

 <p style="text-align: center;">CDM: Response form for Request for revision of approved methodologies (version 01.1)</p>	
<i>Date of Meth Panel meeting:</i>	04 - 08 May 2009
<i>Title and number of Request for revision</i>	Correction of the formula to calculate the amount of organic matter that remained in the lagoon, in the MCF method (equation 7) AM_REV_0139
<p>Summary of the query:</p> <p>Please use the space below to summarize the request for revision on the related approved methodologies.</p> <p>ACM0014 “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.</p> <p>This request for revision aims at correcting one of the equations of the Methane Conversion Factor (MCF) method used in ACM0014.</p> <p>Project participants claim that equation 7 of ACM0014 ver 2.1, which calculates <i>COD carried on from the previous month</i>, contains an error. In the current version of ACM0014, this equation calculates the <i>COD carried on from the previous month</i> as $[(1 - f_{T,m}) \times COD_{available,m-1}]$. This equation in ACM0014 has been adopted from AM0013 where the same equation uses a different parameter, $MCF_{monthly}$, instead of $f_{T,m}$. Project participants claim that the error might have occurred during the consolidation of AM0013 into ACM0014. Project participants’ opinion is that both equations should be consistent. Therefore, their proposal is to replace $f_{T,m}$ by $MCF_{monthly}$ in the equation 7 of ACM0014 ver 2.1.</p> <p>Furthermore, the project participants compare various methods to calculate COD available for degradation ($COD_{available,m}$) and conclude that the method presented in the ACM0014 ver 2.1 is not consistent with AM0013 ver 4 and also with the Organic Removal Ratio (ORR) method available as an option within the ACM0014 ver 2.1. The method presented in the ACM0014 ver 2.1 gives much lower emission reductions (almost half) than any other methods.</p> <p>The project participants, therefore, propose to revise the MCF method in ACM0014 ver 2.1 in order to be consistent with the other methods and with physical principles of COD degradation to methane, as described in AM0013. The project participants propose to change equation 7 as:</p> $COD_{available,m} = COD_{BL,m} + (1 - MCF_{BL,m}) \times COD_{available,m-1} \quad (7)$ <p>Furthermore, change in equation 7 leads to revision of equation 24 and add another equation (10) to calculate $MCF_{BL,m}$.</p>	
<p>Recommendation by the Meth Panel:</p> <p>(a) Please use the space below to provide amendments /changes (in your expert view, if necessary).</p> <p>Please, refer to the box below.</p> <p>(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.</p> <p>Not applicable.</p>	

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 accept the proposed revision.

Equation 7 does not contain an error. The equation was actually corrected during the consolidation of methodologies AM0013 and AM0022 due to an earlier error in the methodology AM0013.

The proposed revision (and the original version of the equation in AM0013) implicitly assume that all COD that does not degrade to methane in the lagoons would be available for degradation in the next month.

However, this is not the case. Part of the COD that does not degrade to methane in the lagoons will be degraded to CO₂ aerobically. The proposed revision, as well as AM0013, does not account for this fact.

It is worth of note that the proposed revision results in an over-estimation of baseline emissions. This revision results in the calculated value of $f_{T,y}$ to be higher than 1, which is clearly inadequate. The parameter $f_{T,y}$ expresses the influence of temperature on degradation of organic matter and cannot be larger than 1. The value 1 means that bacterial activity is not reduced due to low temperatures. Nevertheless, the spreadsheet provided by the project participants has a value of 1.804 for $f_{T,y}$ (File: *Comparison ACM0014 - AM0013*; TAB: *BL CH4 MCF corrected*; Cell: L106).

Furthermore, the proposed approach would result in MCF values that are close to 1 even for lagoons with low depths for which it is assumed that only 50% of the COD would be converted to methane ($f_d = 0.5$).

The methodology however has been corrected for some editorial errors.



Signature of Meth Panel Chair

Date: 08/05/2009

(Philip Gwage)



Signature of Meth Panel Vice-Chair

Date: 08/05/2009

(Pedro Martins Barata)

Information to be completed by the secretariat

F-CDM-AM	AM_REV_0139
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