAR 4 is solved since the critical criterion has been revised.**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2	Summary of Programme of Activities owner response	Validation team conclusion
		day.	
CAR 5 The emission factor of the grid shall be calculated according to the AMS.I.D and the spreadsheets of this calculation shall be submitted to the validation team	B.2.3	The POA-DD has been revised. The weighted average method of calculation of emission factor has been used in accordance with the methodology I.D. The weighted average emission factor is calculated to be 0.14 tCO_2/MWh. The official source of data for electricity generation used in the calculation is also submitted as Attachment.	~~**CAR 5 is not completely solved as it is following detailed:**~~ ~~**The annex 3 of the new version of the POA-DD shall be improved including following information.**~~ • ~~**Data units of all the variables (EF and Emissions).**~~ • ~~**References of the fuels emission factors and the generation data.**~~ • ~~**Year of the calculation.**~~ ~~**The description of the emission factor of the grid calculation detailed in the tables of the Section E.6.3 should be transparently described also in annex 3.**~~ **CAR 5 is solved since the modifications have been included.**
CAR 6 Provisions regarding the revisions of the CPAs in case of hold or withdrawn the methodology shall be included in the POA-DD.	B.2.4	The provisions have been included in section E 6.1 of the revised POA-DD Version 1.3.	**CAR 6 is solved since the included provisions are in conformance with the guidance of the UNFCCC for Programmes of Activities.**
CAR 7 The monitoring methodology has to be followed step by step. The K_y factor has to be applied as the guidelines established in the methodology and the tool. Some request for deviation regarding this factor shall be submitted to the EB.	B.3.3 B.3.5 B.6.1 B.6.2	The monitoring methodology has been followed step by step. The decay factor, K_l, as derived from the study conducted by Makekere University is used. The request for deviation for using site specific data derived from lab tests has been prepared for submission. The Guidance from the EB that allows submission of request for Deviation (AM_CLA_0051) for such cases has been submitted to the validation team.	~~**CAR 7 is not solved because the request for deviation has not been answered by the methodology panel.**~~ **CAR 7 is solved.** **The request for deviation has been rejected. Therefore, the default value for the decay factor has been used in the calculations. New calculations have been provided to the validation team and they are in accordance with the provisions included in the relevant methodologies and tools.**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2	Summary of Programme of Activities owner response	Validation team conclusion
CAR 8 As it is established in the Glossary of terms, the entity who manages the communications with the EB should be the Coordinating Agency. Since the IBRD will communicate with the EB, this issue is not clarified in the POA-DD.	B.7.2	NEMA will act as the Coordinating/Managing Entity. The issue of who communicates with the EB is being addressed in the modalities of communications, in compliance with the applicable rules. Any reference to communications is therefore taken out from the PDD to remove inconsistencies.	**CAR 8 is solved. NEMA is nominated as the Coordinating Entity in the Modalities of Communication.**
CAR 9 The environmental Section of the POA-DD shall be changed deleting the Environmental Impact Assessment at PoA level.	B.3.1 D.1.1 D.1.3 D.1.4 D.1.5	The revisions have been made, Section C1 of the Revised POA-DD Version 1.3.	**CAR 9 is solved.** **The Environmental Section of the POA-DD is in accordance with the environmental assessment process made in Uganda.**
CAR 10 The monitoring of the calculations regarding the emission factor of the grid should be updated in accordance with the AMS.I.D.	B.4.2	The POA-DD has been revised to include weighted average method of calculation of Grid Emission Factor as per AMS I.D. Accordingly additional monitoring parameters have been included.	**CAR 10 is solved.** **The emission factor of the grid is calculated in accordance with the AMS.I.D and the Tool for the calculation of the emission factor of the electrical system.**
CL 1 The documented evidences that the same ODA money is not being used for purchasing emission reductions should be submitted to the validation team.	Table 1	During the on site visit, the Agreement signed between NEMA and IBRD has been provided to the validation team in order to check the origin of the financing.	**CL 1 is solved.** **AENOR has not come across any indication about ODA during the validation process**
CL 2 Some inconsistencies have been	Table 1 B.7.1	The inconsistencies have been removed in the new version of the POA-DD.	**CL 2 is solved since NEMA has been nominated as Coordinating Agency in accordance with the Cooperation Agreements and the Modalities of Communication.**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2	Summary of Programme of Activities owner response	Validation team conclusion
detected regarding the Coordinating Agency on page 3 of the CDM-SSC – PoA – DD.			
CL 3 Some guidelines (geographical reference of other means of identification) for the description of the boundaries of each CPA should be included in the POA-DD.	A.2.1	The guidelines have been included in the section A.4.2 of the revised POA-DD.	**CL 3 is solved since the guidelines have been clearly included in the POA-DD.**
CL 4 Definition of the boundary for the PoA in terms of a geographical area shall be established taking into consideration the requirement of all applicable national and/or sectoral policies and regulations.	A.2.2	This clarification has been addressed in the section A.4.1.2 of the revised POA-DD.	**CL 4 is solved since the boundaries have been established in accordance with the UNFCCC guidance.**
CL 5 The documented evidence of the technical description of the Programme of Activities shall be submitted to the validation team.	A.2.3	The following technical documents have been submitted: • "*Promoting Solid Waste Composting in Uganda*" prepared by a consultant of the World Bank, to the National Environment Authority of Uganda. • "*Operation and Maintenance Manual for 70 TPD compost plants for Municipal solid wastes in Uganda*" prepared by a	**CL 5 is solved since the technical description of the POA-DD is in accordance with the technical documents provided.**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2	Summary of Programme of Activities owner response	Validation team conclusion
		consultant of the World Bank, to the National Environment Authority of Uganda. • "*Farmer Categorization for better targeting of support*" • "*Design report for 70 TPD compost plants for Municipal Solid waste in Uganda*" prepared by a consultant of the World Bank, to the National Environment Authority of Uganda.	
CL 6 The format of the Cooperation Agreement shall be submitted to the validation team. The Annex of the Cooperation Agreement should be also prepared and submitted.	A.1.2 A.2.4 A.2.7	The Cooperation Agreement signed between Jinja Council and NEMA has been provided. An amendment has been developed in order to include several clauses regarding: • The awareness of the municipality about the CDM process. • Declaration that the municipality is not a part of any other CDM project or Programe of Activities. • Confirmation that the CPA is registered as a separate CDM Project.	**CL 6 is solved since the format of the Cooperation Agreement has been provided and provisions included in it are in accordance with the requirements of the POA-DD.**
CL 7 The Environmental Impact Assessment	A.3.1	The Environmental Impact Assessment Study and License of Jinja were provided.	**CL 7 is solved since the Environmental Permit has been provided**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2	Summary of Programme of Activities owner response	Validation team conclusion
shall be submitted to the validation team.			
CL 8 The relevant permits of the landfill have to be submitted and checked by the validation team.	A.3.4	The relevant permits of Jinja Landfill were submitted to the validation team, so it was in conformance with the relevant legislation.	**CL 8 is solved since the permits are in force.**
CL 9 Documented evidences of the cost of the alternatives 2 and 3 not considered shall be submitted to the validation team.	B.2.1 B.2.6	The report on "*Promoting Solid Waste Composting in Uganda*" which forms the basis of developing this PoA has been provided to the validation team. The report examined various other options for disposing solid wastes and concluded that alternatives 2 and 3 (as defined in the POA-DD) are not viable for the municipalities in Uganda. A "*Study on Solid Waste Management Options for Africa*" carried out by the African Development Bank discusses the various disadvantages of composting, waste to energy and landfill gas recovery options in the context of Africa and concludes that these are not favourable options for the smaller municipalities.	**CL 9 is solved since the evidence have been provided and clearly identified**
CL 10 The additionality assessment analysis shall be improved: • The input values included in	B.2.1 B.2.6	The additionality assessment has been improved. Details of the investment analysis including the references for various input values are documented in the Financial Analysis Report. The	~~**CL 10 is not clarified because the following issues should be improved:**~~ ~~– **A documented evidence of the price of sewage sludge (13$/ton), which has been taken as a proxy of the price per ton of compost has to be submitted to the validation team.**~~ ~~– **It has to be specified the price estimation for Grade A compost and Grade B compost.**~~

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2	Summary of Programme of Activities owner response	Validation team conclusion
the investment analysis shall be justified and documented. • The documented evidence of each data shall be provided to the validation team.		calculations are contained in the Excel Spreadsheet submitted to the validation team.	**CL 10 is clarified since the evidence has been prepared and provided.**
CL 11 The description of the emission reduction calculation shall be exactly explained than in the approved methodology. The following differences should be corrected among others: • The equation number 5 shall be written with the co-composting factor included. Although it would be cero.	B.2.3	This issue has been addressed. Due to insertion of more equations the equation numbers have changed. The issue regarding inclusion of co-composting has been addressed in equation 8 in the revised POA-DD version 1.3.	**CL 11 is solved. All the formulae are written in conformance with the approved methodologies and tools.**
CL 12 The Changes required for methodology implementation in 2nd and 3rd crediting period shall be edited in accordance with the monitoring methodology detailed in the relevant tool.	B.3.1	The corrections have been made in the new version of the POA-DD, detailing five default values suggested in the IPCC guidelines. These factors will be revised during the second and third crediting period.	**CL 12 is solved since the default values are detailed in the POA-DD and they will be revised, in accordance with the methodology.**
CL 13 The double consideration of the variable MWh has to be explained.	B.3.3	The mistake has been addressed in the revised POA-DD version 1.3. The duplicity has been removed.	**CL 13 is solved since the mistake has been solved.**
CL 14 The value of 2.92 MWh included in the DD shall be justified.	B.4.1	The use of electricity in the plant is expected to be limited to lighting only. Considering 12 tube lights of 40 W rating operating 16 hours per day for	**~~CL 14 is not completely clarified because this explanation has not been included in the POA-DD.~~** **CL 14 is clarified since the explanation has been clarified.**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2	Summary of Programme of Activities owner response	Validation team conclusion
		365 days, the consumption has been estimated to be 2.92 MWh. Please refer to section 4 of the Operations and Maintenance manual for the standard 70 TPD plant, submitted to the validation team. This parameter will anyway be monitored for each CPA.	
CL 15 The value of 0 for Qy shall be justified in the POA-DD.	B.4.1	Justification has been provided in the parameter table in the revised POA-DD version 1.3.	**CL 15 is solved. The justification has be detailed in the referred table of the POA-DD.**
CL 16 The table corresponding to adjustment factor shall be completed in the POA-DD.	B.4.1	The table corresponding to the adjustment factor Φ has been completed in the revised PDD version 1.3.	**CL 16 is solved. All the tables have been completed.**
CL 17 The value of 0 of the "f" factor should be justified.	B.6.2	Justification has been provided in the parameter table in the revised POA-DD version 1.3.	**CL 17 is solved. The detail of the factor has been included in the corresponding table of the POA-DD.**
CL 18 The origin of the value of quantity of waste supplied to composting pads of 25,550 t/year shall be included in the POA-DD.	B.6.2	A standard design of 70 TPD has been adopted in the program. The daily waste handling capacity of the compost plant (as per the design) is 70 tons. For 365 days the waste handled would be 70 x 365 = 25,550 tonnes/ year.	~~**CL 18 is not clarified because one data is not consistent.**~~ ~~**A proportion of 18.1% of inerts of the total wastes has been considered, as it is detailed in the parameter table included in the revised POA-DD version 1.3. But, in accordance with the "*Study on solid waste management options for Africa*", the inerts proportion in African landfills is 11%.**~~ **CL 18 is solved. The data used for the ex-ante calculations are provided from real data of the Jinja landfill. This data is more precise than one provided in the referred study. Furthermore, this parameter will be monitored for all CPAs.**

VALIDATION PROTOCOL

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2	Summary of Programme of Activities owner response	Validation team conclusion
CL 19 An evidence of the training provision should be submitted to the validation team.	B.7.4	The Cooperation Agreement includes provisions regarding the training. These activities will be undertaken as soon as construction of the compositing plants is completed. The budget of the training was considered as an item included inside the Operation Activities item (1.7.2 of the general budget).	**CL 19 is solved since the evidences of the provisions for the training of the people are in accordance with the POA-DD**
CL 20 The annex 5 shall be removed from the POA-DD because the template shall not be altered. It could be submitted as separate documentation.	B.7.5 B.7.6	The annex 5 has been removed.	**CL 20 is solved. The template has not been alterated.**
CL 21 The sources of information should be correctly described and detailed. It is recommendable to use the last version of the IPCC.	B.3.3	Sources of information have been described and the latest version of the IPCC has been referred to in the PDD wherever applicable.	**CL 21 is solved. All the values of the parameters of the POA-DD have been referenced.**
CL 22 Some inconsistencies have been detected in the Annex 4, regarding some variables, among others:: • Data variable ID 2.1: Value measured instead estimated. • Data variable ID 2.2 recording frequency quarterly instead	B.3.3 B.4.1	The inconsistencies have been removed in the revised veDD version 1.3. The tables have been significantly improved.	~~**But, CL 22 is not clarified because some confused issues have been detected:**~~ • ~~**Variables ID 1.6 (CEF$_{electricity}$) and ID 1.7 (EG$_{m,y-1}$). The annually recording frequency is not consistent with the provisions included in the explanation of the equation number 4 in the revised PoA-DD, (page 23 of the clean version), *ex ante calculation*. Also, the column "*Alternative data source*" of the table 4.3 regarding the CO2 emission factor shall also revised, because the factor will be calculated ex ante.**~~ • ~~**Variable ID 1.11 (COD$_{y,ww,runoff}$), the monthly recording frequency is not consistent with the explanation detailed in the monitoring table of the variable (page 37 of the clean version), *quarterly*.**~~

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2	Summary of Programme of Activities owner response	Validation team conclusion
monthly. • Data variable ID 3.1: Procedure for collection will be double, purchase records and consumption stated by manufacturer.			~~**The variable "*Quantity of raw waste treated in the year y* (Q_y)" has not been included in this annex neither in the Section E.6.3.**~~ ~~**CL 22 is not clarified since second issue has not been addressed**~~ **CL 22 is clarified since the frequency of monitoring has been monthly accorded and clarified in all sections of the POA-DD.**
CL 23 The selection methodology of the value of 25% should be justified and referenced.	B.4.3	Justification for choosing 25% has been provided in the section A.4.4.2 of the revised POA-DD version 1.3.	~~**CL 23 is not solved. The sample methodology is not documented. The cost of the verification seems not to be in accordance with the currently market. So, this issue shall be correctly justified or removed.**~~ ~~**CL 23 is not clarified since the statistical justification is still pending.**~~ **CL 23 is clarified since the sample methodology will be developed during the verification. FAR 2 has been requested because of this issue.**
CL 24 Some mistakes have been detected between the values included in the POA-DD and the spreadsheets, among others, the value of DOC_f 0.5 instead 0.77.	B.1.1	The errors have been rectified. The value of DOC_f in the spreadsheet has been changed from 0.77 to 0.5.	**CL 24 is solved**
CL 25 The Table 2.1 of the Annex 5 should be revised. It is not necessary to include the DOE team activities and it could be confuse.	B.7.11	Annex 5 has been removed in the new version of the PoA-DD.	**CL 25 is solved**
CL 26 An evidence to support the serious prior consideration of the CDM as indicated above has to be submitted to the validation team	C.1.1	The following documents have been provided to the validation team as the evidences of the serious prior consideration of the CDM: • The EMCBP II aide	**CL 26 is solved**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2	Summary of Programme of Activities owner response	Validation team conclusion
		memoire of Nov – Dec 2006. • The LOI for purchase of ERs by World Bank dated 25 April 07. These documents show correctly that the programme considered carbon finance *a priori*.	
CL 27 Some editorial mistakes have been detected, among others, the reference of project activity instead Programme of Activities.	Table 1	The mistakes have been corrected in the version 1.3 of the POA-DD.	**CL 27 is solved**
CL 28 The additionality assessment shall be prepared in accordance with the Annex 45 of the EB 41.	B.2.1	Additionality Assessment has been prepared in line with Annex 45 of EB 41. A compliance table is provided in the Financial Analysis report.	~~**CL 28 is not clarified. See CL 10.**~~ **CL 28 is clarified since the additionality analysis has been prepared in accordance with Annex 45 of the EB 41.**
FAR 1 The following CPAs belonging to stage 2 of the Programme will require a new Letter of Approval of the Ugandan DNA.	A.1.2	To be solved during the validation of the second stage of the PoA.	**To be solved in the validation in the second stage.**
FAR 2 The sample methodology decided to choose the number of CPAs to be verified shall be validated during the verification stage.	--	To be validated during the verification stage.	**To be validated during the verification stage**

ANNEX II

VALIDATION PROTOCOL

CURRICULUM VITAE

GENERAL INFORMATION

Name: **María del Carmen González Galán**

Nationality: Spanish

Current place of residence: Madrid. Spain.

Current employer and place of work: AENOR. 6, Genova St. 28004. Madrid. Spain.

EDUCATION

Pharmacy Degree. "Complutense de Madrid" University. 1990-1996.

LANGUAGES

Spanish mother tongue

English: High level

COURSES, LECTURES, SEMINARS, ETC. TAKEN

2000 (October) Environmental Audit. Methodology. AENOR.

2000 (October) Quality Audit. Methodology. AENOR.

2001 (Oct-Nov) Hazardous Wastes management. Landfills management. CESPA

2002 (May) Quality Management System. ISO 9001:2000. BUREAU VERITAS.

2002 (Nov) Environmental Auditor training sessions. SITA Group.

2003 (Feb-Apr) Risk Prevention Technician. Intermediate level. Formastur.

2003 (Oct) Integrated Pollution Prevention and Control. NOVOTEC.

2004 (Sep) Building facilities legal requirements. ICT (Instituto Catalán de Tecnología).

2005 (Apr-Sep) Business English. HEDIMA.

2006 (Nov) ADR 2005: Transport of Dangerous Goods. ECOCAT (CESPA)

2007. Validator and Verifier training course under the Clean Development Mechanism of the Kyoto Protocol. AENOR.

2008 (August) English Intensive Course. Bristow School of English. Dublin. Ireland.

2008 (June) Spanish Electricity Market. ENERCLUB (Spanish Institute of Energy)

5 WORK EXPERIENCE

AENOR

2007 April-Currently: Member of the Climate Change Unit. Validation and Verification of Clean Development Mechanism (CDM) Projects under the accreditation of AENOR as a Designated Operational Entity by UNFCCC.

CESPA S.A. (FERROVIAL GROUP)

- 2004-2007 (March). Responsible in charge of internal audits and Certification ISO 14001 and ISO 9001 for 21 sites in several sectors: Municipal Waste Collection, Street Cleaning, Gardening, Landfills, Lixiviate Treatment Plants, Biogas Plants, Power generation from biogas, Waste Water Treatment Plants, Hazardous Waste Treatment Plants, Hospital Waste Treatment Plants, Chemical Cleaning, Nuclear Power Station Services). EMAS Internal auditor in Gardening and Solid Wastes Sorting Plant.

- 2000-2003. Quality and Environmental Management internal Auditor specialized in Landfills (Municipal and Industrial solid Waste Landfills) and Hazardous Wastes Treatment Plants.

- 1998-2000. Environmental Management internal Auditor in Municipal Environmental Services (Municipal Waste Collection, Street Cleaning, Gardening).

- 1997-1998. Environmental Management internal Auditor trainee. Environmental consultancy for customers: Initial environmental audits in different sectors: Aircrafts maintenance (Iberia Airlines), Animal feed manufacturing (Nanta).

OTHER EXPERIENCE

Quality and Environmental Management.

Quality and Envrionmental Management Audits.

Environmental risk assessment.

Development of risks assessment tools for landfills and waste treatment plants.

Environmental risks assessment audits.

Advisory in licences and authorization applications.

Experience in environmental legal requirements assessment in due diligences.

VALIDATION PROTOCOL

CURRICULUM VITAE

GENERAL INFORMATION

Full name: **Pablo TABOADA UTRERA**

Date of birth: 1968-10-28

Nationality: Spanish

Current employer and place of work: **CHIEF VALIDATOR and CHIEF VERIFIER**

EDUCATION

1996 Chemical Sciences Degree. Universidad Autónoma de Madrid. Final work on the chemical kinetics of the stratospheric ozone depletion.

1997 Master's Degree in Environmental Engineering and Management. Escuela de Organización Industrial (EOI) –900 h- Madrid

1997 Final project on the design of a wastewater treatment plant in a chemical industry

LANGUAGES

Spanish Mother tongue

French Bilingual

English High level in translation, writing and conversation

COURSES, LECTURES, SEMINARS, ETC. TAKEN

2000 Lead Auditor of Environment Management Systems (ISO 14001:1996)

2000 Lead Auditor of Quality Systems. (ISO 9001: 1994)

2001 Adaptation to ISO 9001:2000

2002 Live Cycle Analyse as a tool for environmental management

2004 Improvement ISO 9001:2000

2005 Equipments Calibration

2006 Building waste management

2007 Lead Auditor of Environment Management Systems *(ISO 14001: 2004)*

PROFESSIONAL EXPERIENCE

December 2007- Currently. ***AENOR.*** **Climate Change Unit.** Validation of CDM project activities, qualification of CDM validators/verifiers, accreditation of AENOR under UNFCCC. Chief Validator and Chief Verifier.

2000-2007 ***AENOR***. Technician of the Certification Division. Responsible of many product certification environmental system related with waste management. Person in charge until 2005 of the European Ecolabelling System. Person in charge of diverse working groups for the development of ecological criteria of: footwear, paintings, plastic, residues of the car sector and building sector.

1999 ***ie3 Ingenieros Consultores***. Technician. Industrial design for waste management.

97-99 ***Covitecma, S.A***. Environmental consultancy. Development of activities of consultancy for the implantation of quality management system in companies of the chemical, pharmaceutical sector and fuels traders, as well as in the control of the waste management. Took part in different projects of advising for the regional administrations of Madrid, Castile León and Basque Country, processes of restructuring of industrial sectors as the mining industry and the metallic transformation.

COURSES, LECTURES, SEMINARS, ETC. GIVEN

1999 Teacher of university course of design of industrial facilities to waste water treatment. IMEFE

2000-2007 Since his incorporation to AENOR, he has given numerous courses, chats and seminars, on aspects of the quality and environmental management:

- Environmental management systems courses
- Ecolabelling audit courses.
- Ecodesign and LCA courses.
- Waste management seminars.
- Many divulgatives conferences of environmental management systems, certification and audit.
- As member of the European Ecolabelling network has taken part in numerous meetings, conferences and groups of work, in the whole Europe.

PUBLICATIONS, WORKS

Diverse articles published in several magazines, on waste management of the automotive sector, paper manufacturing, construction, industry of paintings, industry of plastics, as well as the environmental management in the service sectors.

Diverse interviews in radio and press related to the environmental management.

ENVIRONMENTAL AUDITS

Environmental audits of products or services. In all the cases there are included aspects of environmental management. Audits included only since 2005

SECTOR*: Automotive (NACE codes 00.36, 24.37, 29.50, 29.51 y 39.90)*

27 audits

SECTOR*: Paper industry (00.36, 7.21)*

17 audits

SECTOR*: Plastics (14.25)*

14 audits

SECTOR*: Construction (15.26)*

6 audits

SECTOR*: Paints and varnishes (12.24)*

5 audits

SECTOR*: Paper manufacturing (7.21)*

2 audits

OTHER AUDITING SYSTEMS

- Market research

He has been involved in more than 8 annual audits as auditor of services in companies of market, opinion and social research.

- Playgrounds equipment and general safety requirements

He has been involved in more than 10 annual inspections as inspector of product, both in factories and facilities.

- Public transport

He has been involved in more than 8 annual audits as auditor of services in public transport companies.

- Customer satisfaction:

He has been involved in more than 8 annual audits as auditor of services.

Quality management systems by ISO 9001.2000

He has been involved in more than 15 audits.

VALIDATION PROTOCOL

CURRICULUM VITAE

GENERAL INFORMATION

Name: **GARCIA MADERO, MERCEDES**

Date of birth: 1978/07/16

Nationality: SPANISH

Current place of residence: MADRID

Current employer and place of work: **CHIEF VALIDATOR and CHIEF VERIFIER**

EDUCATION

2001: Degree in Biology (Complutense University from Madrid): Speciality: Zoology.

2002: Quality, Environment and LPR Management System Postgrade. IFES- Madrid.

2003: Environmental Impact Assesment Postgrade (Complutense University from Madrid)

LANGUAGES

Spanish Mother tongue

English High level in translation, writing and conversation

COURSES, LECTURES, SEMINRENEWAL AUDITS, ETC. TAKEN

- Auditors training in ISO 14.000, 40 h. AENOR
- Carbon Capture Technologies. Club Español de la Industria, 2007.
- Kyoto II. IIR Meeting, 2006.
- Climate Change, Where are we going. WWF Adena – F. Rafael Pino.
- Kyoto consequences in spanish economy. EOI.
- VII CAMID Conference: Spanish strategy against Climate Change.
- Environmental Management Systems Implementation, ISO 14001 - EMAS (30 h.) Novotec Consultores, S.A Madrid.
- Auditing Environmental Management Systems Implementation. (30 h.) Novotec Consultores S.A. Madrid.
- Environmental Indicator Models (20 h.). Novotec Consultores. Madrid.
- Clean Development Mechanism, Joint Application and European Union Emissions Trading Scheme (32 h.) Enerclub. Madrid.
- Climate Change strategies. Fundación Entorno.
- Transport sector and environment. FIDA y RACC. 2004
- Participated in the planning of projects and environmental studies like EIAs. Also worked on environmental action programmes and reports, environmental indicator systems, etc

- Design and support of the Monitoring and Reporting of greenhouse gas emissions system in companies of Glass, Combustion, Gypsum, Cogeneration and energy sector. Development of Annual Emissions Report of these installations.
- Environment Management System implementation. AENOR.

WORK EXPERIENCE

AENOR	**Member of the Climate Change Unit**.. Chief Validator and Chief Verifier.
Oct-07- Currently	Validation and Verification of Clean Development Mechanism (CDM) Projects under the accreditation of AENOR as a Designated Operational Entity by UNFCCC.
INDRA SISTEMAS, S.A	**Carbon Market Consultant**
May - Oct 2007	Development and marketing of a CO2 Management Software in power companies.
•	Technical Analysis of CO2 and other commodities Trading Applications. London.
•	Design, development and marketing of a building energy efficiency computing application.
NOVOTEC CONSULTORES, S.A	**Environmental Consultant**
Aug 03 – May 07	Elegibility study of afforestation and reforestation projects in México, Colombia, Panamá and Costa Rica. Development of the Project Document Design of two Afforestation-Reforestation projects in Mozambique, one of them small scale project. Technical analysis of the eight approved forestation and reforestation methodologies. Developing of the Project Document Design of hydroelectric power plants to be Clean Development Mechanism in Panamá and Colombia. Developing of the Project Document Design of La Joya hydroelectric power plant to be Clean Development Mechanism in Costa Rica. Comparative study about the different Carbon Funds. Development and support of the Greenhouse Gas Monitoring Plan of the Umbrella Fuel-Switching Project in Bogotá and Cundinamarca.

COURSES, LECTURES, SEMINARS, ETC. GIVEN

- "Capture Carbon as CDM". Colegio Oficial de Ingenieros de Montes.
- "Livestock emissions". TRAGSEGA.
- "Environment Management and Risk prevention". 30 courses. INDITEX.