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Att: CDM Executive Board

Your ref.:	Our ref.:	Date:
CDM Ref 0472	MLEH	10 January 2008

Response to request for review
AWMS GHG Mitigation Project BR05-B-12, Mato Grosso, Mato Grosso do Sul, Minas Gerais, and Sao Paulo, Brazil (0472)

Dear Members of the CDM Executive Board,

We refer to the requests for review raised by three Board members concerning DNV's request for issuance for project activity 0472 "AWMS GHG Mitigation Project BR05-B-12, Mato Grosso, Mato Grosso do Sul, Minas Gerais, and Sao Paulo, Brazil" and would like to provide the below initial response to these requests for review.

The monitoring report is not in accordance with the methodology. Parameters required by the approved methodology including the flow rate of the biogas extracted by digester, the methane percentage in the biogas and flare efficiency were not monitored by the project participant. Further clarification is required on how DOE verified the monitoring is in accordance with AM0016 version 3.

DNV Response:

DNV's verification was based on the revised monitoring plan approved on 20 August 2007 by the CDM Secretariat after consultations with the Chair of the Methodology Panel and the Chair of the Board. This revision of the monitoring plan allowed to also calculate the electricity consumption of the project in addition to measuring electricity consumption. Due to an unfortunate oversight by all parties involved (project participant, DNV and Secretariat), the revised monitoring plan was based on version 02 of AM0016. The revised monitoring plan did thus not include the monitoring parameters 20-22 introduced in version 03 of AM0016 (while the monitoring plan in the original validated and registered PDD included these parameters), i.e.:

20 Biogas flow extracted by digester
21 Percentage of biogas that is methane
22 Flare efficiency* determined by the operation hours (1) and the methane content in the exhaust gas (2)

* The flare efficiency shall be calculated as fraction of time the gas is combusted in the flare multiplied by the efficiency of the flaring process. If the efficiency for the flare process can't be measured a conservative destruction efficiency factor should be used – 99% for enclosed flares and 50% for open flare.

Biogas flow extracted by digester

The biogas flow extracted by the digester is the same parameter as parameter 12, i.e. the biogas produced, of version 03 of AM0016 (with the only difference being the unit, i.e. standard cubic fee per day vs. m^3 per month). As required by version 03 of AM0016, the biogas flow/volume was measured continuously with flow meters and was reported for each digester system on a monthly basis. While the monitoring report only includes aggregated monthly biogas flows/volumes figures, a spreadsheet* (*BR05-B-12 EnviroCert output.xls*) supplied by the project participant and assessed by DNV contained among other information also the (at least) monthly flow gas meter readings of each digester system and the resulting monthly biogas flows/volumes reported for each digester system. Average daily biogas volumes for each site and for a specific month are determined in accordance with a well defined procedure using the last biogas meter reading in the month prior to that month, the reading(s) in the month itself and the first reading in the month after that month. Average monthly temperatures reported for the region were used to adjust the density of methane when determining the amount of methane that is extracted by the digester.

Percentage of biogas that is methane

The percentage of biogas that is methane has not been monitored. However, the CO_2 content of the biogas was measured monthly and the CH_4 content of biogas was determined based on the measured CO_2 content, assuming that biogas consists of mainly CH_4 and CO_2 only, so that the CH_4 content is 100% minus the measured CO_2 content in volume %. While acknowledging that version 03 of AM0016 requires the measurement of the CH_4 content of biogas, in our opinion, this approach is appropriate as biogas consists of mainly CH_4 and CO_2 and only contains traces of other gases (the percentage of other gases is within the measuring uncertainty of either CH_4 of CO_2 percentage measurements).

Flare efficiency determined by the operation hours (1) and the methane content in the exhaust gas (2)

The flares at all farms have a temperature measure device that assures the effective combustion of CH_4 during the time the biogas is directed to the flare. If the temperature decreases, the electronic system closes the main valve and restarts after a few minutes with an electric spark. The flare design ensures that no gas is sent through the flare without the flare being ignited. The flares were inspected and maintained as required by the operation manual and these checks are reported in the "Record Book" of each farm according to well defined inspection and maintenance procedures. Hence, the determination of the operating hours is not necessary.

The methane content in the exhaust gas was not measured. Hence, in accordance with version 03 of AM0016 a conservative destruction efficiency factor of 99% for enclosed flares was used in the monitoring report revised as a consequence of the requests for review (while the original monitoring plan by mistake assumed a 100% destruction efficiency).

The PPD should indicate whether there is any current or future plan to measure the methane content in the exhaust gas after the flaring process, as mentioned in the validated PDD.

DNV Response:

As stated above, the methane content in the exhaust gas was not measured during the monitoring period in question.

* This spreadsheet was originally submitted with the request for issuance for view by the RIT member, the Secretariat and Board only. However, following the advice of the Secretariat, this spreadsheet was replaced with a simplified spreadsheet.

The title of the table on page 12 of the Monitoring Report shall be corrected as it should refer to "project emission reductions," and not merely—and mistakenly— to "project emissions," as currently written.

DNV Response:

The title of the table has been corrected in the monitoring report revised as a consequence of the requests for review

We sincerely hope that the Board accepts our aforementioned explanations.

Yours faithfully
for DET NORSKE VERITAS CERTIFICATION AS

Michael Lehmann
Technical Director
International Climate Change Services

Enclosures:

- Revised monitoring report dated 9 January 2008