EcoSecurities International

ECO SECURITIES

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22 March 2009

Dear Members of the CDM Executive Board,

Response to Request for Review – Jinxiang – Golden Elephant Line 1 N2O Abatement Project (1455)

Please find below our responses to the issues raised in the requests for review for this project. The reasons for the requests are shown in shaded boxes, followed by our response.

1. The methodological requirement on EN14181 has been followed with respect to QAL1 as the certificate was issued by the equipment supplier rather than an accredited testing entity.

Response:

There is no requirement in AM0034, EN 14181 or any associated ISO or European standard that QAL1 certification is required by a third party or accredited testing entity.

Requirements per AM0034 version 2

The main body of AM0034 version 2 refers twice to EN14181 without detail. It provides details in the closing chapter "Data sources":

> *The European Norm EN 14181 stipulates three levels of quality assurance tests and one annual functional test for Automated Measuring Systems which are **recommended** to be used as guidance regarding the selection, installation and operation of the Automated Measuring Systems under this Monitoring Methodology*
>
> *1. Application of tested Automated Measuring System (evaluation according to DIN EN ISO 14956). Calculation of Automated Measuring System uncertainty before installation according to EN ISO 14956.*
>
> AM0034, version 2

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The ADC QAL1 calculation that was seen as part of the DNV verification is in accordance with EN ISO 14956. As detailed below, EN 14181 and ISO 14956 do not require QAL1 to be carried out by a third party.

Requirements for QAL1 as per EN14181

EN14181 states:

> *This standard is designed to be used after the AMS has been accepted according to the procedures specified in EN ISO 14956 (QAL1)*
>
> EN 14181:2004/Section 1: Scope

EN ISO 14956 is called *Air quality - Evaluation of the suitability of a measurement procedure by comparison with a required measurement uncertainty.* QAL1 is not included in the scope of EN14181 (please refer to EN14181 chapter 1: scope). The only reference to QAL1 in EN 14181 is:

> *An AMS to be used at installations covered by EU Directives, e.g. [directive 1] and [directive 2], shall have been proven suitable for its measuring task (parameter and composition of the flue gas) by use of the QAL1 procedure, as specified by EN ISO 14956. Using this standard, it shall be proven that the total uncertainty of the results obtained from the AMS meets the specification for uncertainty stated in the applicable regulations.*
>
> EN 14181:2004/Section 5: Principle/Section 5.1: General

The EU Directives referenced are Directive 2001/76/EC [incineration of waste] and Directive 2000/80/EC [limitation of emissions of certain pollutants into the air from large combustion plants]. 2001/80/EC, Annex VIII-A6 and 2000/76/EC, Annex III, stipulate maximum values of measurement uncertainty for continuous measuring equipment.

There is no specification for uncertainty in AM0034 (or within EN 14181). There is no legislation in China that provides a specification for uncertainty of continuous emissions monitoring equipment.

Requirements as per ISO 14956

The requirements for QAL1 calculations as per ISO 14956 were subject to detailed investigations by SenterNovem, a Dutch agency from the Ministry of Economic Affairs and the Netherlands Emissions Authority. This research, done in the light of the impending introduction of NOx emissions trading in the Netherlands, has resulted in guidance and calculation sheets. The QAL1 calculation sheet was published by the Ministry of Housing, Spatial Planning and Environment [VROM] and can be found on http://www.vrom.nl/pagina.html?id=2706&sp=2&dn=w520.

This is the QAL1 sheet that was used by ADC. Compliance with ISO 14956 is thus assured.

Application of QAL1 results in AM0034

We would like to point out that the way in which the QAL1 uncertainty is applied in CDM is very different to the way it is used for compliance with the European legislation for which it directly applies. Neither EN14181, nor ISO 14956 nor AM0034 version 2 set a specification for allowable uncertainty (as seen with the EU legislation for incinerators and large combustion plants). Instead, in CDM, an uncertainty factor of the stack monitoring system [UNC] is assessed during QAL2. This factor is used to reduce the emission factor of the baseline [EFbl] see formula 2 of AM0034 version 2. The combination of lack of specification for allowable uncertainty and the use of the factor UNC in formula 2 of AM0034 version 2 effectively makes the QAL1 requirement redundant. The result of the QAL1 in CDM does not impact the emission reduction and the number of CERs.

Additional confirmation of ADC QAL1 calculations

In order to provide additional evidence, despite there being no requirement for third party certification, the project participant has provided further evidence in response to the request for review. The project participant engaged SGS Environmental Services (ISO 17025 accredited) to provide some assurance over the QAL1 certificate from ADC. SGS visited ADC Gas Analysis in the UK to witness measurements and calculations in order to provide assurance. The result, assurance from SGS Environmental Services that the ADC calculation is in accordance with EN 14181 and ISO 14956 can be seen in Annex A.

2. Further clarification is required on how: Baseline N2O emission factor was correctly calculated since the spreadsheet shows a total nitric acid production of 94,095 tonne instead of the reported 71,888 tonne during the baseline campaign.

Response:

The total HNO3 production was 94,095 t. The production amounted to 71,888 t at the moment that CLbl > CLnormal.

The requirement of AM0034 v2 is that “N2O values that were measured beyond the length of CLnormal during the production of the quantity of nitric acid (i.e. the final tonnes produced) are to be eliminated from the calculation of EFbl”. “Final tonnes” produced was interpreted as “up to CLnormal”. AM0034 version 3 specifies (from EB38) states “Total nitric acid production during the baseline campaign ($tHNO_3$)” and “Total operating hours of the baseline campaign (h)” respectively. On the basis of this additional information, the calculation of EFbl has been revised using the total HNO_3 production during the baseline campaign. This has resulted in a minor reduction of EFbl from 7.28 to 7.21 kg $N_2O/tHNO_3$.

The revised EFbl has been included in a recalculation of the CERs. Revised workbooks have been included with this response.

3. The verification report (p.10) contains a statement on the design capacity, in which it calculates the cap based on the design capacity (daily) times 365 days a year, while the PDD (p.3) states that the design operating time is 330 days a year. Further clarification is required.

Response:

The 330 days annual operation, mentioned in the PDD, is commonly used in the chemical industry in China [and worldwide], allowing about 1 month for equipment maintenance and other events.

AM0034 ver.2 states that "By nameplate (design) implies the total yearly capacity (considering 365 days of operation per year) as per the documentation of the plant technology provider". Thus, the methodology implies an annualization of capacity assuming the plant will work at 100% capacity.

The production of HNO3 during the monitoring period was 23,891 t HNO3. This amounts to 468 t HNO3 per day. The design capacity as stated in the verification report page 10 amounts to 500 t HNO3 per day. Since 468 t HNO3/day produced in the monitoring period is lower than the 500 t HNO3/day design capacity described in the PDD, the requirement that "The maximum value of NAP shall not exceed the design capacity" of AM0034 version 2 formula 7 has been met.

Both actual production and design capacity can be converted (annualized) on a 365 day basis in order to comply with the requirement that the nameplate design is expressed on the basis of 365 days per year as follows:

1. 468 t HNO_3 per day produced * 365 days/year = 170,985 t HNO_3/year

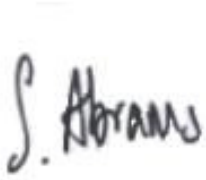
2. 500 t HNO_3 per day design capacity * 365 days/year = 182,500 t HNO_3/year.

Thus, 170,985 t HNO3/year, the annualized production of the monitored period, is lower than 182,500 HNO3/year design capacity of the plant.

This difference did not affect the calculation of emission reductions and is within the requirements of the methodology.

We trust that the comments above address the issues that have been raised. However, if there is any further information required, or revisions that should be made to the project documentation, we will be very happy to provide these.

Yours sincerely



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Annexes:

- Annex A: Letter and certificate of compliance with QAL 1 calculation from SGS Environmental Services.

Annex A

Letter and certificate of compliance with QAL 1 calculation from SGS Environmental Services.

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Attn. Mr. S. Abrams
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Date : 19th March 2009
Our ref : CWo/09/002691.1

Handled by : Charlotte Wösten
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Project : ISO 14956 testing of an ADC MGA3000 N_2O monitor

Dear Mr. Abrams

SGS has witnessed the QAL1 testing process at ADC, Unit 35, Hoddesdon Industrial Centre, Pindar Road Hoddesdon, Hertfordshire EN11 OFF England. The tests were performed by Mr. David Booth and Mr. Tony Wilkins on March 19, 2009.

We can confirm that the QAL1 certificates have been established on data that are relavant, accurate, transparant and consistent.

The calculation methodology is in line with the QAL1 certificate template that has been developed and tested by Netherlands authorities.

SGS Nederland BV hereby declares that the Quality Assurance Level 1 (QAL1) calculations performed by ADC Gas Analysis is in accordance with the requirements of EN 14181 and ISO 14956

Yours sincerely,
SGS Nederland BV

Charlotte Wösten,
Technical Manager

App: - Certificate of compliance with QAL1 calculation

All orders are executed only in accordance with the lastest version of our conditions filed at the Rotterdam District Court.
and the General Cargo Survey and Inspection Condiotions, last version, filed at the District Courts in Amsterdam and in Rotterdam.
Upon request the conditions will be sent to you.

Certificate of Compliance with QAL1 Calculation

SGS Nederland BV hereby declares that the Quality Assurance Level 1 (QAL1) calculations performed by ADC Gas Analysis is in accordance with the requirements of EN 14181 and ISO 14956. SGS has completed testing to confirm the uncertainty calculation (according to ISO 14956). The results are presented below.

Instrument:	NDIR N_2O analyser
Brand:	ADC
Model:	MGA 3000
Measurement range	0 – 3,000 ppmv
Test locations:	Tianji nitric aced line 13A, Chemical Group, Shaanxi province, China ADC, Unit 35, Hoddesdon Industrial Centre, Pindar Road Hoddesdon, Hertfordshire EN11 OFF England

The calculated uncertainty (CI95%) during the QAL1 is less than the first expected 8.9%.

The measurement system fulfils the requirements of QAL1 according to EN 14181 and EN ISO 14956.

Signed by,

Charlotte Wösten
Technical Manager

SGS Nederland BV and the business line Environmental Services included is ISO-9001:2000 certified for testing, sampling and consulting under no. RPS/CER-03.324K.R01. The quality of our lab testing services are covered by our NEN-EN- ISO/IEC 17025:2000 accreditation number L-092 (see www.RvA.nl).