Response to additional information request related to the submission SSC_526

PPs comments - 14 April 2011

In order to facilitate the consideration of the submission SSC_526 by the SSC WG, the following clarification/information is provided by the Project Proponent (in blue):

1. Please elaborate the baseline treatment system in details, e.g.:

    a. What is the solid separation technology;

The solid separation technology used in the baseline consists of a decanter. In the baseline, all manure was flushed and the resulting stream was forwarded directly to the decanter (referred to in the clarification request as the solid separator) which functioned in a continuous flow. This means that the manure wasn't removed from the barns before the flushing process. Moreover, all stream resulting from the flushing process was directly forwarded to the effluent treatment system.

    b. When the solid separation step is applied (the timing of separation and flushing);

The solid separation occurred after the flushing. Please refer to the diagrams presented below.

    c. How the separated manure will be disposed;

The separated manure taken from the solid separator was composted and used as fertilizer.

No emission reductions are being claimed regarding the organic matter of the separated manure previously sent to composting. Considering the provisions of paragraph 23 of the methodology, the emission reductions are going to be determined as the lowest value between the ex-post calculations of the baseline. Hence, all the organic matter that used to be removed from the effluent using the decanter will not be considered.

In addition to this, in the project scenario the sludge from the digester is also used as a fertilizer in a land area next to the farm which means that there are no leakage emissions.

    d. What is the waste stream treated in the anaerobic lagoons (is it the waste stream containing remaining manure after separation and flushing?).

The waste stream treated in the anaerobic lagoons is the stream still containing manure after the flushing and solid separation.

2. Please also clarify the project technology that attributes to the emission reductions?

The emission reductions due to the implementation of the project activity are being determined considering only the emissions resulting of the effluent treatment in anaerobic lagoons used in

the baseline. Therefore, emission reductions are attributable to the use of anaerobic lagoons in the baseline.

In accordance with paragraph 14 of AMS-III.D. (version 16) the reduction of the volatile solids during a previous treatment stage has to be considered. Therefore, the volatile solids removed from the effluent in the solid separator are not being considered. Only the portion of stream that would still contain manure after passing through the decanter is being considered.

The decanter was operational in the baseline but was deactivated after the implementation of the project activity. Nevertheless, it is important to stress that the CERs are limited to baseline effluent treatment system (as per paragraph 23 of the methodology AMS-III.D version 16). In this sense, since the project considers the use of the decanter in the baseline, it is foreseen that CERs issuance will always be based on the ex-post calculated baseline value.

In responding question 1&2 above, an illustrative sketch of baseline and project treatment system as well as some photos showing the current treatment system would be helpful.

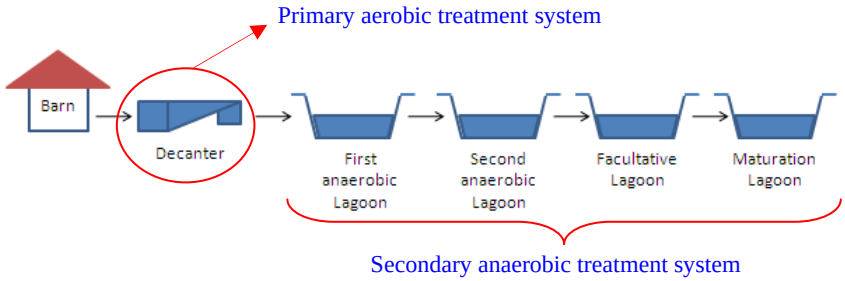

Figure 1 - Illustrative sketch of baseline system

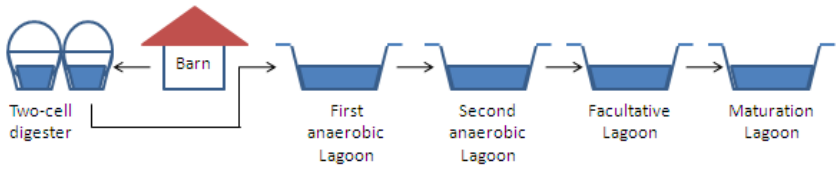

Figure 2 – Illustrative sketch of Project treatment system

Figure 3 – Barns of the farm where swine is raised

Figure 4 – Two-cell digester

Figure 5 - Partial vision of the anaerobic lagoons used in the baseline which continues to be used in the project activity after the effluent is treated in the anaerobic digester as presented above in Figure 2

Figure 6 – Decanter structure from outside (on the left) and inside (on the right) after its deactivation.

3. It is not clear the intent of quoting "This reduction is being considered as per the recommendations of paragraph 14 of the methodology (version 16). The recommendation is provided in paragraph 10.e) of AMS-III.D version 17." in the submission. It is our understanding that the above referred para is regarding the sequential treatment where multiple-anaerobic treatment steps are applied to manure treatment whereby the removal efficiency by the intermediate step can be optionally determined by using the default values in annex 1. Please clarify.

Decanters are considered as a preliminary treatment stage which indeed reduces the volatile solids of the effluent. The mentioned paragraph does not explicitly mention that the reduction (RVS) has only to be applied to "multiple-anaerobic treatment steps" but only refers to "relative reduction of volatile solids from the previous stage". Therefore, and since there is a significant reduction in volatile solids, the recommendation of the mentioned paragraph was applied in a conservative manner.

4. If it is available, please also provide the following information:

As mentioned in question 3, it is important to determine the removal efficiency of the separation technology. Please provide the supporting materials for justifying the separation efficiency in the submission, i.e. 40%.

A similar system was studied by MEDRI[1] (1997). The results of this study which was carried out in cooperation with EMBRAPA (Brazilian Agricultural Research Corporation) showed that the average efficiency of removal of volatile solids of a solid separator is 42%. Analyses were carried out at the site and the results were lower than 40%. Also in 2002, an evaluation of the effluent treatment system of the farm was conducted by an independent consultant who concluded that the solid separator wasn't performing as it was designed. Hence, 40% was applied as a reasonably conservative value. Supporting evidences, in Portuguese, were already supplied to the DOE validating the project which concluded the value applied was appropriate.

Please provide the indicative calculation of emission reductions.

A preliminary version of the ERs calculation spreadsheet is attached. PPs kindly request the SSCWG to not disclose this document since it is a draft version still under validation.

[1] MEDRI, W. **Modelagem e Otimização de Sistemas de Lagoas de Estabilização para Tratamento de Dejetos Suínos. (Modeling and Optimization of Stabilization lagoons for swine effluent treatment).** PhD Thesis. Publicly available in Portuguese at <http://www.eps.ufsc.br/teses98/medri/>.