MONITORING REPORT FORM (CDM-MR) *
Version 01 - in effect as of: 28/09/2010

CONTENTS

* as contained within the document entitled "Guidelines for completing the monitoring report form (CDM-MR)" (EB 54 meeting report, annex 34).

MONITORING REPORT Nº3
version 01 26/09/2011

"MONOMEROS NITROUS OXIDE ABATEMENT PROJECT"
UNFCCC Ref Nº 1428
MONITORING PERIOD # 3 (04/05/2010 to 12/05/2011)

SECTION A. General description of the project activity

A.1. Brief description of the project activity: >>

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The project activity involves the installation of a secondary catalyst to abate N_2O inside the ammonia burner once it is formed.

Nitrous oxide (N_2O) is an undesired by-product gas from the manufacture of nitric acid. Nitrous oxide is formed during the catalytic oxidation of ammonia. Over a suitable catalyst, a maximum 98% (typically 92-96%) of the ammonia fed is converted to nitric oxide (NO). The remainder participates in undesirable side reactions that lead to the production of nitrous oxide, among other compounds.
Waste N_2O from nitric acid production is typically released into the atmosphere, as it does not have any economic value or toxicity at typical emission levels. N_2O is an important greenhouse gas which has a high global warming potential (GWP) of 310.

The current project activity is taking place at the nitric acid plant owned by Monomeros Colombo Venezolanos S.A. (MCV) in Barranquilla, Atlántico State, Colombia. The MCV plant has installed a secondary catalyst below the primary one, inside the ammonia burner, which destroys the N_2O transforming it in N_2 and O_2.
In order to monitor the emission, the plant installed an Automated Monitoring System (AMS), consisting of an Infrared Gas Analyzer and a Gas Flow meter, at the stack.

Relevant dates for the project activity:

Table 1 – Relevant dates

Date	Events
15/02/2007-17/02/2008	Baseline Campaign
14/02/2008	CDM Project registration date
09/03/2008 – 24/03/2009	First Project Campaign
25/03/2009 – 03/05/2010	Second Project Campaign
04/05/2010 – 12/05/2011	Third Project Campaign

Total emission reductions achieved in this monitoring period: 98,107 tonnes of CO_2e

A.2. Project Participants

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Name of Party involved	Project participant (as applicable)	Party involved considered as project participant
Switzerland	MGM Carbon Portfolio, S.a.r.l.	No
Switzerland	Bunge Emissions Fund Limited	No
Colombia (host)	Monomeros Colombo Venezolanos S.A.	No

A.3. Location of the project activity:

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The project activity is located in the nitric acid plant owned by MCV in Barranquilla city, Atlántico State, Colombia: Latitude 11º 10' N
Longitude 74º 50' W

A.4. Technical description of the project

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The Ostwald process

Nowadays, all commercial Nitric Acid is produced by the oxidation of ammonia, and subsequent reaction of the oxidation products with water, through the Ostwald process.

The basic Ostwald process involves 3 chemical steps:
A) Catalytic oxidation of ammonia with atmospheric oxygen, to yield Nitrogen Monoxide (or Nitric Oxide).

(1) $4\ NH_3 + 5\ O_2 \rightarrow 4\ NO + 6\ H_2O$

B) Oxidation of the Nitrogen Monoxide to Nitrogen Dioxide or Dinitrogen Tetroxide

(2) $2\ NO + O_2 \rightarrow 2\ NO_2 \rightarrow N_2O_4$

C) Absorption of the Nitrogen Oxides with water to yield Nitric Acid

(3) $3\ NO_2 + H_2O \rightarrow 2\ HNO_3 + NO$

Reaction 1 is favored by lower pressure and higher temperature. Nevertheless, at too high temperature, secondary reactions take place that lower yield (affecting nitric production); then, an optimal is found between 850-950 C, affected by other process conditions and catalyst chemical composition (Figure 1)[1]. Reactions 2 and 3 are favored by higher pressure and lower temperatures.

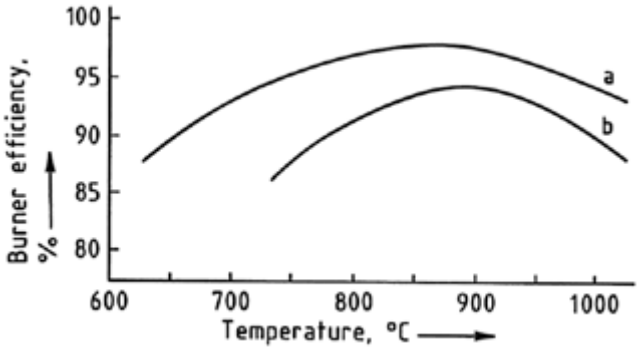

Figure 1. Conversion of Ammonia to Nitrogen Monoxide on Platinum Gauze as a function of temperature a) 100 kPa; (b) 400 kPa [1]

The way in which these three steps are implemented, characterizes the various Nitric Acid processes found throughout the industry. In mono pressure or single pressure processes ammonia combustion and nitrogen oxide absorption take place at the same working pressure. In dual pressure or split pressure plants the absorption pressure is higher than the combustion pressure.

Nitrous Oxide formation

[1] Thieman et al., "Nitric Acid, Nitrous Acid, and Nitrogen Oxides", *Ullmann's Encyclopedia of Industrial Chemistry 6th Edition*, Wiley-VCH Verlag GmbH & Co. KGaA. All rights reserved.

Nitrous oxide is formed during the catalytic oxidation of Ammonia. Over a suitable catalyst, a maximum 98% (typically 92-96%) of the fed Ammonia is converted to Nitric Oxide (NO) according to reaction (1) above. The remainder participates in undesirable side reactions that lead to Nitrous Oxide (N_2O), among other compounds.

Side reactions during oxidation of Ammonia:

(4) $4\ NH_3 + 4\ O_2 \rightarrow 2\ N_2O + 6\ H_2O$ (Nitrous Oxide formation).

(5) $4\ NH_3 + 3\ O_2 \rightarrow 2\ N_2 + 6\ H_2O$

(6) $2\ NO \rightarrow N_2 + O_2$

(7) $4\ NH_3 + 6\ NO \rightarrow 5\ N_2 + 6\ H_2O$

N_2O abatement technology classification

The potential technologies (proven and under development) to treat N_2O emissions at Nitric acid plants, have been classified as follows, based on the process location of the control device:

Primary: N_2O is prevented from forming in the oxidation gauzes.
Secondary: N_2O once formed, is eliminated anywhere between the outlet of the ammonia oxidation gauzes and the inlet of the absorption tower.
Tertiary: N_2O is removed at the tail gas, after the absorption tower and previous to the expansion turbine.
Quaternary: N_2O is removed following the expansion turbine, and before the stack.

Selected technology for the project activity

General description

The current project activity involves the installation of a new (not previously installed) catalyst below the oxidation gauzes (a "secondary catalyst") whose sole purpose is the decomposition of N_2O; the secondary approach has the following advantages:

- The catalyst does not consume electricity, steam, fuels or reducing agents (all sources of leakage) to eliminate N_2O emissions; thus, operating costs are negligible and the overall energy balance of the plant is not affected.
- Installation is relatively simple and in most cases does not require any new process unit or re-design of existing ones (in some cases, the reactor basket needs some re-design / modifications in order to accommodate the new catalyst).
- Installation is also very fast, so it is done simultaneously with a primary gauze changeover; thus, the plant has no loss in production due to incremental down time.
- Considerably lower capital cost when compared to other approaches.

The selected technology has been developed by several catalyst suppliers; f.e. W.C. Heraeus, Johnson Matthey/Yara, Umicore and BASF. All of them have developed a secondary catalyst that decomposes N_2O gases without affecting Nitric Acid production efficiency or quality. Typically the secondary catalyst has a very high efficiency: about 85% of N_2O gases are converted to N_2 and O_2.

MCV chose Heraeus as secondary catalyst supplier.

Figure 2 shows the process flow diagram of Monomeros.

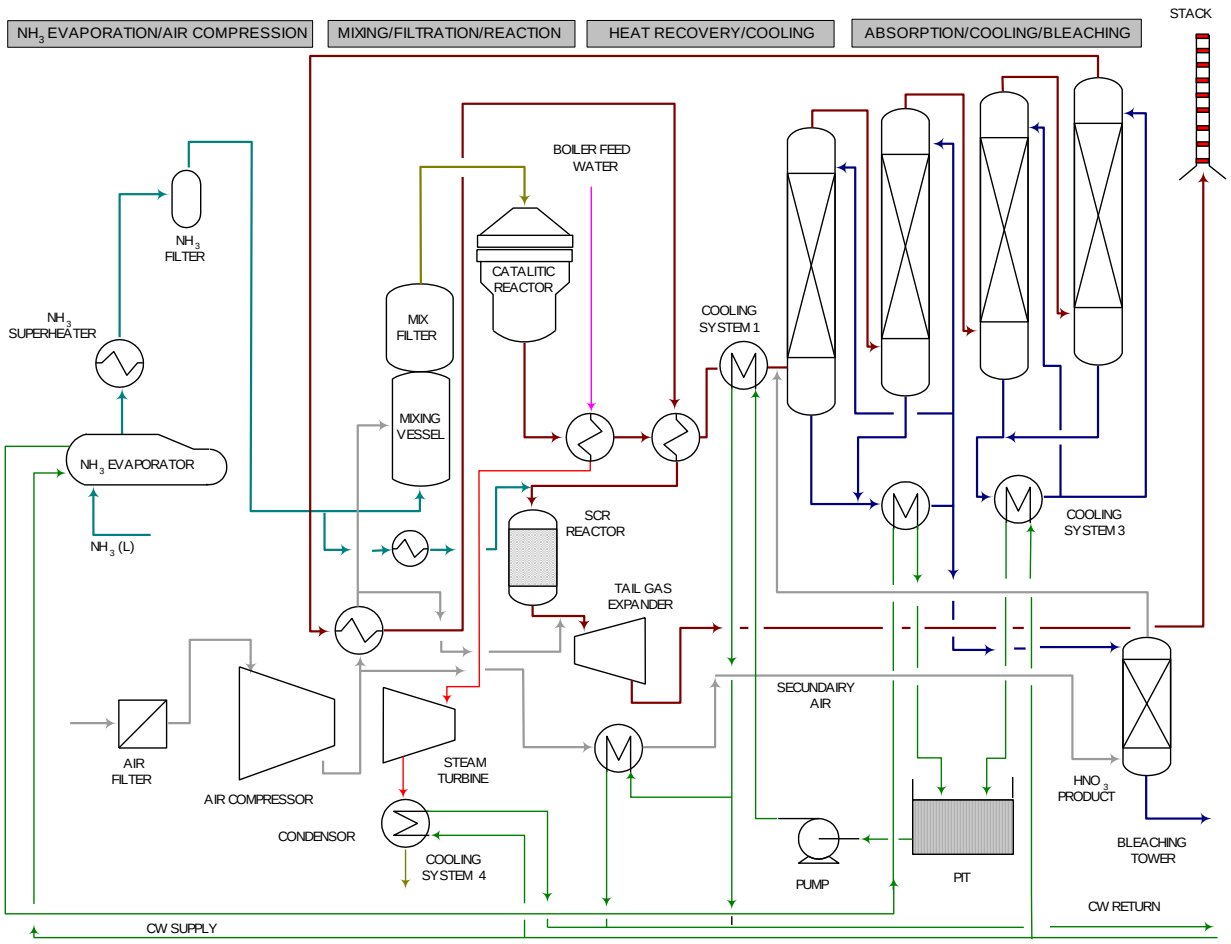

Figure 2 - Monomeros process flow diagram.

A.5. Title, reference and version of the baseline and monitoring methodology applied to the project activity:

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The selected methodology is AM0034 "Catalytic reduction of N_2O inside the ammonia burner of nitric acid plants" version 02 (EB 27).

AM0028 "Catalytic reduction of N_2O in the tail gas of Nitric Acid or Caprolactam Productions Plants" version 04.1 (EB 28) is used to select the baseline scenario.

The "Tool for the demonstration and assessment of additionality" version 03 (EB 29) was used to demonstrate additionality.

A.6. Registration date of the project activity:

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The project was registered by the UNFCCC on 14/02/2008.

A.7. Crediting period of the project activity and related information (start date and choice of crediting period):

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14/02/2008 to 13/02/2015 (renewable).

A.8. Name of responsible person(s)/entity(ies):

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Responsible for completing the monitoring report form:

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SECTION B. Implementation of the project activity

B.1. Implementation status of the project activity

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The Nitric Acid Plant has been operating since 1970 until today.

The Baseline campaign started on 15/02/2007 and ended on 17/02/2008.

The project was registered on 14/02/2008.

The First Project Campaign took place between 09/03/2008 and 24/03/2009, although the first monitoring period began on 14/02/2008. Between 13/02/2008 and 08/03/2008 the plant was shut down and no emission reductions were generated.

The Second Project Campaign took place between 25/03/2009 and 03/05/2010.

The Third Project Campaign took place between 04/05/2010 and 12/05/2011.

The Project is operating according to the monitoring plan established in the registered PDD.

Resolution 909/2008, which includes new limits for NO_X emissions, was issued by the Ministerio de Ambiente, Vivienda y Desarrollo Territorial (Environmental, Housing and Territorial Development Ministry) on 5 June 2008. The Resolution came into force on June 5, 2010, two years after its publication. [2] The new resolution came into force on June 5, 2010, 24 months after it publication.

According to the approved consolidated monitoring methodology AM0034 ver. 2, "Catalytic reduction of N_2O inside the ammonia burner of nitric acid plants", in the case of new NOX regulations the re-assessment of the baseline scenario shall be undertaken using the same 5-Step process used for baseline scenario selection, and the additionality of the project must be re-demonstrated.

The abovementioned Resolution, however, has no effect whatsoever on the project activity: NO_X emissions at the Monómeros plant have been below the limits on NO_X emissions imposed by the new regulation already since the beginning of the baseline campaign, and therefore the baseline scenario selected in the PDD, the continuation of the status quo, remains valid, as does the demonstration of additionality stated in the PDD[3].
See Annex I for further details.

The following list shows the events occurred during Third Project Campaign.

Date	Event	Reference document
03/05/2010	Plant shutdown during 69 hours. Planned maintenance and gauzes change.	Nitric Acid Plant office log book. Monthly Production Report
02/06/2010	Plant shutdown during 6 hours for failure in supply of energy to Plant.	Nitric Acid Plant office log book. Monthly Production Report
04/06/2010	Plant shutdown during 6 hours for failure in supply of energy to Plant.	Nitric Acid Plant office log book. Monthly Production Report
05/06/2010	Plant shutdown during 2 hours for failure in supply of energy to Plant.	Nitric Acid Plant office log book. Monthly Production Report
09/06/2010	Plant shutdown during 10 hours for failure in supply of energy to Plant.	Nitric Acid Plant office log book. Monthly Production Report
18/06/2010	Plant shutdown during 9 hours for failure of coolant water turbine pump.	Nitric Acid Plant office log book. Monthly Production Report
05/08/2010	Plant shutdown during 7 hours for failure in supply of energy to Plant.	Nitric Acid Plant office log book. Monthly Production Report
26/08/2010	Plant shutdown during 12 hours. NOx gas escape from condenser casing, E-1109.	Nitric Acid Plant office log book. Monthly Production Report
26/08/2010	Plant shutdown during 3 hours. Failure in supply of ammonia	Nitric Acid Plant office log book.

[2] http://www.minambiente.gov.co/

[3] On 16 March 2009, Monómeros Colombo Venezolanos S.A. received a compliance certificate from the regional authority (DAMAB - Departamento Administrativo del Medio Ambiente de Barranquilla – www.damab.gov.co/) confirming that the Monómeros Colombo Venezolanos S.A. production facilities are operated according to Decreto 02 de 1982 del Ministerio de Salud de la República de Colombia (see Annex I to this MR: Resolución 1420, 2009 (Stack Emissions License)). NOX emissions tests are archived by Monómeros Colombo Venezolanos S.A. as well as by DAMAB and will be presented to the DOE during on-site verification. Upon request, they can be made available to the CDM EB.

	liquid to plant.	Monthly Production Report
30/08/2010	Plant shutdown during 4 hours. Failure in air compressor anti-surge system.	Nitric Acid Plant office log book. Monthly Production Report
02/09/2010	Plant shutdown during 19 hours. Planned maintenance for cleaning side water surface condenser of air compressor.	Nitric Acid Plant office log book. Monthly Production Report
21/09/2010	Plant shutdown during 3 hours. Failure in supply of energy to Plant due to shut down of Gas Turbine EG-001.	Nitric Acid Plant office log book. Monthly Production Report
21/10/2010	Plant shutdown during 43 hours. Planned maintenance for review and repair of RTD of air compressor.	Nitric Acid Plant office log book. Monthly Production Report
17/11/2010	Plant shutdown during 14 hours for repair of steam escape in three way high pressure steam valve.	Nitric Acid Plant office log book. Monthly Production Report
From 18/11/2010 to 23/11/2010	The Plant shut down on eight occasions for problems in the trip mechanism of the air compressor K-1101. During this period the plant operated for short periods of two hours between stops so it was down for 89 hours.	Nitric Acid Plant office log book. Monthly Production Report
01/12/2010	Plant shutdown during 4 hours. False signal interlocking for high temperature in gauzes.	Nitric Acid Plant office log book. Monthly Production Report
From 18/12/2010 to 30/12/2010	Plant shutdown during 292 hours: Failure in natural gas supply to MCV complex and reduced Nitric Acid demand due to problems at Fertilizer plant.	Nitric Acid Plant office log book. Monthly Production Report
27/01/2011	Plant shutdown during 14 hours. Failure in supply of energy to Plant due to shut down of Gas Turbines EG-001/002.	Nitric Acid Plant office log book. Monthly Production Report
31/01/2011	Plant shutdown during 53 hours. Repair of the secondary catalyst basket and replacement of secondary catalyst.	Nitric Acid Plant office log book. Monthly Production Report
01/04/2011	Plant shutdown during 3 hours. Failure in the trip mechanism of the K-1101 air compressor.	Nitric Acid Plant office log book. Monthly Production Report
07/04/2011	Plant shutdown during 19 hours. Relocation of vents of SV-11A01/02/03/07.	Nitric Acid Plant office log book. Monthly Production Report
22/04/2011	Plant shutdown during 15 hours. Failure in supply of energy to Plant due to failure in TR-10 transformer.	Nitric Acid Plant office log book. Monthly Production Report
13/05/2011	Plant shutdown during 21 hours. Planned maintenance and gauzes	Nitric Acid Plant office log book.

	change.	Monthly Production Report

No events or situations occurred during the monitoring period, which may impact the applicability of the methodology

B.2. Revision of the monitoring plan

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The Monitoring Plan has not been revised.

B.3. Request for deviation applied to this monitoring period

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NO deviation was applied to this monitoring period.

B.4. Notification or request of approval of changes

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No changes to the project activity as described in the registered CDM-PDD have been requested.

SECTION C. Description of the monitoring system

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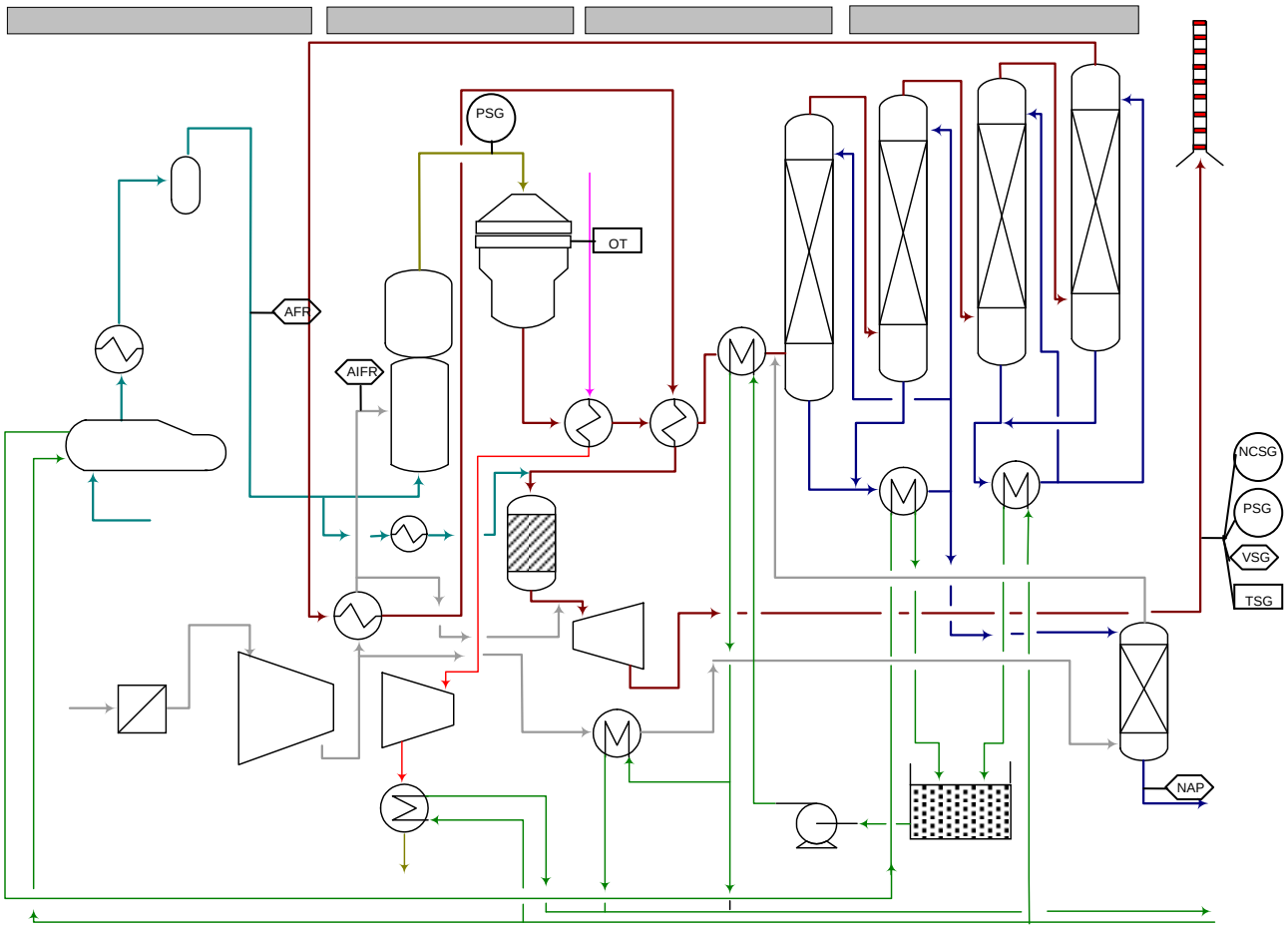


The relation between the project operational and management structure, and other actors of the proposed CDM project activity, is described as follows:

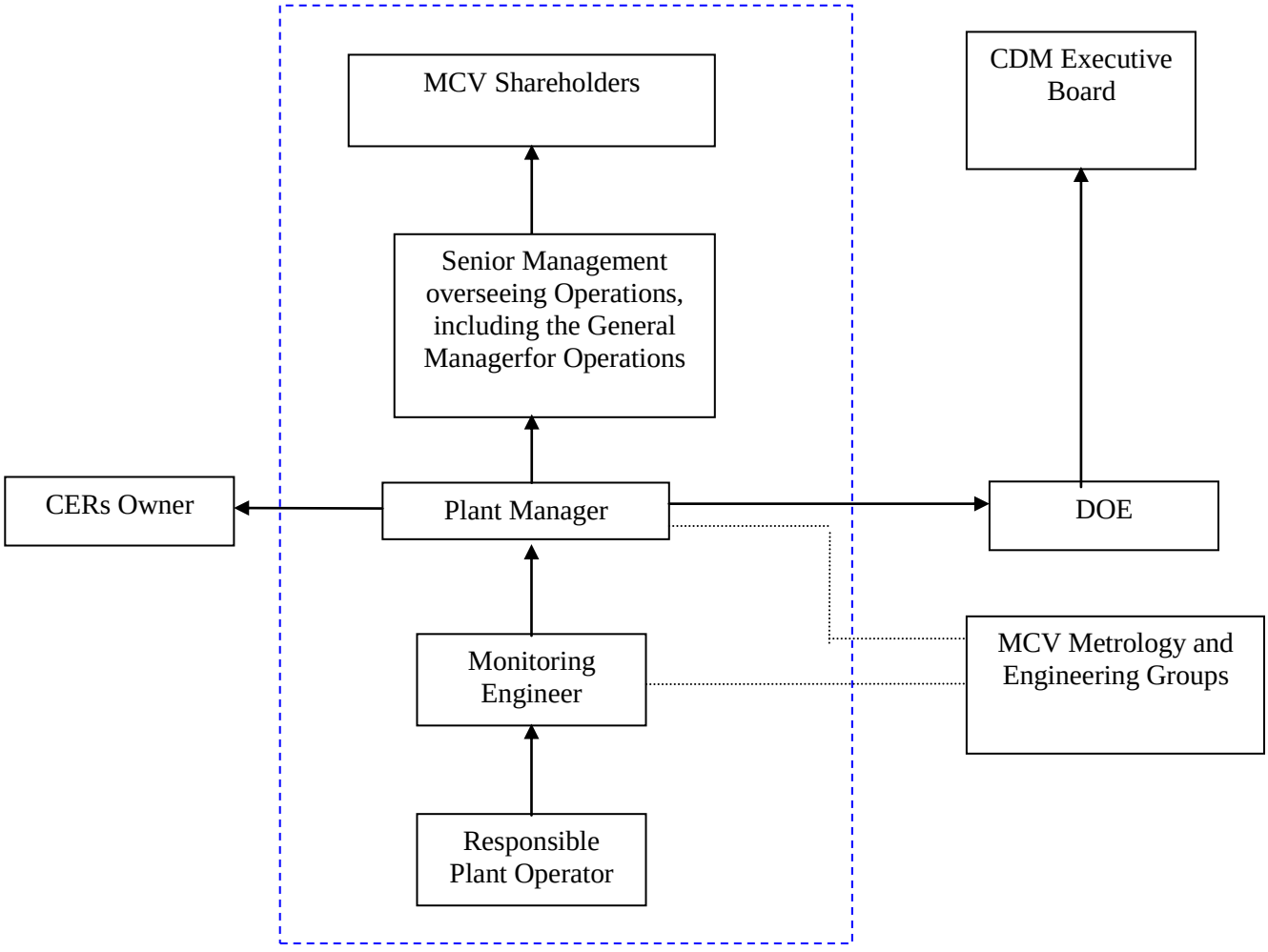
- The responsible Plant Operator is in charge of the supervision of the data acquisition system (DAS) that is implemented to record plant operation data. The Plant Operator reports the relevant data generated by the DAS to the Monitoring Engineer.

- The Monitoring Engineer is the plant staff member in charge of processing the data generated by the DAS. The Monitoring Engineer receives the relevant plant data from the responsible Plant Operator. These data are entered into a spreadsheet especially designed for the monitoring plan.

- The Plant Manager is responsible for ensuring that the CDM project activity at plant level is implemented in compliance with the registered PDD and other relevant standards. The Plant Manager routinely reports to the General Manager for Operations on overall progress of the CDM project activity. At any time that the Plant Manager wants or needs to follow the implementation of the CDM project activity, he/she asks for a report from the Monitoring Engineer. Periodically the Plant Manager sends the monitoring report to the DOE in charge of performing the verification.
- MCV Metrology and Engineering Groups are available at all times to support the Monitoring Engineer in case of personnel loss or changes. The relevant Plant Manager also has MCV Metrology and Engineering Groups available as resources for assistance when required.

- The DOE performs the verification and subsequently submits the corresponding verification report to the CDM Executive Board.

- MCV shareholders receive annually from the Plant Manager, the same report sent to the DOE.



Description of the AMS

The Monomeros plant has installed a continuous gas analyzer from the supplier ABB, model AO2000. The specific module that is used to measure N_2O is aURAS 14 non-dispersive infrared gas analyzer. The URAS 14 has been on the market for several years and has proven to be a reliable instrument; this module is certified by TÜV to comply with German 27th BlmSchV regulation for several compounds (such as CO, NO, SO_2).

For stack flow measurement, the plant selected as primary meter an Annubar principle (multiple pressure differential) unit, model 485 Annubar primary, manufactured by Rosemount Inc. (USA).

Good monitoring practice and performance characteristics

The European Norm EN 14181:2004 is recommended as guidance regarding the selection, installation and operation of the AMS under Monitoring Methodology AM0034, and stipulates three levels of Quality Assurance Levels (QAL):

QAL1: Suitability of the AMS for the specific measuring task.

The EN 14181: 2004 QAL1 report was provided by the equipment manufacturer considering the performance characteristics as measured by a qualified Technical Inspection Authority and the specific installation characteristics and site conditions at the plant. The QAL1 report confirmed that the N_2O analyzer (AO 2000- URAS 14 NDIR supplied by ABB GmbH) is suitable to perform the indicated analysis (N_2O concentration). Report is available at the site for future audits.

QAL2: Validation of the AMS following its installation.

QAL2 describes a procedure for the determination of the calibration function and its variability, by means of certain number of parallel measurements, performed with a Standard Reference Method. The testing laboratory performing the measurements with the Standard Reference Method shall have an accredited quality assurance system according to EN ISO/IEC 17025 or relevant (national) standards.

QAL2 test were performed in May 2007 and on May 2011, by SGS Environmental Services (Accredited according to EN ISO / IEC 17025). The QAL2 report is available for DOE review. The report concludes the monitoring system complies with the standard.

In order to keep records of AMS data before and after QAL2 test as generated (un-manipulated data), the corrective formulae (calibration functions) were applied during data processing (with the aid of spreadsheets), meaning calibration functions were not programmed on the Distributed Control System (DCS) of the plant (which functions as data acquisition system).

QAL3: Ongoing quality assurance during operation.

QAL3 of EN 14181: 2004 check for drift and precision, in order to demonstrate that the AMS is in control during its operations so that it continues to function within the required specification for uncertainty. This was achieved by conducting periodic zero and span checks on the AMS, and evaluating results obtained using control charts. Results of periodic calibrations were analyzed graphically with the aid of Shewart charts. All monitoring equipment has been serviced and maintained according to the manufacturer's instructions and international standards by qualified personnel. Calibration and maintenance records are well kept at Monomeros plant and available for auditing purposes.

AST: annual surveillance test (AST)

The AST is a procedure to evaluate whether the measured values obtained from the AMS still meet the required uncertainty criteria, as evaluated during the QAL2 test. As with the QAL2, it also requires a limited number of parallel measurements using an appropriate standard reference method.

AST 2010 and AST 2011 were performed by SGS Environmental Services (Accredited according to EN ISO / IEC 17025) in June 2010 and May 2011 respectively. The AST reports are availables for DOE review. The reports concludes the following: The QA/QC system complies with the requirements of EN 14181 QAL3; the analyzer passed the test on variance, suitability and linearity; the flow meter passed the test on variance and suitability; and data given by the instruments at the stack comply with the data registered in the data acquisition system.

SECTION D. Data and parameters

D.1. Data and parameters determined at registration and not monitored during the monitoring period, including default values and factors	
(Copy this table for each data and parameter. To report multiple values, a table may be used)	
Data / Parameter:	**B.11 AFR_{max}**
Data unit:	kg NH_3/hour
Description:	Maximum Ammonia Flow Rate
Source of data used:	Specified by the ammonia oxidation catalyst manufacturer
Value(s) :	3,282
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline
Additional comment:	

Data / Parameter:	**B.14 CL_{normal}**
Data unit:	tonne 100% HNO_3
Description:	The normal campaign length is defined as the average campaign length for the historic campaigns used to define operating conditions.
Source of data used:	Historical data
Value(s) :	83,165
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline and Project
Additional comment:	

Data / Parameter:	**B.15 $AIFR_{max}$**
Data unit:	kg NH_3/kg air
Description:	Maximum Ammonia to Air Flow Rate to the ammonia oxidation reactor
Source of data used:	Specified by the ammonia oxidation catalyst manufacturer.
Value(s) :	0.066
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline
Additional comment:	

Data / Parameter:	**B.17 OT_{normal}**

Data unit:	^{o}C
Description:	Normal Range for Oxidation Temperature
Source of data used:	Historical process data.
Value(s) :	832- 872
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline
Additional comment:	Temperature range

Data / Parameter:	**B.19 OP_{normal}**
Data unit:	Pa (abs)
Description:	Normal Range for Oxidation Pressure
Source of data used:	Design data.
Value(s) :	303,948- 384,890
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline
Additional comment:	Pressure range

Data / Parameter:	**B. 20 GS_{normal}**
Data unit:	N.A.
Description:	Gauze supplier during operating condition campaigns (the previous five campaigns).
Source of data used:	Historical process data
Value(s) :	Johnson Matthey PLC
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline and Project
Additional comment:	

Data / Parameter:	**B. 23 GC_{normal}**
Data unit:	**%**
Description:	Gauze composition for the operation condition campaigns (the previous five campaigns).
Source of data used:	Historical process data
Value(s) :	90.0 % Pt, 10.0 % Rh.
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline and Project
Additional comment:	

D.2. Data and parameters monitored	
Data / Parameter:	**P.1 NCSG**
Data unit:	mg N_2O/Nm^3 (converted from ppm if necessary)
Description:	N_2O concentration in the stack gas for the project campaign
Measured /Calculated /Default:	Measured/Calculated - every 2 sec. used for calculation of campaign mean (average, after exclusion of extreme values and outliers)
Source of data:	AMS (Infrared gas analyzer) at MCV's plant.
Value(s) of monitored parameter:	892,17
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Project
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Type: AO2000 continuous gas analyzer, with analysis module URAS 14 (infrared photometer) Serial Number: S/N: 4606448/1000 Calibration Frequency: Regular calibrations according to vendor specifications and recognized industry standards (EN 14181) as reference method. The EN 14181 recommends developing annual AST (Annual Surveillance Test), periodical (monthly) checking of Zero and Span (QAL3) and based on drift results adjust them. Date of previous calibration: QAL2: 05/05/2007 Date of last calibration: QAL2: 26/05/2011 Validity: QAL2: 5 years Overall measurement accuracy ± 5 ppm
Measuring/ Reading/ Recording frequency:	Every two seconds
Calculation method (if applicable):	N.A.
QA/QC procedures applied:	Procedure I-6321-001 "Instructivo Para Ajuste Y Calibración De Analizador De N_2O De Planta 11", AST and QAL2 test according to EN 14181.

Data / Parameter:	**P.2 VSG**
Data unit:	Nm^3/hour
Description:	Volume flow rate in the stack gas for the project campaign
Measured /Calculated /Default:	Measured - every 2 sec. used for calculation of campaign mean (average, after exclusion of extreme values and outliers)
Source of data:	AMS (Flow meter) at MCV's plant.
Value(s) of monitored parameter:	37,710
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Project

Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	<table><tr><td>Type:</td><td>Annubar type Flow Transmitter Rosemount 3095MFA (multiple pressure differential principle)</td></tr><tr><td>Serial Number:</td><td>S/N Tx: 0022859 - S/N Sensor: 3081256</td></tr><tr><td>Calibration Frequency:</td><td>Regular calibrations according to vendor specifications and recognized industry standards (EN 14181) as reference method. The EN 14181 recommends developing annual AST (Annual Surveillance Test), periodical (monthly) checking of Zero and Span (QAL3) and based on drift results adjust them.</td></tr><tr><td>Date of previous calibration:</td><td>QAL2: 05/05/2007</td></tr><tr><td>Date of last calibration:</td><td>QAL2: 26/05/2011</td></tr><tr><td>Validity:</td><td>QAL2: 5 years</td></tr><tr><td>Overall measurement accuracy</td><td>0.0049 inH_2O</td></tr></table>
Measuring/ Reading/ Recording frequency:	Every two seconds
Calculation method (if applicable):	N.A.
QA/QC procedures applied:	According with standard EN 14181. AST is performed on an annual basis.

Data / Parameter:	**P.3 PE_n**
Data unit:	tonne N_2O
Description:	N_2O emission of the n^{th} project campaign
Measured /Calculated /Default:	Calculated
Source of data:	Calculated from monitored data
Value(s) of monitored parameter:	278.67
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Project
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	N.A.
Measuring/ Reading/ Recording frequency:	Once, at the end of the project campaign
Calculation method (if applicable):	According to applied methodology
QA/QC procedures applied:	N.A.

Data / Parameter:	**P.4 OH**
Data unit:	Hour
Description:	Total operating hours for the project campaign
Measured /Calculated /Default:	Measured

Source of data:	Process control system at MCV's plant.
Value(s) of monitored parameter:	8,283 hours
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Project
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	N.A.
Measuring/ Reading/ Recording frequency:	Daily
Calculation method (if applicable):	The distributed control system of the plant will record effective operating time of the plant by monitoring periods when the value registered for the hourly average of the oxidation reactor temperature reaches a value of 650ºC or higher.
QA/QC procedures applied:	This Thermocouple is changed every campaign. In the reactor at the same distance of the gauzes is installed another temperature meter which can be used to compare the data of the first in case of a failure.

Data / Parameter:	**P.5 NAP**		
Data unit:	tonne 100% HNO_3		
Description:	Total nitric acid production for the project campaign		
Measured /Calculated /Default:	Measured		
Source of data:	Production logs of MCV's plant.		
Value(s) of monitored parameter:	82,650		
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Project		
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)			
		FIS-11C02	FIT-12N09
	Type:	Mass Flow Transmitter (Coriolis) Micro Motion CMF200	Mass Flow Transmitter (Coriolis) Micro Motion CMF050
	Serial Number:	S/N Tx: 390682 - S/N Sensor: 2203854	S/N Tx: 3043896 - S/N Sensor: 486759
	Calibration Frequency:	Calibrated every campaign according to metrology procedures.	Calibrated every campaign according to metrology procedures.
	Date of previous calibration:	05/05/2010	27/01/2010
	Date of last calibration:	13/05/2011	08/07/2011
	Validity:	Every campaign	Every campaign
	Overall measurement accuracy	0.1 %	0.1 %
Measuring/ Reading/ Recording frequency:	Daily		

Calculation method (if applicable):	Daily production is measured directly by a mass flow meter (Coriolis principle) that records the combined Nitric acid produced by both the Nitric Acid Plant and the Caprolactam Plant; the device also measures density and temperature, so concentration correction is done automatically with the help if the DCS. The specific Caprolactam Plant production is measured by a second device of the Coriolis type. The DCS calculates the daily production of the nitric acid plant as the difference between the first (Coriolis) and second (Coriolis) device measurements.
QA/QC procedures applied:	Procedures PR02A-P005 "Procedimiento para el Cálculo de la Producción de la Planta de Ácido Nítrico" and I-6321-053 "Instructivo para el Mantenimiento, Ajuste y Calibración de Transmisores de Flujo Másico Micromotion".

Data / Parameter:	**P.6 TSG**	
Data unit:	**ºC**	
Description:	Temperature of the stack gas during the project campaign	
Measured /Calculated /Default:	Measured	
Source of data:	AMS (Flow meter)	
Value(s) of monitored parameter:	121.04ºC	
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Project	
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Type:	Multivariable Transmitter Rosemount Annubar type flow 3095MFA
	Serial Number:	S/N Tx: 0022859 - S/N Sensor: 3081256
	Calibration Frequency:	Regular calibrations according to vendor specifications and recognized industry standards (EN 14181) as reference method. The EN 14181 recommends developing annual AST (Annual Surveillance Test), periodical (monthly) checking of Zero and Span (QAL3) and based on drift results adjust them.
	Date of previous calibration:	QAL2: 05/05/2007
	Date of last calibration:	QAL2: 26/05/2011
	Validity:	QAL2: 5 years
	Overall measurement accuracy	± 0.013 °C
Measuring/ Reading/ Recording frequency:	Every two seconds	
Calculation method (if applicable):	N.A.	
QA/QC procedures applied:	AST and QAL2 test according to EN 14181.	

Data / Parameter:	**P.7 PSG**
Data unit:	kgf/cm^2
Description:	Pressure of the stack gas during the project campaign

Measured /Calculated /Default:	Measured
Source of data:	AMS (Flow meter).
Value(s) of monitored parameter:	1.03
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Project
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	

Type:	Multivariable Transmitter Rosemount Annubar type flow 3095MFA
Serial Number:	S/N Tx: 0022859 - S/N Sensor: 3081256
Calibration Frequency:	Regular calibrations according to vendor specifications and recognized industry standards (EN 14181) as reference method. The EN 14181 recommends developing annual AST (Annual Surveillance Test), periodical (monthly) checking of Zero and Span (QAL3) and based on drift results adjust them.
Date of previous calibration:	QAL2: 05/05/2007
Date of last calibration:	QAL2: 26/05/2011
Validity:	QAL2: 5 years
Overall measurement accuracy	± 0.0015 kg/cm^2

Measuring/ Reading/ Recording frequency:	Every two seconds
Calculation method (if applicable):	N.A.
QA/QC procedures applied:	AST and QAL2 test according to EN 14181.

Data / Parameter:	**P.8 EF_n**
Data unit:	tonne N_2O / tonne 100% HNO_3
Description:	Project emission factor calculated from monitored data for the project campaign
Measured /Calculated /Default:	Calculated
Source of data:	Calculated from monitored data
Value(s) of monitored parameter:	0.00337
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Project
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	N.A.
Measuring/ Reading/ Recording frequency:	Once for each campaign

Calculation method (if applicable):	According to applied methodology
QA/QC procedures applied:	N.A.

Data / Parameter:	**P.9 $EF_{ma,n}$**
Data unit:	tonne N_2O/tonne 100% HNO_3
Description:	Moving average emission factor
Measured /Calculated /Default:	Calculated
Source of data:	Calculated from monitoring data
Value(s) of monitored parameter:	0.00259
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Project
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	N.A.
Measuring/ Reading/ Recording frequency:	Calculated at the end of a campaign 'n'
Calculation method (if applicable):	According to applied methodology
QA/QC procedures applied:	N.A.

Data / Parameter:	**P.12 CL_n**
Data unit:	tonne 100% HNO_3
Description:	The project campaign length for the *nth* campaign (CL_n) is defined as the nitric acid produced during the *nth* campaign (see project nitric acid production).
Measured /Calculated /Default:	Calculated
Source of data:	Production logs of MCV's plant.
Value(s) of monitored parameter:	82,650 ton 100% HNO3
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Project

Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	

	FIS-11C02	FIT-12N09
Type:	Mass Flow Transmitter (Coriolis) Micro Motion CMF200	Mass Flow Transmitter (Coriolis) Micro Motion CMF050
Serial Number:	S/N Tx: 390682 - S/N Sensor: 2203854	S/N Tx: 3043896 - S/N Sensor: 486759
Calibration Frequency:	Is calibrated every campaign according to metrology procedures.	Is calibrated every campaign according to metrology procedures.
Date of previous calibration:	05/05/2010	27/01/2010
Date of last calibration:	13/05/2011	11/07/2011
Validity:	Every campaign	Every campaign
Overall measurement accuracy	0.1 %	0.1 %

Measuring/ Reading/ Recording frequency:	Calculated once at the end of the project campaign
Calculation method (if applicable):	Daily production is measured directly by a mass flow meter (Coriolis principle) that records the combined Nitric acid produced by both the Nitric Acid Plant and the Caprolactam Plant; the device also measures density and temperature, so concentration correction is done automatically with the help if the DCS. The specific Caprolactam Plant production is measured by a second device of the Coriolis type. The DCS calculates the daily production of the nitric acid plant as the difference between the first (Coriolis) and second (Coriolis) device measurements.
QA/QC procedures applied:	Procedures PR02A-P005 "Procedimiento para el Cálculo de la Producción de la Planta de Ácido Nítrico" and I-6321-053 "Instructivo para el Mantenimiento, Ajuste y Calibración de Transmisores de Flujo Másico Micromotion".

Data / Parameter:	**P.13 EF_p**
Data unit:	tonne N_2O/tonne 100% HNO_3
Description:	Emission factor that will be applied to calculate the emission reductions from this specific campaign
Measured /Calculated /Default:	Calculated
Source of data:	Calculated from monitoring data
Value(s) of monitored parameter:	0.00337
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Project
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	N.A.
Measuring/ Reading/ Recording frequency:	Calculated at the end of the n^{th} campaign
Calculation method (if applicable):	According to applied methodology
QA/QC procedures applied:	N.A.

Data / Parameter:	**P.14 EF_{min}**
Data unit:	tonne N_2O/tonne 100% HNO_3
Description:	The lowest among the emission factors of the 10 first campaigns
Measured /Calculated /Default:	Calculated
Source of data:	Calculated from monitoring data
Value(s) of monitored parameter:	N.A.
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Project
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	N.A.
Measuring/ Reading/ Recording frequency:	After first ten campaigns of the project crediting period
Calculation method (if applicable):	According to applied methodology
QA/QC procedures applied:	

Data / Parameter:	**B.1 $NCSG_{BC}$**	
Data unit:	mg N_2O/Nm^3 (converted from ppm if necessary)	
Description:	Mean concentration of N_2O in the stack gas for the baseline campaign	
Measured /Calculated /Default:	Measured	
Source of data:	AMS (Infrared gas analyzer) at MCV's plant.	
Value(s) of monitored parameter:	2,225 mg N_2O/ Nm^3	
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline	
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Type:	AO2000 continuous gas analyzer, with analysis module URAS 14 (infrared photometer)
	Serial Number:	S/N: 4606448/1000
	Calibration Frequency:	Regular calibrations according to vendor specifications and recognized industry standards (EN 14181) as reference method. The EN 14181 recommends developing annual AST (Annual Surveillance Test), periodical (monthly) checking of Zero and Span (QAL3) and based on drift results adjust them.
	Date of previous calibration:	QAL2: 05/05/2007
	Date of last calibration:	QAL2: 26/05/2011
	Validity:	QAL2: 5 years
	Overall measurement accuracy	± 5 ppm

Measuring/ Reading/ Recording frequency:	Every two seconds
Calculation method (if applicable):	N/A
QA/QC procedures applied:	Procedure I-6321-001 "Instructivo Para Ajuste Y Calibración De Analizador De N_2O De Planta 11", AST and QAL2 test according to EN 14181.

Data / Parameter:	**B.2 VSG_{BC}**	
Data unit:	Nm^3/hour	
Description:	Mean gas volume flow rate in the stack gas during the baseline campaign	
Measured /Calculated /Default:	Measured	
Source of data:	AMS (Flow meter) at MCV's plant.	
Value(s) of monitored parameter:	33,439	
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline	
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Type:	Annubar type Flow Transmitter Rosemount 3095MFA (multiple pressure differential principle)
	Serial Number:	S/N Tx: 0022859 - S/N Sensor: 3081256
	Calibration Frequency:	Regular calibrations according to vendor specifications and recognized industry standards (EN 14181) as reference method. The EN 14181 recommends developing annual AST (Annual Surveillance Test), periodical (monthly) checking of Zero and Span (QAL3) and based on drift results adjust them.
	Date of previous calibration:	QAL2: 05/05/2007
	Date of last calibration:	QAL2: 26/05/2011
	Validity:	QAL2: 5 years
	Overall measurement accuracy	0.0049 inH_2O
Measuring/ Reading/ Recording frequency:	Every two seconds	
Calculation method (if applicable):	N/A	
QA/QC procedures applied:	According with standard EN 14181. AST is performed on an annual basis.	

Data / Parameter:	**B.3 BE_{BC}**
Data unit:	tonne N_2O
Description:	Total N_2O emission during the baseline campaign
Measured /Calculated /Default:	Calculated
Source of data:	Monitored data
Value(s) of monitored	630.02

parameter:	
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	N.A
Measuring/ Reading/ Recording frequency:	Calculated at least once at the end after the baseline campaign
Calculation method (if applicable):	According to applied methodology
QA/QC procedures applied:	N.A.

Data / Parameter:	**B.4 OH_{BC}**
Data unit:	Hour
Description:	Total operating hours for the baseline campaign
Measured /Calculated /Default:	Measured
Source of data:	Process control system at MCV's plant
Value(s) of monitored parameter:	8,466
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	N.A.
Measuring/ Reading/ Recording frequency:	Daily
Calculation method (if applicable):	The distributed control system of the plant will record effective operating time of the plant by monitoring periods when the value registered for the hourly average of the oxidation reactor temperature reaches a value of 650ºC or higher.
QA/QC procedures applied:	The Thermocouple is changed every campaign. In the reactor at the same distance of the gauzes is installed another temperature meter which can be used to compare the data of the first in case of a failure.

Data / Parameter:	**B.5 NAP_{BC}**
Data unit:	tonne 100% HNO_3
Description:	Total nitric acid production for the baseline campaign
Measured /Calculated /Default:	Measured
Source of data:	Production logs of MCV's plant.
Value(s) of monitored parameter:	84,823
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline

<table>
<tr><td>Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)</td><td>
<table>
<tr><td></td><td>FIS-11C02</td><td>FIT-12N09</td></tr>
<tr><td>Type:</td><td>Mass Flow Transmitter (Coriolis) Micro Motion CMF200</td><td>Mass Flow Transmitter (Coriolis) Micro Motion CMF050</td></tr>
<tr><td>Serial Number:</td><td>S/N Tx: 390682 - S/N Sensor: 2203854</td><td>S/N Tx: 3043896 - S/N Sensor: 486759</td></tr>
<tr><td>Calibration Frequency:</td><td>Calibrated every campaign according to metrology procedures.</td><td>Calibrated every campaign according to metrology procedures.</td></tr>
<tr><td>Date of previous calibration:</td><td>05/05/2010</td><td>27/01/2010</td></tr>
<tr><td>Date of last calibration:</td><td>13/05/2011</td><td>11/07/2011</td></tr>
<tr><td>Validity:</td><td>Every campaign</td><td>Every campaign</td></tr>
<tr><td>Overall measurement accuracy</td><td>0.1 %</td><td>0.1 %</td></tr>
</table>
</td></tr>
<tr><td>Measuring/ Reading/ Recording frequency:</td><td>Daily</td></tr>
<tr><td>Calculation method (if applicable):</td><td>Daily production is measured directly by a mass flow meter (Coriolis principle) that records the combined Nitric acid produced by both the Nitric Acid Plant and the Caprolactam Plant; the device also measures density and temperature, so concentration correction is done automatically with the help if the DCS. The specific Caprolactam Plant production is measured by a second device of the Coriolis type. The DCS calculates the daily production of the nitric acid plant as the difference between the first (Coriolis) and second (Coriolis) device measurements.</td></tr>
<tr><td>QA/QC procedures applied:</td><td>Procedures PR02A-P005 “Procedimiento para el Cálculo de la Producción de la Planta de Ácido Nítrico” and I-6321-053 “Instructivo para el Mantenimiento, Ajuste y Calibración de Transmisores de Flujo Másico Micromotion”.</td></tr>
</table>

Data / Parameter:	**B.6 TSG_{BC}**
Data unit:	**ºC**
Description:	Temperature of the stack gas during the baseline campaign
Measured /Calculated /Default:	Measured
Source of data:	AMS (Flow meter).
Value(s) of monitored parameter:	114.7
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline

Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Type:	Multivariable Transmitter Rosemount Annubar type flow 3095MFA
	Serial Number:	S/N Tx: 0022859 - S/N Sensor: 3081256
	Calibration Frequency:	Regular calibrations according to vendor specifications and recognized industry standards (EN 14181) as reference method. The EN 14181 recommends developing annual AST (Annual Surveillance Test), periodical (monthly) checking of Zero and Span (QAL3) and based on drift results adjust them.
	Date of previous calibration:	QAL2: 05/05/2007
	Date of last calibration:	QAL2: 26/05/2011
	Validity:	QAL2: 5 years
	Overall measurement accuracy	± 0.013 °C
Measuring/ Reading/ Recording frequency:	Every two seconds	
Calculation method (if applicable):	N/A	
QA/QC procedures applied:	AST and QAL2 test according to EN 14181.	

Data / Parameter:	**B.7 PSG_{BC}**	
Data unit:	kgf/cm^2	
Description:	Pressure of the stack gas during the baseline campaign	
Measured /Calculated /Default:	Measured	
Source of data:	AMS (Flow meter).	
Value(s) of monitored parameter:	1.05	
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline	
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Type:	Multivariable Transmitter Rosemount Annubar type flow 3095MFA
	Serial Number:	S/N Tx: 0022859 - S/N Sensor: 3081256
	Calibration Frequency:	Regular calibrations according to vendor specifications and recognized industry standards (EN 14181) as reference method. The EN 14181 recommends developing annual AST (Annual Surveillance Test), periodical (monthly) checking of Zero and Span (QAL3) and based on drift results adjust them.
	Date of previous calibration:	QAL2: 05/05/2007

	Date of last calibration:	QAL2: 26/05/2011
	Validity:	QAL2: 5 years
	Overal measurement accuracy	± 0.0015 kg/cm^2
Measuring/ Reading/ Recording frequency:	Every two seconds	
Calculation method (if applicable):	N/A	
QA/QC procedures applied:	AST and QAL2 test according to EN 14181.	

Data / Parameter:	**B.8 EF_{BL}**
Data unit:	tonne N_2O/tonne 100% HNO_3
Description:	Baseline N_2O Emission Factor
Measured /Calculated /Default:	Calculated
Source of data:	Calculated from monitored data
Value(s) of monitored parameter:	0.00720 tonne N_2O / tonne 100% HNO_3.
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	N.A.
Measuring/ Reading/ Recording frequency:	Calculated once at the end of the baseline campaign
Calculation method (if applicable):	According to applied methodology
QA/QC procedures applied:	N.A.

Data / Parameter:	**B.9 UNC**
Data unit:	**%**
Description:	**Overall Uncertainty of the Monitoring System.**
Measured /Calculated /Default:	Calculated
Source of data:	Calculated in the QAL2 test
Value(s) of monitored parameter:	2.94 %
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	N.A.
Measuring/ Reading/ Recording frequency:	N.A.
Calculation method (if applicable):	Data obtained from QAL2 test carried out by SGS Environmental Services.
QA/QC procedures applied:	N.A.

Data / Parameter:	**B.10 AFR**
Data unit:	kg NH_3/hour
Description:	Ammonia Gas Flow Rate to Ammonia Oxidation Reactor for the baseline campaign
Measured /Calculated /Default:	Measured
Source of data:	Distributed Control System of MCV's plant.
Value(s) of monitored parameter:	2,807 kg NH_3/hour
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	

Type:	Flow Transmitter D/P cell Rosemount 1151DP5S22M1B1
Serial Number:	S/N : 1450154
Calibration Frequency:	Regular calibrations according to vendor specifications and recognized industry standards (EN 14181) as reference method. The EN 14181 recommends developing annual AST (Annual Surveillance Test), periodical (monthly) checking of Zero and Span (QAL3) and based on drift results adjust them.
Date of previous calibration:	QAL2: 05/05/2007
Date of last calibration:	QAL2: 26/05/2011
Validity:	QAL2: 5 years
Overall measurement accuracy	0.075 %

Measuring/ Reading/ Recording frequency:	Continuous
Calculation method (if applicable):	N.A.
QA/QC procedures applied:	Critical instruments are calibrated on a routinely basis every campaign. Additionally the cell that measures the ammonia flow is already calibrated and the ammonia to Air ratio is calculated and recorder with the AMS data

Data / Parameter:	**B. 12 AIFR**
Data unit:	kg NH_3/kg air
Description:	Ammonia to air flow ratio to the ammonia oxidation reactor for the baseline campaign
Measured /Calculated /Default:	Measured
Source of data:	Distributed Control System of MCV's plant.
Value(s) of monitored parameter:	0.0607 kg NH_3/kg air
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline

Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	<table><tr><td>Type:</td><td>Flow Transmitter D/P cell Rosemount 3051CD1A22A1JB4E5L4M6T1</td></tr><tr><td>Serial Number:</td><td>S/N : O536957</td></tr><tr><td>Calibration Frequency:</td><td>Calibrated every campaign according to metrology procedures.</td></tr><tr><td>Date of previous calibration:</td><td>04/05/2010</td></tr><tr><td>Date of last calibration:</td><td>21/07/2011</td></tr><tr><td>Validity:</td><td>Every campaign</td></tr><tr><td>Overall measurement accuracy</td><td>0.065 %</td></tr></table>
Measuring/ Reading/ Recording frequency:	Every hour
Calculation method (if applicable):	NA
QA/QC procedures applied:	Critical instruments are calibrated on a routinely basis every campaign. Additionally the cell that measures the ammonia flow is already calibrated and the ammonia to Air ratio is calculated and recorder with the AMS data

Data / Parameter:	**B.13 CL_{BL}**
Data unit:	tonne 100% HNO_3
Description:	Campaign length is defined as the total number of tonnes of nitric acid at 100% concentration produced with one set of gauzes.
Measured /Calculated /Default:	Calculated
Source of data:	Distributed Control System of MCV's plant.
Value(s) of monitored parameter:	84,823 tonnes 100% HNO_3
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	N.A.
Measuring/ Reading/ Recording frequency:	Calculated after the end of each campaign.
Calculation method (if applicable):	Daily production is measured directly by a mass flow meter (Coriolis principle) that records the combined Nitric acid produced by both the Nitric Acid Plant and the Caprolactam Plant; the device also measures density and temperature, so concentration correction is done automatically with the help if the DCS. The specific Caprolactam Plant production is measured by a second device of the Coriolis type. The DCS calculates the daily production of the nitric acid plant as the difference between the first (Coriolis) and second (Coriolis) device measurements.
QA/QC procedures applied:	Procedures PR02A-P005 "Procedimiento para el Cálculo de la Producción de la Planta de Ácido Nítrico" and I-6321-053 "Instructivo para el Mantenimiento, Ajuste y Calibración de Transmisores de Flujo Másico Micromotion".

Data / Parameter:	**B.16 OT_h**
Data unit:	ºC
Description:	Oxidation temperature of the ammonia reactor for each hour
Measured /Calculated /Default:	Measured
Source of data:	Distributed Control System of MCV's plant.
Value(s) of monitored parameter:	849.5 ºC
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Type: Leeds and Northrop model thermocouple type k chromel alumel cat. no. 8784 k-1-5-36-1-3-1) sheat h 5/16 lenght 36" junction type cast iron with mounting bushing for temperature 2100 GF Serial Number: S/N : O501882 Calibration Frequency: This Thermocouple is replaced every campaign. Date of previous calibration: 04/05/2010 Date of last calibration: 13/05/2011 Validity: Every campaign Overall measurement accuracy 0.002 %
Measuring/ Reading/ Recording frequency:	Every hour
Calculation method (if applicable):	Reactor temperature is measured by a thermocouple installed through the reactor wall, near the oxidation catalyst; the signal from such device is acquired by the Distributed Control System (DCS) and stored electronically at a given time interval. The operating range is correlated with oxidation temperature (650-900 ° C). This range is set taking into account the minimum operating temperature at low load and temperature shut down of the gauzes.
QA/QC procedures applied:	This Thermocouple is replaced every campaign. In the event of a failure during the campaign the plant is shut down and the thermocouple is replaced for a new one.

Data / Parameter:	**B.18 OP_h**
Data unit:	Pa abs
Description:	Oxidation pressure of the ammonia reactor for each hour
Measured /Calculated /Default:	Measured
Source of data:	Distributed Control System of MCV's plant.
Value(s) of monitored parameter:	324,311 Pa
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline

Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	<table><tr><td>Type:</td><td>Presión Transmitter Rosemount 3051S2 G4A2A11A1JE5M5T1</td></tr><tr><td>Serial Number:</td><td>S/N : O144887</td></tr><tr><td>Calibration Frequency:</td><td>Calibrated every campaign according to metrology procedures.</td></tr><tr><td>Date of previous calibration:</td><td>04/05/2010</td></tr><tr><td>Date of last calibration:</td><td>22/07/2011</td></tr><tr><td>Validity:</td><td>Every campaign</td></tr><tr><td>Overall measurement accuracy</td><td>0.025 %</td></tr></table>
Measuring/ Reading/ Recording frequency:	Every hour
Calculation method (if applicable):	Not applicable. We do not use this parameter to estimate expected emission reduction.
QA/QC procedures applied:	Critical instruments are calibrated on a routinely basis every campaign.

Data / Parameter:	**B.21 GS_{BL}**
Data unit:	N.A.
Description:	Gauze supplier for the baseline campaign
Measured /Calculated /Default:	N.A.
Source of data:	Procurement office of MCV's plant.
Value(s) of monitored parameter:	W.C. Heraeus
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	N.A.
Measuring/ Reading/ Recording frequency:	Once for each campaign
Calculation method (if applicable):	N.A.
QA/QC procedures applied:	N.A.

Data / Parameter:	**B.22 $GS_{project}$**
Data unit:	N.A.
Description:	Gauze supplier for project campaigns
Measured /Calculated /Default:	N.A.
Source of data:	Procurement offices of MCV plant.
Value(s) of monitored parameter:	W.C. Heraeus
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Project
Monitoring equipment (type,	N.A.

accuracy class, serial number, calibration frequency, date of last calibration, validity)	
Measuring/ Reading/ Recording frequency:	Each campaign
Calculation method (if applicable):	N.A.
QA/QC procedures applied:	N.A.

Data / Parameter:	**B.24 GC_{BL}**
Data unit:	**%**
Description:	Gauze composition for the baseline campaign
Measured /Calculated /Default:	N.A. Information provided by the supplier.
Source of data:	Nitric plant procurement office and gauze Supplier's Technical Service Department
Value(s) of monitored parameter:	58.0 to 60.0 % Pt, 3.4 to 4.4 % Rh, 36.1 to 38.1 % Pd.
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	N.A.
Measuring/ Reading/ Recording frequency:	Once
Calculation method (if applicable):	N.A.
QA/QC procedures applied:	N.A.

Data / Parameter:	**B. 25 $GC_{project}$**
Data unit:	**%**
Description:	Gauze composition for the project campaign
Measured /Calculated /Default:	N.A. Information provided by the supplier.
Source of data:	Procurement offices of MCV plant.
Value(s) of monitored parameter:	58.0 to 60.0 % Pt, 3.4 to 4.4 % Rh, 36.1 to 38.1 % Pd.
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Project
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	N.A.
Measuring/ Reading/ Recording frequency:	Once for each campaign
Calculation method (if	N.A.

applicable):	
QA/QC procedures applied:	N.A.

Data / Parameter:	**B.26 EF_{reg}**
Data unit:	kg N_2O/tonne HNO_3
Description:	Emission level set by incoming policies or regulations, local and national regulations on N_2O and NO_X emissions
Measured /Calculated /Default:	N.A.
Source of data:	Local and national regulations
Value(s) of monitored parameter:	No relevant local or national regulations were introduced during the project period (there was a change in NO_X regulations but this change did not imply limitations on N_2O emission levels)
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Project
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	N.A.
Measuring/ Reading/ Recording frequency:	To be recorded on date of introduction or change of regulation
Calculation method (if applicable):	N.A.
QA/QC procedures applied:	N.A.

The project activity does not generate any leakage.

SECTION E. Emission reductions calculation

E.1. Baseline emissions calculation

>>

For baseline emission factor determination, N_2O concentration and gas volume flow at the plant were monitored throughout the baseline campaign. Hourly average readings for N_2O concentration and gas flow volume (calculated from every 2 second monitored data) were performed. Error readings (e.g. downtime or malfunction) and extreme values were eliminated from the output data series.

Normal operating conditions determination

To ensure that data obtained during baseline campaign are representative of the actual GHG emissions from the source plant, a set of process parameters known to affect N_2O generation have been set based on plant historical operating conditions, appropriate technical literature and design data. Those parameters, called by the methodology normal operating conditions, are: oxidation temperature, oxidation pressure, ammonia flow to the reactor and ammonia flow to air flow ratio.
Only those N_2O measurements taken when the plant was operating within the permitted range were considered in the calculation of baseline emissions.

After eliminating data measured when the plant was operating outside the permitted conditions, the following statistical procedure was applied.

a) Calculated the sample mean (x)
b) Calculated the sample standard deviation (s)
c) Calculated the 95% confidence interval (equal to 1.96 times the standard deviation)
d) Eliminated all data that lied outside the 95% confidence interval

e) Calculated the new sample mean from the remaining values (volume of stack gas (VSG) and N_2O concentration of stack gas (NCSG))

Then, baseline emissions were calculated using the following formulae

$$BE_{BC} = VSG_{BC} \cdot NCSG_{BC} \cdot 10^{-9} \cdot OH_{BC}$$

$$EF_{BL} = \frac{BE_{BC}}{NAP_{BC}}(1 - \frac{UNC}{100})$$

Where:

BE_{BC}	Total baseline emissions in the baseline measurement period, in, tN_2O
VSG_{BC}	Mean stack gas volume flow rate in the baseline measurement period, in Nm^3/h
$NCSG_{BC}$	Mean concentration of N_2O in the stack gas in the baseline measurement period, in mg N_2O/Nm^3
OH_{BC}	Number of operating hours in the baseline measurement period, in h
EF_{BL}	Baseline emission factor, in $tN_2O/ tHNO_3$
NAP_{BC}	Nitric acid production during the baseline campaign, in, $tHNO_3$
UNC	Overall measurement uncertainty of the monitoring system, in %, calculated as the combined uncertainty of the applied monitoring equipment

Another parameter that is measured and must be compared with the normal value is the campaign length (CL_n).

According to AM0034, version 2, the baseline campaign length (CL_{BL}) must be shorter than or equal to CL_n.

The average historical campaign length, prior to the baseline campaign (Normal campaign, CL_{normal}) is: 83,165 tonnes HNO_3.

Baseline campaign took place between February 15th, 2007 and February 17th, 2008. The operating day was considered from 8:00 AM of the corresponding day to 7:00 AM of the following day. Following this criteria, baseline campaign took place between 8:00 AM of February 15th, 2007 and 7:00 AM of February 18th , 2008.

Aligned with AM0034 Ver2 and complemented with Annex 12 from EB51, when $CL_{BL} > CL_{normal}$:

If $CL_{BL} >$ CLnormal N_2O values that were measured beyond the length of CL_{normal} during the production of the quantity of nitric acid (i.e. the final tonnes produced) are to be eliminated from the calculation of EF_{BL}.

The Board clarified that N_2O values in the above requirement refers to the values of concentration of N_2O of stack gas ($NCSG_{BC}$), therefore, while applying the above requirement of the methodology the project participants should eliminate the values for this parameter beyond the length of CL_{normal} for calculating the mean values for $NCSG_{BC}$.

The baseline emissions (BE_{BC}) was calculated using this mean value multiplied by the mean value of volume of the stack gas (VSG_{BC}) and the total operating hours (OH_{BC}) of the baseline campaign. In calculating the EFBL, the nitric acid production corresponding to the operating hours of the total baseline campaign length (OH_{BC}) should be used.

For baseline emission factor calculation the following period was used. February 15th, 2007 to February 9th, 2008 (See document "MCV_BLEF_calculation _for_Third_project_campaign-ver_1.0.xls").

In the case of project campaigns, AM0034 states that campaign length must be longer than or equal to CL_n. If CLn < CL_{normal}, baseline emission factor must be recalculated by eliminating all those N_2O values obtained during the production of tonnes of nitric acid beyond CL_n (i.e. the last tonnes produced) from the calculation of EF

As Third Project Campaign was shorter than normal campaign length, EF_{BL} was re-calculated using $NCSG_{BC}$ values monitored before the day in which the plant exceeded the production of the third project campaign. The following period was included in the calculation: February 15th, 2007 to February 7th, 2008. (See document "MCV_BLEF_calculation _for_Third_project_campaign-ver_1.0.xls")

$$BE_{BC} = 33{,}439 \cdot 2{,}225 \cdot 10^{-9} \cdot 8{,}466 = 630.02\, tonnes N_2O$$

$$EF_{BL} = \frac{630.02}{84{,}823}\left(1 - \frac{2.94}{100}\right) = 0.00720\, tonnes N_2O / tonnes HNO_3$$

The Baseline Campaign was valid because the plant was operated within normal operating conditions for more than 50% of the duration of the baseline.

E.2. Project emissions calculation

>>

For project emission factor determination, N_2O concentration and gas volume flow for each plant were monitored throughout the project campaign. Hourly average readings for N_2O concentration and gas volume flow (calculated from every 2 second monitored data) were performed. Error readings (e.g. downtime or malfunction) and extreme values were eliminated from the output data series.
Next, the same statistical evaluation that was applied to the baseline data series was applied to the project data series.

The mean values of N_2O concentration at the stack gas and volume flow rate at the stack gas were used in the following formula (Eq. 3 from AM0034) to calculate project emissions:

$$PE_n = VSG_n \cdot NCSG_n \cdot 10^{-9} \cdot OH_n$$

$$EF_n = \frac{PE_n}{NAP_n}$$

Where:

PE_n	Total Project emissions of the nth campaign, in tN_2O
VSG_n	Mean stack gas volume flow rate for the nth project campaign, in Nm^3/h
$NCSG_n$	Mean concentration of N_2O in the stack gas for the project campaign, in mg N_2O/Nm^3
OH_n	Number of operating hours in the project campaign, in h
EF_n	Emission factor calculated for the *nth* campaign, in ton N_2O/ton HNO_3
NAP_n	Nitric acid production in the *nth* campaign, in ton 100% HNO_3

The Third Project Campaign took place between May 4th, 2010 and May 12th, 2011. The operating day was considered from 8:00 AM of the corresponding day to 7:00 AM of the following day. Following this criteria, third project campaign took place between 8:00 AM of May 4th, 2010 and 7:00 AM of May 13th, 2010.

Values obtained are:

$$PE_n = 37{,}710 \cdot 8{,}283 \cdot 10^{-9} \cdot 892 = 278.67 tonnes N_2O$$

$$EF_n = \frac{278.67}{82{,}650} = 0.00337 tonnes N_2O / tonnes HNO_3$$

Derivation of a moving average emission factor:
The methodology proposes the calculation of a moving average emission factor in order to take a conservative approach in emission reduction calculation. The maximum value between EF_n for the specific project campaign and the $EF_{ma,n}$ shall be used in the emission reduction calculation as EF_p emission factor.

$EF_{ma,n}$ is calculated as follows:

$$EF_{ma,n} = \frac{EF_1 + EF_2 + ... + EF_n}{n} (tonne N_2O / tonne HNO_3)$$

$$If \ \ EF_{ma,n} \geq EF_n, then \ \ EF_p = EF_{ma,n}$$
$$If \ \ EF_{ma,n} < EF_n, then \ \ EF_p = EF_n$$

Where:

EF_n	Emission factor calculated for the n^{th} campaign, in tonne N_2O/tonne HNO_3;
$EF_{ma,n}$	Moving average (ma) emission factor after n^{th} campaign, including the current campaign, in tonne N_2O/tonne HNO_3;
N	Number of campaigns to date;
EF_p	Emission factor that will be applied to calculate the emission reductions from this specific campaign, in tonne N_2O/tonne HNO_3;

This process is repeated for each campaign so that a moving average, $EF_{ma,n}$, is established over time, becoming more representative and precise with each additional campaign.

Values obtained are:

$$EF_{ma,n} = \frac{0.00193 + 0.00248 + 0.00337}{3} = 0.00259 tonne N_2O / tonne HNO_3$$

A EF_n was higher than $EF_{ma,n}$ then $EF_n = EF_p = 0.00337$ *tonnes* N_2O*/tonnes* HNO_3

Complete project emission factor calculation is in document "MCV_ Third_ Project_ Campaign_ver 1.0".xls

E.3. Leakage calculation

>>
No leakage calculation is required.

E.4. Emission reductions calculation / table

>>

As indicated, the present Monitoring Report involves the following period: May 4th, 2010 to May 12th, 2011.

According to AM0034 version 2, the emission reductions for the project activity over a specific campaign are determined as follows:

$$ER_n = (EF_{BL} - EF_p) \cdot NAP_n \cdot GWP_{N_2O}$$

Where

ER_n	Emission reductions of the project for the *nth* campaign, tCO_2e
EF_{BL}	Baseline emission factor, in $tN_2O/ tHNO_3$
EF_p	Project emission factor, applicable to the *nth* campaign, in $tN_2O/ tHNO_3$
NAP_n	Nitric acid production during the *nth* campaign of the project activity, in, $tHNO_3$
GWP_{N_2O}	global warming potential, of N_2O set as 310 tCO_2e/tN_2O for the 1st commitment period

The value obtained for the project is:

$$ER_n = (0.00720 - 0.00337) \cdot 82{,}650 \cdot 310 = 98{,}130 tonnesCO_2$$

Complete emission reduction calculation is in the following document: "MCV_Third_Project _Campaign_ver 1.0".xls

E.5. Comparison of actual emission reductions with estimates in the CDM-PDD

>>

The table below shows the emission reductions claimed for the third campaign, as compared against the emission reductions estimated in the registered PDD.

Item	Values applied in ex-ante calculation of the registered CDM-PDD	Actual values reached during the monitoring period
Emission reductions (tCO_2e)	**124,491**	**98,130**

The abovementioned amount of CERs was generated during the monitoring period, from May 4, 2010 to May 12, 2011 (357 operative days).

The amount of CERs estimated in the PDD is 122,050 tCO2e per year, resulting in 124,491 CERs estimated for aperiod of 357 days equal to the monitoring period.

E.6. Remarks on difference from estimated value in the PDD

>>

The generated emission reductions during this 3rd monitoring period are lower than expected in the PDD. This was mainly due to the fact that the N_2O abatement efficiency of the catalyst for the 3rd campaign was lower than the one estimated in the PDD.

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History of the document

Version	Date	Nature of revision
01	EB 54, Annex 34	Initial adoption.

	28 May 2010	
Decision Class: Regulatory **Document Type**: Guideline, Form **Business Function**: Issuance		

Annex I

Certification provided by the regional authority DAMAB confirming that the Monomeros Colombo Venezolanos S.A. production facilities operate according to Decreto 02 de 1982 del Ministerio de Salud de la República de Colombia (Decree #02, 1982, Ministry of Health of Colombia):

This table show the values of emissions of N2O in 2006 and 2007 and show it a comparison like if the new regulation apply in this date. Here is established the Monomeros compliance with the last and the new regulation in 2006 and 2007 (Date to Baseline) without to do any modifications to Plant.

Plant	% O_2 Ref.	Emission Point	Parameter	2006	2007	Regulations to June 2010		New Regulations from June 2010					
				kg/ton HNO_3 Prod	kg/ton HNO_3 Prod	Limits (kg/ton HNO_3 Prod)	Compliance	Limits (mg/m^3)	2006		2007		Compliance
									mg/m^3	mg/m^3 (3% O_2)	mg/m^3	mg/m^3 (3% O_2)	
Nitric Acid Plant	3,0%	Stack	NOx	2,03	2,38	4,5	Yes	550	693	385	545,5	303,03	Yes

This table show the new regulation and emissions of NOx in 2010. Here is established the Monomeros compliance with de new regulation

Plant	% O_2 Ref.	Emission Point	Parameter	New Regulations from June 2010				
				Limits (mg/m^3)	% O_2 Stack	2010		Compliance
						mg/m^3	mg/m^3 (@ O_2 Reference Conditions)	
Nitric Acid Plant	11,0%	Stack	NOx	550	5,6%	456,38	296,35	Yes

DEPARTAMENTO TÉCNICO ADMINISTRATIVO DEL MEDIO AMBIENTE
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POR MEDIO DEL CUAL SE OTORGA UN PERMISO DE EMISIONES ATMOSFERICAS Y SE IMPONE EL CUMPLIMIENTO DE UNAS OBLIGACIONES.

El Director General del Departamento Técnico Administrativo del Medio Ambiente Barranquilla DAMAB, en uso de sus funciones legales y estatutarias conferidas por la Ley 768 de 2002, la Ley 99 de 1.993, Decreto No. 0208 de 2.004, expedido por el Alcalde Distrital de Barranquilla, Decreto 02 de 1.982, Resolución 0909 de 2.008, el Decreto 948 de 1.995 y,

CONSIDERANDO

Que mediante escrito radicado con el No. 03456 de fecha Junio 25 de 2.009, el señor Sergio Arguello Anillo, en calidad de Gerente Jurídico legal de la sociedad denominada MONOMEROS COLOMBO VENEZOLANOS S.A., con Nit. No. 860.020.439-5, ubicada en la VÍA 40 Las Flores de este Distrito, solicitó al DAMAB, la renovación del permiso de emisiones atmosféricas para la sociedad en mención.

Que mediante Auto No. 0200 de fecha Julio 15 de 2009, se inicio el trámite del permiso de Emisiones Atmosféricas a la Sociedad denominada MONOMEROS COLOMBO VENEZOLANOS S.A., con Nit. No. 860.020.439-5, ubicada en la VÍA 40 Las Flores de este Distrito, a la cual se le ordenó cancelar la suma de SESENTA Y CINCO MILLONES SEISCIENTOS CUARENTA Y SIETE MIL DIECISEIS PESOS M/L. ($65.647.016.oo), por concepto de los costos de seguimiento para la expedición del permiso en mención.

Que mediante escrito número 04282 de fecha Julio 27 de 2.009, el señor Sergio Arguello Anillo, en calidad de Gerente Jurídico de la sociedad denominada MONOMEROS COLOMBO VENEZOLANOS S.A., con Nit. No. 860.020.439-5, ubicada en la VÍA 40 Las Flores de este Distrito, MONOMEROS COLOMBO VENEZOLANOS S.A., con Nit. No. 860.020.439-5, ubicada en la VÍA 40 Las Flores de este Distrito, interpuso recurso de reposición contra la precitada providencia.

Que mediante Resolución No. 0781 de fecha Agosto 11 de 2.009, el DAMAB, resolvió el recurso de reposición interpuesto por la sociedad denominada MONOMEROS COLOMBO VENEZOLANOS S.A., con Nit. No. 860.020.439-5, ubicada en la Via 40 Las Flores de este Distrito, modificando el artículo segundo del Auto No. 0200 de fecha 22 de Julio de 2.009, ordenando a la mencionada sociedad, a cancelar la suma de VEINTICINCO MILLONES DE PESOS M/L ($25.000.000 oo), por concepto de costos de seguimiento para la expedición del permiso de emisiones atmosféricas.

Que la sociedad denominada MONOMEROS COLOMBO VENEZOLANOS S.A. con Nit. No. 860.020.439-5, ubicada en la Via 40 Las Flores de este Distrito, canceló la suma de VEINTICINCO MILLONES DE PESOS M/L ($25.000.000.oo), en la cuenta corriente No. 33436205 del Bangco GNB Sudameris de esta ciudad, a nombre del DAMAB, por concepto de costos de seguimiento para la expedición del permiso de Emisiones Atmosféricas, de acuerdo a la consignación aportada.

Que mediante visita técnica practicada el dia 13 de Julio de 2.009, por funcionarios de la Oficina de Control y Vigilancia del DAMAB, en las instalaciones de la sociedad denominada MONOMEROS COLOMBO VENEZOLANOS S.A., con Nit. No. 860.020.439-5, ubicada en la VÍA 40 Las Flores de este Distrito, se emitió el Concepto Técnico No. 0565 del 13 de Julio de 2.009, en el cual se estableció los siguientes:

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ASPECTOS ENCONTRADOS

La renovación que solicita la sociedad MONOMEROS COLOMBO VENEZOLANOS S.A., es para el complejo industrial y Muelles 1 y 3.

La empresa MONOMEROS COLOMBO VENEZOLANOS S.A., es una industria petroquímica que posee un área de 546382 metros cuadrados, está adyacente al Río Grande de la Magdalena y el sector industrial de la via 40 de esta ciudad.

El complejo industrial está constituido por diversas unidades de producción y correspondientes a la lineas de producción de Carpolactama, fertilizantes y productos químicos industriales.

En relación a las emisiones atmosféricas, la sociedad MONOMEROS COLOMBO VENEZOLANOS S.A., monitorea las siguientes plantas:

1. Planta de sulfato de Hidroxilamina
2. Planta de sulfato de sodio
3. Planta de sulfato de amonio
4. Planta de fosfato tricalcico
5. Planta de fertilizantes
6. Planta de nitrato de potasio

En relación a calidad de aire se hace monitoreo en:

1. Barrio Las Flores
2. Muelle 1
3. Muelle 2
4. Planta de sulfato de amonio
5. Sector contra incendios

EVALUACION

El informe que presenta la empresa MONOMEROS COLOMBO VENEZOLANOS SA., para la renovación del permiso en mención, está relacionado con las evaluaciones de emisiones y de calidad de aire efectuadas en el año 2.008.

El estudio presentado y adelantado por la firma SGS, dice que los muestreos directos en chimeneas efectuados para determinar las emisiones de material particulado, dióxido de azufre y neblinas ácidas al igual que los óxidos de nitrógeno, permiten concluir que las fuentes que generan tales emisiones cumplen con las normas.

También revela el informe que las emisiones del HF en la planta de fosfato tricalcico es baja, aun no existe norma para este tipo de emisiones.

En relación al estudio de calidad de aire, las concentraciones de dióxido de azufre y dióxido de nitrógeno, cumplen con las normas.

En relación a los muestreos de partículas en suspensión, se presentó en el punto planta SAM un promedio parcial superior a la norma local anual de calidad de aire, el resto de valores cumple.

Los modelos NOx y de SO2, muestran concentraciones que se encuentran por encima de los niveles medidos en zonas aledañas a la planta. Lo anterior indica entonces que ambos modelos sobrestiman la concentración de estos contaminantes.

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Que de acuerdo al Concepto Técnico No. 0565 del 13 de Julio de 2.009, se considera técnicamente procedente otorgar Permiso de Emisiones Atmosféricas a la sociedad denominada MONOMEROS COLOMBO VENEZOLANOS S.A., con Nit. No. 860.020.439-5, ubicada en la VÍA 40 Las Flores de este Distrito, e imponer el cumplimiento de unas obligaciones.

Que el Decreto No 0208 de Junio 7 del 2.004, expedido por el Alcalde Distrital de Barranquilla creo al DEPARTAMENTO TÉCNICO ADMINISTRATIVO DEL MEDIO AMBIENTE DAMA BARRANQUILLA DAMAB, como máxima autoridad ambiental en el Distrito Industrial y Portuario de Barranquilla.

En merito de lo expuesto:

RESUELVE

ARTICULO PRIMERO: Otorgar Permiso de Emisiones Atmosféricas a la sociedad denominada MONOMEROS COLOMBO VENEZOLANOS S.A., con Nit. No. 860.020.439-5, ubicada en la VÍA 40 Las Flores de este Distrito, representada legalmente por el señor Sergio Arguello Anillo, por el término de cinco (5) años, contados a partir de la ejecutoria de la presente providencia.

ARTICULO SEGUNDO: La sociedad denominada MONOMEROS COLOMBO VENEZOLANOS S.A., con Nit. No. 860.020.439-5, ubicada en la VÍA 40 Las Flores de este Distrito, representada legalmente por el señor Sergio Arguello Anillo, deberá dar cumplimiento a las siguientes obligaciones:

1. Deberá monitorear anualmente los siguientes puntos:

- Planta de Sulfato de Hidroxilamina
- Planta de sulfato de sodio
- Planta de sulfato de amonio
- Planta de sulfato tricalcico
- Planta de fertilizantes
- Planta de nitrato de potasio

Se hará teniendo en cuenta los contaminantes relacionados en la tabla 3 del Artículo 6 de la resolución 0909 de Junio 05 de 2.008, expedida por el Ministerio del Medio Ambiente, relacionados estos con la actividad industrial y el proceso.

Los monitoreos de calidad de aire también deberán realizarse de conformidad a la norma vigente en los puntos establecidos por la sociedad en mención.

Para el cobro de evaluación y seguimiento se debe tener en cuenta lo siguiente:

- Número de visitas en un año: 4
- Número de evaluaciones: Dos al año. (isocinético y calidad de aire)
- Horas de seguimiento y evaluación por los funcionarios: 70 horas
- Número de funcionarios: 3

La sociedad MONOMEROS COLOMBO VENEZOLANOS S.A., deberá contratar los estudios aquí propuestos, con sociedades debidamente acreditadas ante el IDEAM y con experiencia e idoneidad en la realización del tipo de estudios.

La realización de los estudios solicitados deberán contar con la presencia de un funcionario del DAMAB, para ello deberá comunicarse a la autoridad ambiental con quince días de anticipación.

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ARTICULO TERCERO: La sociedad MONOMEROS COLOMBO VENEZOLANOS S.A., con Nit. No. 860.020.439-5, ubicada en la VÍA 40 Las Flores de este Distrito, deberá avisar al DAMAB, cualquier cambio, modificación o reparación que quiera realizar en su actividad.

ARTICULO CUARTO: La sociedad denominada MONOMEROS COLOMBO VENEZOLANOS S.A., con Nit. No. 860.020.439-5, ubicada en la VÍA 40 Las Flores de este Distrito, será responsable civilmente ante la Nación y/o terceros, por la contaminación y/o daños que puedan ocasionar sus actividades.

ARTICULO QUINTO: El Departamento Técnico Administrativo del Medio Ambiente Barranquilla DAMAB, se reserva el derecho de realizar visitas en las instalaciones de la sociedad MONOMEROS COLOMBO VENEZOLANOS S.A., con Nit. No. 860.020.439-5, ubicada en la VÍA 40 Las Flores de este Distrito, cuando lo considere necesario.

ARTICULO SEXTO: La presente providencia deberá ser publicada en la Gaceta Ambiental del DAMAB, a costas del interesado, quien deberá consignar el valor de tres y medio salarios mínimos legales diarios por cada folio del presente acto administrativo, en la cuenta corriente del DAMAB, No. 033436205 del Banco GNB SUDAMERIS, de este Distrito, los cuales deberán ser cancelados dentro de los cinco (5) días siguientes a la ejecutoria de la misma y tendrá como interesado a cualquier persona que así lo manifieste con su correspondiente identificación y domicilio, de conformidad con lo dispuesto en el articulo 70 de la Ley 99 de 1.993.

La no cancelación oportuna de los derechos de publicación de que trata este articulo, será causal suficiente para revocar y dejar sin efectos el presente acto administrativo.

ARTICULO SEPTIMO: Notifíquese el contenido de la presente providencia a la sociedad denominada MONOMEROS COLOMBO VENEZOLANOS S.A., con Nit. No. 860.020.439-5, ubicada en la VÍA 40 Las Flores de este Distrito, según lo establecido en el Articulo 44 del C.C.A.

ARTICULO OCTAVO: Contra la presente providencia procede el Recurso de Reposición ante el Director General del DAMAB, dentro de los Cinco (5) días hábiles siguientes a la notificación de la misma o a la desfijacion del Edicto según el caso, de conformidad con lo dispuesto en los articulos 44 y 47 del C.C.A.

ARTICULO NOVENO: La presente providencia rige a partir de su ejecutoria.

NOTIFÍQUESE, PUBLIQUESE Y CUMPLASE

Dada en Barranquilla, a los

HUGUES LACOUTURE DANIES
DIRECTOR GENERAL

Proyecto: Nicolas S.
Revisó y Aprobó: Rita N. / Julio Cesar N.
Exp.: P.E. No. 0252.

DEPARTAMENTO TÉCNICO ADMINISTRATIVO DEL MEDIO AMBIENTE
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DIILIGENCIA DE NOTIFICACIÓN PERSONAL

En Barranquilla D.E.I.P., a los 24 del mes de Noviembre del 2.009 se notifico personalmente de esta decisión el Señor(a) Sergio Resuelto Pinto identificado con Cedula de Ciudadanía No 72.227.058 de B/quilla y T.P. No---------- de---------- a quien se le entrego copia de la presente providencia, y se le informó que contra esta procede legalmente el recurso de reposición ante el Director General del DAMAB, dentro de los cinco (5) días hábiles siguientes a la fecha de la diligencia de notificación personal o a la desfijación del Edicto, según los artículos 44, 45, 47 y 50 del Código Contencioso Administrativo.

EL NOTIFICADO

Jorge Del Castillo
EL NOTIFICADOR