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	Werner Betzenbichler	Werner.Betzenbichler@tuev-sued.de			

Response to request for review

Dear Sirs,

Please find below the response to the request for review formulated for the CDM project with the registration number 0508. In case you have any further inquiries please let us know as we kindly assist you.

Yours sincerely,

Werner Betzenbichler
TÜV SÜD Industrie Service GmbH
Certification Body Climate and Energy

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Issue1:

The DOE accepted the manual readings of the parameters when the data loggers were not functioning well both in Borg El Arab and El Hammam landfills. However, the manual readings of parameters are not in line with the approved methodology since the methodology (p6) requires continuous measurement of the quantity and quality of LFG flared. Further clarification is required on how the DOE verified the monitoring parameters in accordance with the approved methodology ACM0001 v2.

Response by the project participants:

The Executive Board requires clarification on the use of manual readings within the monitoring reports. The monitoring procedures have been elaborated based on the methodology ACM0001 vers. 2 and described in the registered PDD, 'Onyx Alexandria Landfill Gas Capture and Flaring Project, version 4'.

Page 6, the methodology mentions that "the amount of landfill gas generated " (in m3, using a continuous Flowmeter), […] are measured continuously".

All monitoring equipment used for the project activity is permanent and fixed within the installation. They are measuring continuously, the landfill gas quantity and quality. Consequently, the equipment in-place is in accordance with the methodology. All records whether registered by the datalogger or, through the emergency procedure, registered manually are coming from these instruments.

Page 8 of the methodology ACM0001 version 2, refers to the recording frequency of the parameters. The methodology let the choice between continuous records and periodic records. The project participant, in accordance with the methodology, has used the periodic recording frequency, as stated in the registered PDD in section "D.2.2.1 . Data to be collected in order to monitor emissions from the project activity and how data will be archived."

Therefore, the applied monitoring protocol fulfils the requirements stated in the ACM0001 version 2.

In addition, when the datalogger failed to register the data correctly, the 'emergency procedures' described within the PDD, on page 52 were used. It is important to note that the continuous meters remained operational during all the monitoring period, even when manual records were taken. By 'manual reading', the monitoring report means recorded manually. The recorded values were measured from the equipment measuring continuously the landfill gas quality and quantity. Consequently, even the "Emergency procedures" is in compliance with the methodology ACM0001 vers 2.

Once the problem with the data logger was detected, the project participants have taken the necessary actions to improve the recording of the parameters by designing, ordering and installing a new, more robust and integrated system consisting of new flowmeters, gas analyser fitted with an auto-calibration system and an integrated datalogger. This should allow the project participants to increase the recording frequency.

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Response by TÜV SÜD:

Obviously the wording “manual reading” as used by the monitoring report left an inappropriate perception at the side of the reviewer. The applied methodology version requires a continuously or periodically recording frequency without prescribing this frequency.

As mentioned by the issue raised, the “leading” parameter are quantity and quality of the landfill gas. Quantity was metered by a “volume counter” accumulating data from start of operation. This technical approach is usual in such environment. The installed datalogger’s purpose is to record the actual reading of this “counter” and store the values at a specific frequency. I.e. each stored value is either higher as or the equal to its precursor (equal in case there is no flow). Hence the manual recording does not lead to any loss of information required to determine the total amount of landfill gas sent to the flares.

Also for the quality of landfill gas, i.e. the methane content, the applied meth versions states: “Preferably measured by continuous gas quality analyzer”. It has been measured continuously while due to failure documentation / recording was only made periodically on paper. Nonetheless this procedure allows a proper statement of the average value taken into account the variability of this parameter.

Summing up the upper regards there has been no reason why considering any deviation from the applied methodology version and hence compliance has been confirmed.

Issue 2:
In section of 6.2. of the monitoring report (p.11) it is mentioned that the new monitoring equipments have been delivered including all flow meters by mass flow meter. Further clarification is required on how the calibration of these previously used equipments has been done.

Response by the project participants:

As noted in the validation report calibration certificates for the existing equipment were received and reviewed by the DOE. See the extract of the report below:
“The calibration and maintenance procedures are in appliance as described in the initial verification protocol but need some better organization of the related documents. The calibration of the portable gas analyzer has been demonstrated during the audit.”

and

“It has been verified on-site that all relevant meters of flow and methane fraction are supplied by qualified manufacturers with national certificate; the meters were quality control certified before delivery to landfills sites.
It has been verified by the documents that the flow meter is calibrated annually by ECON Petroleum Industrial & Technical Services, and the methane fraction meter is calibrated annually by Siemens »

Prior the installation of a self-calibrating gas analyser, the gas analysers were calibrated by competent, well-known company (Siemens) following the calibration procedure establish by the manufacturer.

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Response by TÜV SÜD:

In principle there is nothing to add as we expressed already by the verification report that all required calibrations have been proven. It should be furthermore noted that the exchange of equipment and any impact on monitoring and verification will be part of the second monitoring period and hence it will be dealt by the second verification report. The monitoring report already provided information on this exchange although there has been no such necessity.

Issue 3:

Further clarification is required on how the DOE verified the monitoring parameters in accordance with the approved methodology ACM 0001 v2.
Further clarification is also required as to how some of the monitoring equipment was calibrated.

Response by TÜV SÜD:

This issue, which repeats the upper ones in a more generic manner, is considered to be responded by the answers on the two upper issues.