

November 7, 2009

**COMMENTS -- Nitric Acid Production Project Protocol – N<sub>2</sub>O Reference Monitoring Method****BACKGROUND**

In Section 6.1.3 Accuracy Testing, the Draft protocol recommends that the U.S. EPA Test Method 320 or ASTM D6348-03 method be used for Relative Accuracy Test Audit (RATA) verification of an N<sub>2</sub>O monitoring CEMS. As the draft protocol mentions that both of these methods are based on extractive Fourier transform infrared (FTIR) spectroscopy.

**DISCUSSION**

EcoChem would like the Climate Action Reserve to recognize other alternative methods (besides FTIR) as valid reference methods for RATA verification of a N<sub>2</sub>O CEMS. Here are two specific approaches:

**ALTERNATE APPROACH 1****Non-Dispersive Infra Red (NDIR) Technology based Reference method**

Currently, NDIR technology based analyzers are the most widely used approach for continuous monitoring of N<sub>2</sub>O emissions. EcoChem and other vendors have successfully used NDIR technology at several facilities in the US and worldwide to monitor N<sub>2</sub>O emissions. Hence it is only appropriate that NDIR technology be also used for a RATA verification test method for this application. Consistent with this line of thinking, there already exist the following guidelines:

- a) *ISO / DIS 21258 -- Rev 01 -- Stationary source emissions — Determination of the mass concentration of dinitrogen monoxide (N<sub>2</sub>O) — Reference Method: Non-*

*dispersive infrared method* (Reference 1). This standard describes a protocol where NDIR analyzers can be used for N<sub>2</sub>O verification testing.

- b) *AM0034 / Version 03.3 - Approved baseline and monitoring methodology AM0034 --- “Catalytic reduction of N<sub>2</sub>O inside the ammonia burner of nitric acid plants”* (Reference 2). This UNFCCC – CDM methodology also specifies the use of NDIR technology for N<sub>2</sub>O monitoring.

## **ALTERNATE APPROACH 2**

### **Use of a Performance Specification based Reference Method as opposed to a Technology Specified approach**

US EPA has promulgated *Method 7E—Determination of Nitrogen Oxides Emissions From Stationary Sources (Instrumental Analyzer Procedure)* (Reference 3). This method does not specify a particular technology (for example, chemiluminescence, NDIR, FTIR etc.) for conducting the reference method but simply requires that whatever method be used should meet specific performance requirements. EcoChem urges the Climate Action Reserve to consider this line of thinking while considering a reference method for N<sub>2</sub>O monitoring. EcoChem recommends an analogous instrumental method to EPA Method 7E be also developed for N<sub>2</sub>O monitoring. Allowing this approach will ensure that verification organizations (primarily stack testers conducting RATA) will have flexibility in choosing the RATA method.

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## **REFERENCES**

- 1) [http://www.iso.org/iso/iso\\_catalogue/catalogue\\_tc/catalogue\\_detail.htm?csnumber=40113&commid=52702](http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=40113&commid=52702)
- 2) [cdm.unfccc.int/methodologies/view?ref=AM0034](http://cdm.unfccc.int/methodologies/view?ref=AM0034)
- 3) <http://www.epa.gov/ttn/emc/promgate.html>