



**CDM: Response form for Request for revision of approved methodologies  
(version 01.1)**

<i>Date of Meth Panel meeting:</i>	23 January - 27 January 2012
<i>Title and number of Request for revision</i>	Mitigation of greenhouse gas emissions from treatment of industrial wastewater  AM_REV_0224

**Summary of the query:**

Please use the space below to summarize the request for revision on the related approved methodologies.

ACM0014 version 04.1.0 “Mitigation of greenhouse gas emissions from treatment of industrial wastewater” is applicable to project activities that aim at reducing methane emissions from industrial wastewater treatment.

This request for revision aims to address the following issues:

- (1) The existing methodology appears to be inconsistent with respect to the calculation of the baseline COD removals by lagoon systems having an outflow or “effluent”. In lagoons without effluents (sludge pits) the effluents evaporate in a lined pond, they are operated in a batch system. However, lagoons with an effluent, such as those in the project activity under consideration, operate in a continuous way and thus exhibit a different emission regime. For such lagoons with an effluent, the current calculation method in ACM0014, version 04.1.0, contains a redundancy in the calculation of the COD removal efficiency for the “baseline emissions from the anaerobic treatment of wastewater or sludge” according to the “methane conversion factor method”, leading to an underestimation of the percentage of COD which degrades in the baseline lagoons. Specifically:
  - For lagoons or sludge pits without effluent,  $COD_{BL,y}$  is equal to  $COD_{PJ,y}$  (page 10, determination of  $COD_{BL,y}$ ), i.e.  $COD_{BL,y}$  corresponds to the total amount of COD which would have entered the baseline lagoons. The amount of COD which degrades in the baseline lagoons without effluent is estimated by means of  $f_{T,y}$ , based on a monthly stock change model (page 12, determination of  $f_{T,y}$ ).  $f_{T,y}$  is included in the calculation of  $MCF_{BL,y}$  as  $MCF_{BL,y} = f_d \times f_{T,y} \times 0.89$  (equation 6).  $MCF_{BL,y}$  therefore represents not only the actual methane conversion factor  $f_d$  but also the percentage of COD that degrades in the baseline lagoons ( $f_{T,y}$ );
  - For lagoons with an effluent, in contrast,  $COD_{BL,y}$  is calculated as  $COD_{BL,y} = AD_{BL} \times COD_{PJ,y}$  (equation 3), where  $AD_{BL}$  is the percentage of COD that is degraded in the baseline lagoons and which is calculated based on the COD inflow and COD outflow in the baseline lagoons (equation 4). In this case,  $COD_{BL,y}$  corresponds to the amount of COD which would have been degraded in the baseline lagoons. The methodology then requires to multiply  $COD_{BL,y}$  with  $MCF_{BL,y}$ ;
  - If the  $MCF_{BL,y}$  is applied to lagoons with an effluent, it means that  $f_{T,y}$  is applied in addition to  $AD_{BL}$  and therefore COD degradation is factored in twice. This leads to an underestimation of the percentage of COD which degrades in the baseline lagoons. In conclusion,  $MCF_{BL,y}$  as defined in equation 6 should only be applied to lagoons or sludge pits which have no effluent.

To address this problem, the request for revision proposes an alternative calculation method for the  $MCF_{BL,y}$  for baseline lagoons with an effluent which is based on the calculation method used in AMS-III.H, version 16, and which is independent of the residence time in the lagoon. In order to introduce this new calculation method, the calculation of the “baseline emissions from anaerobic treatment of the wastewater” and the calculation of the “project methane emissions from the effluent from the digester” are amended accordingly.

- (2) The baseline lagoons had in the past an average hydraulic residence time of around 32 days but had in one year an average residence time of 28 days and did not fulfil the minimum residence time of 30 days as mentioned in ACM0014 as an applicability condition. As a consequence of the introduction of the above mentioned calculation method for  $MCF_{BL,y}$ , which is independent from a monthly stock change model, the request for revision proposes adapting the applicability conditions of ACM0014 according to the calculation method applied for  $MCF_{BL,y}$ . This makes the methodology applicable for projects with hydraulic residence times below one month.
- (3) The underlying project activity will implement a new lagoon in order to reduce the temperature of the wastewater before it is fed into the anaerobic digesters. This lagoon has a maximum depth of 2.3 meters and a hydraulic residence time of around 3 days. In order to account for potential methane emissions from this pre-treatment lagoon, the request for revision proposes a calculation method for this additional project emission source based on the current version.
- (4) The request for revision also suggests deleting the applicability condition “Heat and electricity requirements per unit input of the water treatment facility remain largely unchanged in the baseline scenario and the project activity.” and it proposes some editorial changes.

In view of the above, the request for revision consists of the following parts:

- (a) Introduction of an alternative calculation method for the “baseline emissions from anaerobic treatment of the wastewater” and for the “project methane emissions from the effluent from the digester”;
- (b) Adaptation of the applicability condition to accommodate projects with residence time of the organic matter in the open lagoon system below one month;
- (c) Introduction of a calculation method for project emissions from pre-treatment lagoons;
- (d) Deletion of the applicability condition regarding heat and electricity requirements in the baseline scenario and the project activity;
- (e) Editorial changes.

#### **Recommendation by the Meth Panel:**

(a) Please use the space below to provide amendments /changes (in your expert view, if necessary).

Not applicable.

(b) Please use the space below for providing guidance, as per Para 93 of EB25 Report, on what type of projects need to revise the PDD as a consequence of the suggested revision, if the recommendation is to revise the methodology.

Not applicable.

**Answer to authors of the request for revision by the Meth Panel :**

Please use the space below to provide an answer to the authors of the above query

The Meth Panel recommends not to approve the request for revision.

The Meth Panel provides the following reasons for not accepting the request for revision, concerning specific changes proposed in this request:

- (1) Introduction of an alternative calculation method for the “baseline emissions from anaerobic treatment of the wastewater” and for the “project methane emissions from the effluent from the digester”.

The Meth Panel appreciates the effort made by the project participants to simplify the methodology by introducing simple and easy ways to implement options to calculate “baseline emissions from anaerobic treatment of the wastewater” and “project methane emissions from the effluent from the digester” based on IPCC default factor. However, the Meth Panel considers that the proposed approach to determine the methane conversion factor (MCF) is not conservative and thus would result in overestimation of the emission reductions. Given the uncertainty on the methane conversion factor, the proposed conservativeness factor of 0.89 would not be appropriate in this situation.

- (2) Introduction of a calculation method for project emissions from pre-treatment lagoons.

The Meth Panel would like to thank the project participants for introducing a calculation method for project emissions from pre-treatment lagoons. The Meth Panel has taken note of this and may implement it in a future revision of the methodology.

- (3) Adaptation of the applicability condition to accommodate projects with residence time of the organic matter in the open lagoon system below one month.

The Meth Panel appreciates the effort made by the project participants to expand the applicability of the methodology to cases where the residence time of the organic matter in the open lagoon system is below 30 days. However, removal of this condition would require changes in the algorithm to accommodate the residence time factor. The project participants may suggest a relationship of methane generation to the residence time of the organic matter in an open lagoon system.

- (4) Deletion of the applicability condition regarding heat and electricity requirements in the baseline scenario and the project activity.

The Meth Panel has taken note of this suggestion and may implement it in a future revision of the methodology.

- (5) Editorial changes

The Meth Panel would like to thank the project participants for proposing editorial improvements. The Meth Panel has taken note of the suggested editorial changes and may implement them in a future revision of the methodology.

The Meth Panel would like to inform that it has initiated work on a revision of ACM0014 to simplify the calculations of the baseline emissions, and other improvements.

Signed by the Chair, Mr. Philip Gwage

Date: 27/01/2012

Signed by the Vice-Chair, Mr. Lex de Jonge

Date: 27/01/2012

**Information to be completed by the secretariat**

F-CDM-AM	AM_REV_0224
Name of the authors of the query:	AENOR
Date when the form was received at UNFCCC secretariat	27 January 2012
Date of transmission to the EB	27 January 2012
Date of posting in the UNFCCC CDM web site	27 January 2012