

Agenda item 4.1.(c)

Paragraph 45 of the annotated agenda

Draft AMS-III.AX: “Methane oxidation layer (MOL) for solid waste disposal sites”

CDM EB 65

Durban, South Africa, 21-25 November, 2011



Draft AMS-III.AX: “Methane oxidation layer (MOL) for solid waste disposal sites”

Technology/measure:

- Construction of a methane oxidation layer (MOL) with Methane Oxidation Material (MOM) on top of a municipal solid waste disposal site (SWDS) to avoid methane release through biological oxidation.



Preparation of the Methane oxidation material



Placement of Methane oxidation material

Draft AMS-III.AX: “Methane oxidation layer (MOL) for solid waste disposal sites (SWDS)”

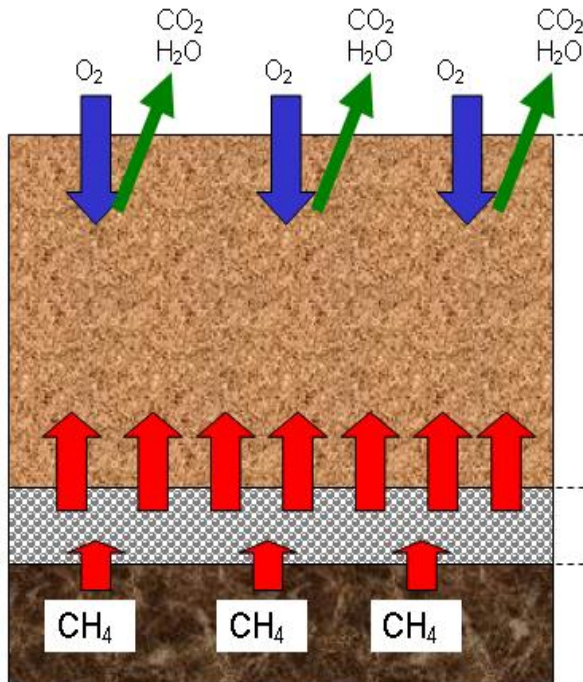
Applicability conditions

- SWDS are no longer receiving wastes;
- Low Landfill Gas emission level in SWDS ($< 4 \text{ l CH}_4/\text{m}^2\cdot\text{h}$);
- Methane Oxidation Material complies with other specific characteristics defined e.g. stability, pore volume, layer thickness
- Active gas extraction systems were not installed before the project and covering of Methane Oxidation Layer not required by local regulation.



Draft AMS-III.AX: “Methane oxidation layer (MOL) for solid waste disposal sites”

Baseline and project emissions



Ex ante:

- FOD model or measurement campaign;

Ex post:

- Seasonal measurement campaign for methane emission flux (at a minimum)
- Mass balance approach
- Adjusted for uncertainty;
- Construction and Methane oxidation performance should confirm to a relevant standards;
- Variation of Methane, Carbon Dioxide concentration and change in Temperature will trigger more frequent flux measurements

Agenda item 4.1.(c)

Paragraph 47 (a) of the annotated agenda

Revision of AMS-III.K: “Avoidance of methane release from charcoal production by shifting from traditional open-ended methods to mechanized charcoaling process”

CDM EB 65

Durban, South Africa, 21-25 November, 2011



Revision of AMS-III.K



Open-pit charcoal producing process



Mechanized charcoaling process with methane recovery

- AMS-III.K is for shifting from traditional open-ended charcoal production to those with methane recovery;
- Revision proposal in response to SSC_561 and SSC_572;
- Last revision: EB 44, November 2008;
- 1 registered project.

Draft revised AMS-III.K

- Expanded to cover:
 - i. Retrofit/upgrade
 - Gas recovery system mandatory;
 - ii. Greenfiled;
- More guidance on:
 - Specific Methane Generation rate (e.g. Mechanical kiln now included, only open pit before);
 - Determination of fugitive emissions
 - Emissions due to flare inefficiencies (distinction between flaring and gainful use)



Agenda item 4.1.(c)

Paragraph 47 (b) of the annotated agenda

Revision of AMS-III.AR: “Substituting fossil fuel based lighting with LED lighting systems”

CDM EB 65

Durban, South Africa, 21-25 November, 2011



Revision of AMS-III.AR: “Substituting fossil fuel based lighting with LED lighting systems”

- III.AR covers substituting fossil fuel based lighting with LED lighting systems;
- Initial adoption: EB 58, November 2010;
- Revision proposed for the first time;
- 5 PoAs under validation (covering Tanzania, Kenya, Malawi, Burundi, Ethiopia, Rwanda, Uganda and India).



Kerosene lamps



LEDs or CFLs

Revision of AMS-III.AR: “Substituting fossil fuel based lighting with LED lighting systems”

Major revisions

Current	New
Only LEDs are eligible	Expanded to include CFLs
<ul style="list-style-type: none">• Minimum information on Lamp testing requirements;• 2,000 hour lumen depreciation: > 10% for 7-year	<ul style="list-style-type: none">• Illuminance and luminous flux targets are clarified for all lamps;• 2,000 hour lumen depreciation: 20% for 2-year option, 15% for 7-year
<ul style="list-style-type: none">• Minimum performance specifications (e.g. Burn Time, battery autonomy)	<ul style="list-style-type: none">• Performance and testing specifications further clarified
Physical ingress and water protection requirements per IP41	Differentiated requirements according to types of lamps



Agenda item 4.1.(c)

Paragraph 47 (c) of the annotated agenda

Revision of AMS-III.W: “Methane capture and destruction in non-hydrocarbon mining activities”

CDM EB 65

Durban, South Africa, 21-25 November, 2011



Revision of AMS-III.W: Methane capture and destruction in non-hydrocarbon mining activities

- III.W covers methane capture and utilization in non-hydrocarbon mining activities;
- Initial adoption: EB 42, September 2008;
- No registered projects yet;
- Revision proposed (first time) to expand the applicability and usability.



Revision of AMS-III.W: Methane capture and destruction in non-hydrocarbon mining activities

- a) Triggered by SSC_488 and informed by expert inputs;
- b) The revision expands usability and applicability through:
 - i. Inclusion of utilization of methane for gainful use - electricity, heat;
 - i. Removal of restrictive applicability condition.

Before	Now
<ul style="list-style-type: none">• Boreholes drilled <2001;• Boreholes drilled >2001 <u>and 5 years prior to project validation</u>	<ul style="list-style-type: none">• Boreholes drilled <2001;• Boreholes drilled >2001 – <u>under the condition that boreholes were part of exploration plan confirmed by independent expert</u>



Revision of AMS-III.W: Methane capture and destruction in non-hydrocarbon mining activities

Safeguards

- a) The max dia of boreholes for mineral exploration 134 mm v/s oil and gas boreholes that have dia 150 – 760mm;
- b) Not economical to speculatively alter a drilling programme for CDM benefit – costs for drilling ~200 USD/m;
- c) Emission reduction calculation per AM0064 methods.



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Paragraph 49 of the annotated agenda

Leakage due to transfer of equipment in PoAs

CDM EB 65

Durban, South Africa, 21-25 November, 2011



Leakage due to transfer of equipment in PoAs

- a) Issue raised by SSC_547 at SSC WG 33, additional work at SSC WG 34;
- b) SSC WG 34 analyzed scrapping requirements in ALL SSC methodologies for regular projects and PoAs and recommends;
 - i. For Type I methodologies (i.e. AMS-I.A, B, C, D, and F) scrapping of replaced energy-generating equipment is not needed;
 - Under most circumstances replaced equipment would most likely replace even less efficient equipment outside the project boundary.



EXTRA SLIDE



Draft AMS-III.AX: “Methane oxidation layer (MOL) for solid waste disposal sites”

Project: Methane Oxidation Material (MOM)

Biomass or MSW with high organic content

MBT or composting plant

Stabilised Biomass (SB) –
compost or compost-like product

Refinement facility

Methane oxidising Material (MOM)

Application

Methane Oxidation Layer (MOL)



Recovery of MOM by screening SB



Segregated MOM for MOL application



MOM Placement

Specified properties of MOM
and MOL needs to be met.

