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CDM Team

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Request for Review

Dear Sirs

Please find below the response to the request for review formulated for the CDM project with the registration number 0458. In case you have any further inquiries please let us know as we kindly assist you.

Yours sincerely,

Javier Castro
Carbon Management Service

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Response to the CDM Executive Board

Issue 1:

The project participant and the DOE are required to provide:

1. The monitoring report states that the flow rate of the manure after aerobic treatment and the five-day Biological Oxygen Demand (BOD) of the treated manure were calculated, while the monitoring plan and the approved methodology require the measurement of these parameters. In addition the temperature in the treated manure flow has not been monitored as per the monitoring plan. However the approved methodology requires the measurement of this parameter to confirm there was no leakage emissions. The verification report has not appropriately addressed these deviations.

Response by the project participants:

The monitoring plan from the PDD states in page 28 that "the flow rate after aerobic treatment is calculated with total inlet flow minus sludge volume. Total inlet flow is monitored from a flow meter installed before the activated sludge". The sludge volume is also monitored every month. In addition, the validation report states in page 7 that "the manure flow leaving the aerobic treatment stage will not be directly measured, but calculated as the difference between measured flow into the aerobic treatment stage and the flow of sludge from the aerobic treatment stage". Consequently, the project was registered considering this approach. The monitoring report states in page 5 that the flow rate after aerobic treatment is "calculated with total inlet flow minus sludge volume". Then, the monitoring report is consistent with the registered PDD and the validation report.

The monitoring of the inlet flow of the plant is an operational parameter of the AWMS. This parameter controls the hydraulic rate and load rate of the AWMS equipment. The purpose is to determine if the flow rate and the parameters load are according to design. If the flow rate differs from design, procedures are taken at the plant to adjust operation. The philosophy of control of the activated sludge plant does not consider or require the monitoring of the outlet flow. Due to it is not necessary as a control parameter for the proper operation of the AWMS, the flow rate at the outlet of the activated sludge plant was not considered as a monitored parameter in the CDM Monitoring Plan.

Nonetheless, Agrosuper continuously improving the Environmental Management System has implemented at Maitenlahue and La Manga pilot projects regarding the measurement of the flow rate at the outlet of the plant. These are the only AWMS of Agrosuper were flow meters have been installed. The objective of the installation of the flow meters at the outlet of the plant is to reuse treated manure at the barns for the flushing of the manure. Attached are the registries regarding the outlet flow monitoring for Maitenlahue and La Manga, "**Totalizer effluent Maitenlahue 2006.xls**" and "**Totalizer effluent La Manga 2006.xls**".

Agrosuper wants to emphasize that the BOD_5 of liquid effluent has been monitored as per the monitoring plan during the complete period covered in this verification process and these registries are attached in the spreadsheets "**Registries of the monitoring plan for Maitenlahue May_Dec 2005.xls**", "**Registries of the monitoring plan for Maitenlahue Jan_Oct 2006.xls**",

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"**Registries of the monitoring plan for La Manga Sep_Dec 2005.xls**" and "**Registries of the monitoring plan for La Manga Jan_Oct 2006.xls**". The final monitoring report is making reference to the BOD_5 of liquid effluent not to the BOD_5 of the sludge.

During part of the present verification period there was a contingency and the sludge from Maitenlahue was disposed anaerobically since 25/08/2006 from and La Manga since 26/08/2006. Due to this contingency the leakages related to the anaerobic management of the sludge have to be accounted. Then, a value of the BOD_5 of the sludge is needed in order to estimate this leakage. The BOD_5 of the sludge was calculated based in the measured BOD_5 of the influent and the measured BOD_5 of the liquid effluent, according to the procedure detailed in the monitoring report. Agrosuper has been monitoring periodically the influent BOD_5 and the effluent BOD_5 for operational purposes and the registries of this monitoring is attached in the spreadsheets "**BOD monitoring Maitenlahue 2006.xls**" and "**BOD monitoring La Manga 2006.xls**". In order to calculate de BOD of the sludge, a monthly average of the influent BOD measurements and the effluent BOD measurements has been considered.

It is not feasible technically to measure in the laboratory the BOD_5 of a dehydrated sludge because the analysis has a high level of uncertainty and it has to be done with large dilutions in order to have a right lecture in the spectrophotometer, generating an important error in the measurement. Furthermore, in Chile there is not any standard and no laboratory has accreditation to measure the BOD_5 of a dehydrated sludge. For this reason, in order to get a valid and reliable estimation to calculate the leakages related to anaerobic management of the sludge, it was proposed to the DOE to calculate the BOD_5 by means of a mass balance, using the procedure detailed in the page 10 of the final monitoring report. Thus, Agrosuper has monitored BOD_5 at the inlet and outlet of the plant, and with both monitored data, has calculated the BOD_5 of the sludge.

The temperature has been measured for Maitenlahue and La Manga according the monitoring plan during the complete period covered in this verification process. Agrosuper presented to de DOE the registries of the temperature for both projects in the verification audit.

The registries of the BOD_5 and the temperature are attached in the spreadsheets "**Registries of the monitoring plan for Maitenlahue May_Dec 2005.xls**", "**Registries of the monitoring plan for Maitenlahue Jan_Oct 2006.xls**", "**Registries of the monitoring plan for La Manga Sep_Dec 2005.xls**" and "**Registries of the monitoring plan for La Manga Jan_Oct 2006.xls**".

Response by TÜV SÜD:

The flow at the outlet of the plant has been monitored as confirmed on-site. The BOD is measure for the liquid phases as the measurement of BOD of sludge is not accurate. Therefore it is TÜV SÜDs opinion that the procedure used by the project developer gives the best certainty to calculate the leakages related to anaerobic management of the sludge.
Additionally the measurement of the temperature has been also confirmed on-site. The data showing all this measurements is attached.

Issue 2:

The project participant and the DOE are required to provide:

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2. Please address the discrepancies of emission reductions between in the form of request for issuance of the Verification Report and in the spreadsheet of the final monitoring report.

Response by the project participants:

The final emission reductions presented in the request for issuance form, the verification report and certification report are lower than those detailed in the final monitoring report and in the submitted spreadsheet because only the figures in the request for issuance form, the verification report and certification report are rounded off for conservativeness, as required by TÜV SÜD. The rounding off was made conservatively, by rounding down the baseline emissions and rounding up the project emissions and the leakage. Therefore, the spreadsheet and the final monitoring report have been corrected including the conservative rounding off of the emission reductions. Attached is the corrected final monitoring report "**Final monitoring report Maitenlahue and La Manga.doc**" and the corrected spreadsheets "**(2) Documento calculo reduccion de emisiones Maitenlahue May_Dic 2005.xls**", "**(3) Documento calculo reduccion de emisiones Maitenlahue Ene_Oct 2006.xls**", "**(1) Documento calculo reduccion de emisiones La Manga Sep_Dic 2005.xls**" and "**(6) Documento calculo reduccion de emisiones La Manga Ene_Oct 2006.xls**".

Response by TÜV SÜD:

TÜV SÜD confirms the receipt of the spreadsheet with the conservative round off calculations of emission reductions. The request for CERs is now consistent with the Request for issuance of the Monitoring Report, the spreadsheet and the Verification Report.