Members of the CDM Excutive Board
UNFCCC Secretariat
Bonn, Germany

29 December 2008

Dear Members of the CDM Executive Board,

Request for review--Shenzhen Xiaping Landfill Gas Collection and Utilization Project (0887)

The DOE is requested to provide clarifications on:
1. How it verified that the continuous monitoring or periodical measurements, at 95% confidence level taking statistically valid number of sample, of methane content in the LFG was conducted;

Project Participant response: Although this question is addressed to the DOE, we would like provide the following clarifications:

As set out the registered PDD (v7) of Xiaping project, the methodology ACM0001 (v4) is adopted in this project. It was specified that "the fraction of methane in the landfill gas ($w_{CH4,y}$) should be measured with a continuous analyzer or, alternatively, with periodical measurements, at a 95% confidence level, using calibrated portable gas meters and taking statistically valid number of samples and…in the same frequency"(P7), which remains the same as stated in P15 of in ACM0001 version 8. Regarding the application of 95% confidence interval set out in version 8, the Meth Panel made the clarification (AM_CLA_0095) and updated it into version 9.1.

It is set out in ACM0001 version 9.1 that "If the captured gas is used to produce energy or a default value for flare efficiency is adopted as per the guidance given in the 'Tool to determine project emissions from flaring gases containing Methane', the fraction of methane in the landfill gas ($w_{CH4,y}$) can either be measured with a **continuous analyzer** or, alternatively, conducting periodical measurements with a minimum of **four quarterly** measurements per year. In case periodical measurements, the lower bound of the 95% confidence interval should be used to estimate baseline methane emissions to ensure conservativeness"(P15). If periodical measurement is adopted by this project, taking one measurement of methane concentration during this monitoring period (two months) is enough. However, we had taken 1451 measurements, one measurement per hour, which is 1451 times higher than the minimum monitoring frequency of periodical measurements required set out in ACM0001 version 9.1.

As per the monitoring manual of the Xiaping Landfill Gas Collection and Utilization Project, 1-hour monitoring frequency was adopted for all parameters measurement, excluding the measurement of the flare efficiency. During this monitoring period (two months), a total of 1451 measurements of methane concentration had been conducted. The total flow of LFG

to the generators at normal conditions is1,935,847Nm^3 and the flow to the flare is 185,342 Nm^3 (the flow only counts when the temperature of flare operation maintains no less than 500). Whereas, both the total flow to generators and flare set out in the monitoring report are recorded at non-standard conditions.

Applying ACM0001 (v4), the $MD_{project}$ is calculated as follows:

Step 1 Determine the methane concentration
Mean: 56.40%,
Confidence Level: 95%,
Difference: ±0.19%,
i.e. the confidence interval is 56.21%~56.59%.

To be conservative, the lower bound 56.21% is adopted;

Step 2 Calculating $MD_{project}$:

$$MD_{project} = LFG_{generator} \times w_{CH4,y} \times D_{CH4} + LFG_{flare} \times w_{CH4,y} \times D_{CH4} \times FE$$
$$= 1935847 \times 56.21\% \times 0.0007168 + 185342 \times 56.21\% \times 0.0007168 \times 0.99998$$
$$= 854.62tCH4$$

In accordance with the monitoring manual of Xiaping project, the MD_h (MD in hour *h)* is calculated by multiplying the difference of the cumulative flow between hour "*h*" and the previous hour with the average methane concentration of the hour "*h*" and the previous hour; adding all MD_h giving the total MD during the monitoring period. The $MD_{project}$ during this monitoring period is calculated by this methodology as 854.37tCH4 in the monitoring report, smaller than the above one.

Compared the results calculated by the above two methods, it is considered that the methodology adopted by Xiaping project is more conservative.

2. How it verified that the flare efficiency was calculated on yearly basis, since the verification report only refers to the joint inspection report conducted in August 2006.

Project Participant response: In accordance with the registered PDD (v7) of Xiaping project, the methodology ACM0001 (v4) was adopted, in which it is specified that "the participant shall measure and quantify the efficiency of the flare on a yearly basis...". The efficiency of the flare operated during this monitoring period was measured and quantified by a accredited third party, *Centre Testing International (Shen Zhen) Limited*, which was granted with the certificate by the CHINA NATIONAL ACCREDITATION SERVICE FOR CONFORMITY ASSESSMENT on 30 June 2006 with validity duration of more than three years; the Test Report was issued in June 2007, which remains valid during the verification period. The joint inspection report referred in the second question is the

completeness acceptance report on the construction and installation of the flare rather than the flare efficiency test report.

We hope the clarification provided above sufficiently addresses the requests and this document shows that our project has both followed the methodology set out in the registered PDD and considered the clarification.

Yours sincerely,

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