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Verification Report

Lovochemie a.s.

Initial and First Periodic Verification

of the agreed JI project

Nitrous Oxide Emission Reductions at Lovochemie - CZ

Report No. 976314

March 27, 2007

TÜV SÜD Industrie Service GmbH
Carbon Management Service
Westendstr. 199 - 80686 Munich - GERMANY

Initial and First Periodic Verification of the JI Project:

"Nitrous Oxide Emission Reductions at Lovochemie - CZ"

Industrie Service

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Subject:	Initial and first Periodic Verification of a JI Project
Executing Operational Unit:	TÜV SÜD Industrie Service GmbH Carbon Management Service Westendstr. 199 - 80686 Munich, GERMANY
Client:	Lovochemie, a. s. Terezínská 57 410 17 Lovosice Czech Republic
Contract approved by:	Werner Betzenbichler
Report Title:	Initial and First Periodic Verification of the project Nitrous Oxide Emission Reductions at Lovochemie - CZ
Number of pages	20 (excluding cover page and annexes)

Summary:

The certification body "Climate and Energy" of TÜV SÜD Industrie Service GmbH has been ordered by TÜV NORD to carry out the initial and the first periodic verification of the registered JI project "**Nitrous Oxide Emission Reductions at Lovochemie - CZ**".

The verifier confirms that the project is implemented as planned and described in validated project design documents. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project does generate GHG emission reductions.

The verifier can confirm that the GHG emission reduction for the whole monitoring period is calculated without material misstatements. Our opinion relates to the project's GHG emissions and resulting GHG emissions reductions reported and related to the valid and registered project baseline and monitoring, and its associated documents. Based on the information we have seen and evaluated we confirm the following statement:

Reporting period: from November 04, 2005 to December 31, 2006.

Verified emission in the above reporting period:

	2005	**2006**
Baseline Emissions:	128.752 t CO2	648.573 t CO2
Project Emissions	80.736 t CO2	540.925 t CO2
Emission Reductions	**48.014** t CO2	**143.647** t CO2
Emission Reductions (total)	**191.661** t CO2	

Stated values are correct; however, due to conservative rounding slightly inconsistencies could occur. The verification team also determined some few areas of risks for the project in the context of the management/operation system and of quality assurance. Issues indicated as "Forward Action Request" should be submitted as indispensable information to the verification team of the next periodic verification.

Work carried out by:	Markus Knödlseder (project manager, TÜV SÜD) Konrad Tausche (expert)	**Internal Quality Control by:** Werner Betzenbichler

Abbreviations

Abbreviations that have been used in the report here:

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CO2	Carbon Dioxide
DNA	Designated National Authority
ERPA	emission reduction purchase agreement
ERU	Emission Reduction Unit
FAR	Forward Action Request
GHG	Greenhouse Gas
IETA	International Emission Trading Association
IVC	Initial Verification Checklist
JI	Joint Implementation
KP	Kyoto Protocol
MP	Monitoring Plan
MVP	Monitoring and Verification Protocol
N_20	Nitrous Oxide
PDD	Project Design Document
PVC	Periodical Verification Checklist
TÜV SÜD	TÜV SÜD Industrie Service GmbH
UNFCCC	UN Framework Convention on Climate Change
VVM	Validation and Verification Manual

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1 INTRODUCTION

TÜV NORD has commissioned an independent verification by TÜV Industrie Service GmbH (TÜV SÜD) of its registered JI project "Nitrous Oxide Emission Reductions at Lovochemie - CZ". The order includes the initial and first periodic verification of the project.

Verification is the periodic independent review and ex post determination by the Designated Operational Entity / Independent Entity of the monitored reductions in GHG emissions during the defined verification period.

This report summarizes the findings of the initial and first periodic verification. It is based on the Initial Verification Report Template Version 3.0, December 2003 and on the Periodic Verification Report Template Version 3.0, December 2003, both part of the Validation and Verification Manual (VVM) published by International Emission Trading Association (IETA).

Initial and first periodic verification has been performed as one integrated activity. It consisted of a desk review of the project documents including PDD, monitoring plan, validation report, Monitoring Manual, draft monitoring report (November 2005 – December 2006) and further documentations.

The results of the determination were documented by DNV in the validation report: "NITROUS OXIDE EMISSION REDUCTIONS AT LOVOCHEMIE - CZ", report no. 2005-1181, rev. 1, dated 12/10/2005.

The verification team consists of the following personnel:

Markus Knödlseder	TÜV SÜD, Munich	Project Manager, Team Leader
Konrad Tausche	TÜV SÜD, Munich	Expert

1.1 Objective

The objective of verification can be divided in Initial Verification and Periodic Verification:

- Initial Verification:

The objective of an initial verification is to verify that the project is implemented as planned, to confirm that the monitoring system is in place and fully functional, and to assure that the project will generate verifiable emission reductions. A separate initial verification prior to the project entering into regular operations is not a mandatory requirement.

- Periodic Verification:

The objective of the periodic verification is to verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring

plan; further more the periodic verification evaluates the GHG emission reduction data and express a conclusion with a high, but not absolute, level of assurance about whether the reported GHG emission reduction data is free of material misstatements; and verifies that the reported GHG emission data is sufficiently supported by evidence, i.e. monitoring records. If no prior initial verification has been carried out, the objective of the first periodic verification also includes the objectives of the initial verification.

The verification shall consider both quantitative and qualitative information on emission reductions.

Quantitative data comprises the monitoring reports submitted to the verifier by the project entity. Qualitative data comprises information on internal management controls, calculation procedures, and procedures for transfer, frequency of emissions reports, review and internal audit of calculations/data transfers.

The verification is based on criteria set by UNFCCC, the Kyoto Protocol and the JI modalities and procedures.

1.2 Scope

Verification scope is defined as an independent and objective review and ex post determination by the Designated Operational Entity of the monitored reductions in GHG emissions. The verification is based on the submitted monitoring report and the validated project design documents including its monitoring plan. The monitoring report and associated documents are reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. TÜV SÜD has, based on the recommendations in the Validation and Verification Manual employed a risk-based approach in the verification, focusing on the identification of significant risks of the project implementation and the generation of emission reductions.

The verification is not meant to provide any consulting towards the client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the monitoring activities.

The audit team has been provided with a Monitoring Report and underlying data records in March 16, 2007, covering the period November 04, 2005 to December 31, 2006 which is also the first mentoring period in the agreed crediting period. This document serves as the basis for the assessment presented herewith.

Studying the existing documentation belonging to this project, it was obvious that the competence and capability of the audit team performing the verification has to cover at least the following aspects:

- Knowledge of Kyoto Protocol and the Marrakech Accords
- Environmental and Social Impact Assessment
- Quality assurance
- Technical aspects of geothermal energy
- Monitoring technologies and concepts
- Political, economical and technical conditions in host country

According to these requirements TÜV SÜD has composed a project team in accordance with the appointment rules of the TÜV certification body "climate and energy":

Markus Knödlseder is an auditor for climate change projects and GHG emission inventories at the department "Carbon Management Service" in the head office of TÜV SÜD in Munich. He has been involved in the topic of environmental auditing, baselining, monitoring and verification due to the requirements of the Kyoto Protocol since Oct. 2001.

Konrad Tausche was head of department of environmental measurement technique at the Frankfurt office of TÜV SÜD Industrie Service GmbH and supports the "TÜV Carbon Management Service" in Munich since Dec. 2006. He has an academic background in physical and chemical engineering. An additional economic study was completed with the academic degree of a Master of Business Administration and Engineering (MBA and Eng.). In his experience of 14 years he verified a lot of different energy, chemical and incineration plants, emission control and mitigation projects.

The audit team covers the above mentioned requirements as follows:

- Knowledge of Kyoto Protocol and the Marrakech Accords (ALL)
- Environmental and Social Impact Assessment (ALL)
- Quality assurance (ALL)
- Technical aspects of geothermal energy production (WELLER)
- Monitoring technologies and concepts (ALL)
- Political, economical and technical conditions in host country (HERNANDEZ)

Responsibility for the internal quality control of the project was with Werner Betzenbichler, head of the certification body "climate and energy".

1.3 GHG Project Description

Lovochemie a.s. produces nitric acid for further fertilizer production. Lovochemie a.s. is the largest fertilizer producer in the Czech Republic, who produces nitric acid as part of its production process. The GHG Nitrous oxide (N2O) is a known by-product of the production of nitric acid, and has a very high Global Warming Potential. The KD6 nitric acid production plant located at Lovochemie currently has measured quantities of N2O emissions into the atmosphere.

This Joint Implementation project activity consists of Lovochemie's investment in catalytic destruction technology (High Temperature Catalytic Destruction) that will be introduced to the reactors of the nitric acid plant KD6. The catalytic N2O destruction technology is expected to reduce more than 85% of the N2O emissions that would be emitted without the project activity. The project activity will not result in any revenues except the income from the sale of Emission Reductions (ERs).

Lovochemie agrees to sell a specific amount of ERs generated during the first crediting period 2005 - 2012 to Denmark and Lovochemie also agrees to use the total income from selling this specific amount of ERs to Denmark for "Greening elements". The Greening elements will be identified in close cooperation between Lovochemie and the Danish Environmental Protection Agency

(DEPA), and will focus on sustainable activities at Lovochemie which will lead to a positive environmental impact.

From Lovochemie following persons participated the audit:

- Mr. Vaclav Šmíd (technician) Lovochemie a.s.
- Ms. Pavla Záklasníková (air protection) Lovochemie a.s.
- Ms. Stanislava Kadavá (Head of environmental dept.) Lovochemie a.s.
- Mr. Petr Peterka (technician for metering) Lovochemie a.s.
- Mr. Petr Cermánek (JI project manager) Lovochemie a.s.

2 METHODOLOGY

Starting the initial verification the verifier's first task has been to familiarize with the project. Based on the received documents (see Annex 1) a verification checklist (VC) has been prepared, consisting of the Initial Verification Checklist (IVC) and the Periodic Verification Checklist (PVC) according to the VVM.

These combined checklists serve the following purposes:

- it organizes details of the audit procedure and clarifies the requirements the project is expected to meet; and
- it documents how a particular requirement has been validated and the result of the verification.

During the verification a special focus was given to:

- the correct implementation of the project (installations, monitoring equipment and procedures, quality assurance procedures)
- the correctness of assumptions with impacts on the monitoring and verification process (e.g. baseline assumptions)
- sustainable development and environmental performance parameters
- training programs
- allocation of responsibilities
- the day-to-day operation of the system

The findings are the essential part of this verification report, which is based on the verification protocols of the VVM. Those protocols consist of four tables – one from the IVC, three from the PVC. The completed protocol is enclosed in Annex 1 and Annex 2 to this report. The structure of the tables is shown in the following:

Initial Verification Checklist – table 1			
OBJECTIVE	Ref.	COMMENTS	Concl. (incl FARs/CARs)

Initial Verification Checklist – table 1			
OBJECTIVE	Ref.	COMMENTS	Concl. (incl FARs/CARs)
The requirements the project must meet.	Gives reference to the legislation or agreement where the requirement is found.	Description of circumstances and further conclusions.	This is either acceptable based on evidence provided (**OK**)**,** or a **Corrective Action Request (CAR)** of risk or non-compliance with stated requirements. The corrective action requests are numbered and presented to the client in the Verification report. Forward Action Requests (FARs) indicate essential risks for further periodic verifications

Periodic Verification Checklist Table 1: Data Management System/Controls		
Expectations for GHG data management system/controls	Score	Verifiers Comments (including *Forward Action Requests*)
The project operator's data management system/controls are assessed to identify reporting risks and to assess the data management system's/control's ability to mitigate reporting risks. The GHG data management system/controls are assessed against the expectations detailed in the table.	A score is assigned as follows: **Full** all best-practice expectations are implemented. **Partial** a proportion of the best practice expectations is implemented **Limited** this should be given if little or none of the system component is in place.	Description of circumstances and further commendation to the conclusion. This is either acceptable based on evidence provided (**OK**)**,** or a **Corrective Action Request (CAR)** of risk or non-compliance with stated requirements. The corrective action requests are numbered and presented to the client in the Verification report. The Initial Verification has additional Forward Action Requests (FAR). FAR indicates essential risks for further periodic verifications

Periodic Verification Checklist Table 2: GHG calculation procedures and management control testing		
Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks

Periodic Verification Checklist Table 2: GHG calculation procedures and management control testing		
Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
Identification of potential reporting risks based on an assessment of the emission estimation procedures. Identification of key source data. Focus on those risks that impact the accuracy, completeness and consistency of the reported data.	Identification of the key controls for each area with potential reporting risks. Assessment of adequacy of the key controls and eventually test that the key controls are actually in operation. Internal controls include, Understanding of responsibilities and roles, Reporting, reviewing and formal management approval of data; Procedures for ensuring data completeness, conformance with reporting guidelines, maintenance of data trails etc.	Identification of areas of residual risks, i.e. areas of potential reporting risks where there are no adequate management controls to mitigate potential reporting risks Areas where data accuracy, completeness and consistency could be improved are highlighted.

Periodic Verification Checklist Table 3: Detailed audit testing of residual risk areas and random testing		
Areas of residual risks	**Additional verification testing performed**	**Conclusions and Areas Requiring Improvement (including *FARs*)**
List of residual areas of risks of Periodic Verification Checklist Table 2 where detailed audit testing is necessary. *In addition, other material areas may be selected for detailed audit testing.*	*The additional verification testing performed is described. Testing may include:* ▪ *Sample cross checking of manual transfers of data* ▪ *Recalculation* ▪ *Spreadsheet 'walk throughs' to check links and equations* ▪ *Inspection of calibration and maintenance records for key equipment* ▪ *Check sampling analysis results* *Discussions with process engineers who have detailed knowledge of process uncertainty/error bands.*	*Having investigated the residual risks, the conclusions are noted here. Errors and uncertainties are highlighted.*

CARs were not encountered during the verification process. However, the verification team has defined FARs, whenever

- the current status requires a special focus on this item for the next consecutive verification, or
- an adjustment of the MVP is recommended.

All FARs have to be reported to the verification team of the next Periodic Verification, which has to take into account all such findings.

Duration of the verification

Preparations: from March 16 to 20, 2007

On-site verification: March 20, 2007

Monitoring Period:

From November 04, 2005 to December 31, 2006

2.1 Review of Documentation and Site Visits

The verification was performed as a desk review of the project documents including PDD, monitoring plan, validation report, Monitoring Manual, draft monitoring report (November 2005 – December 2006) and further documentations. The results of the determination were documented by the results of the determination were documented by DNV in the validation report: "NITROUS OXIDE EMISSION REDUCTIONS AT LOVOCHEMIE - CZ", report no. 2005-1181, rev. 1, dated 12/10/2005. This final validation report indicates no remaining issues.

2.2 Resolution of Corrective and Forward Action Requests

The objective of this phase of the verification was to resolve the requests for corrective actions and any other outstanding issues which needed to be clarified for TÜV SÜD`s positive conclusion on the GHG emission reduction calculation. Quality and accuracy of the data and documents presented during the on site visit was high and therefore no CARs have to be reported. Forward Action Requests are defined for issues which do not effect the generation of emission reduction in the verified period, but shall be improved in order to ensure the reliability of future data. To guarantee the transparency of the verification process, the FARs raised and responses that have been given are summarized in chapter 3 below and documented in more detail in the verification protocol in annex 1 and 2.

3 INITIAL VERIFICATION FINDINGS

In the following sections the findings of the verification are stated. The verification findings for each verification subject are presented as follows:

The findings from the desk review of the final monitoring report and the findings from interviews during the follow up visit are summarized. A more detailed record of these findings can be found in the Verification Protocol in annex 1.

1) Where TÜV SÜD had identified issues that needed clarification or that represented a risk to the fulfillment of the project objectives, a Corrective or Forward Action Request, respectively, have been issued. The Corrective and Forward Action Requests are stated, where applicable, in the following sections and are further documented in the Verification Protocol in annex 1. The verification of the project resulted in one Forward Action Requests, one Corrective and one Clarification Request.
2) In the context of Forward Action Requests, risks have been identified, which may endanger the delivery of high quality ERs in the future, i.e. by deviations from standard procedures as defined by the MP. As a consequence, such aspects should receive a special focus during the next consecutive verification. A FAR may originate from lack of data sustaining claimed emission reductions. Forward Action Requests are understood as recommendation for future project monitoring; they are stated, where applicable, in the following sections and are further documented in the Verification Protocol in annex 1.
3) The final conclusions for verification subject are presented.

The verification findings relate to the project implementation as documented and described in the final monitoring report.

The verification team wants to emphasize that the applied methodology of the project, namely NM0111, is not exact according to the later approved methodology AM0028. Aspects of NM0111 are adopted in AM0028, but also some aspects that are more related to this project are defined in approved methodology AM0034. Since NM0111 is not an approved and sufficient developed methodology like in AM0028. In case of scope of interpretation the validated and contracted monitoring plan of PDD has been considered.

3.1 Remaining issues, CARs, FARs from initial validation

One task of verification is to check the remaining issues from the previous validation or issues which are clearly defined for assessment in the PDD. The validation report, prepared by DNV, Norway, notes no open issues.

3.2 Project Implementation

3.2.1 Discussion

As stated in the monitoring report, Lovochemie changed the catalyst for reducing N2O two times. At first a catalyst from Heraeus, Hanau (German), secondly a catalyst from BASF (German) and later on Lovochemie has changed back to Haraeus.

The tail gas analyzer which has been used already before installation of the secondary catalyst is a multi-gas analyzer from Rosemount Analytics (Type NGA 2000, MTL3), the annual calibration is done by the Czech company ANTEC, s.r.o Engineering Service, which is an authorized service provider for Emerson Process Management (former Fischer-Rosemount). This calibration is not an expert calibration according to ISO 14181. The gas analyzer is connected to an automatic emission data processing and evaluation system called MiniTAL from Elidis s.r.o (www.elidis.cz).

The flow meter equipment (pressure transmitter) for ammonia (NH_3) is also from Emerson Process Management and it is calibrated by Mattech, s.r.o - a national authorized institute for calibration.

The nitric acid production is determined through the level changes in the tanks. The level of the each tank is measured with a self calibrating APEX™ Sentry radar system from Emerson Process Management.

The flow of NH3 is monitored with internal process control system (internally called DCS).

The production of nitric acid production is determined per shift. Shift changes are at 5:00 am, 13:00 and 21:00.

Some data which are processed at MiniTAL are also processed in the DCS in parallel. The monitoring is considered as a continuous measuring. Signals are recorded either once per 10 sec. (DCS) or average gas concentrations once per minute at MiniTAL; this is considered as continuous.

3.2.2 Findings

None

3.2.3 Conclusion

The project boundary has not changed according the PDD. The project complies with the requirements.

3.3 Internal and External data

3.3.1 Discussion

Internal data can be identified as: Amount of produced nitric acid, amount of ammonia, flow of total gas in the tail gas, concentration of N2O and oxygen in the tail gas. The data are measured as described above. Details can be seen in the attachments.

External data can be identified as: national regulations to mandatory measures regarding N2O reduction. It an essential task of the environmental manager Ms. Stanislava Kadavá to follow national regulations.

At the time of verification national regulations are neither in place nor discussed in the Czech Republic.

3.3.2 Findings

None

3.3.3 Conclusion

The sources of internal or external data and its use are without any doubts. The project complies with the requirements.

3.4 Environmental and Social Indicators

3.4.1 Discussion

No environmental and social indicators are defined in the monitoring plan. No additional negative environmental and social indicators were identified. National and EU wide legal standards ensure that environmental effects will be minimized.

3.4.2 Findings

None

3.4.3. Conclusion

The project complies with the requirements.

3.5 Management and Operational System

3.5.1 Discussion

Lovochemie has an implemented and certified quality and environmental management system. It has been certified in 2006 by TÜV Nord Czech, s.r.o.TÜV. The project related processes were already before project implementation part of usual operational documentation and processing. Regarding monitoring, calibration and maintenance instructions are included in the existing quality management system as far as necessary. Ms. Stanislava Kadavá (environmental manager) takes care about national regulations.

Procedures for calibration and maintenance of used equipment are embedded in the certified quality management system. Lovochemie is certified by TÜV Nord against ISO 9000 and 14000 standard. Responsible for calibration and maintenance of used equipment is Ms. Plackova.

There are ISO 9000/14000 embedded procedures for project related reporting. Tasks and responsibilities are defined in the monitoring plan.

The involved people are enough qualified due to their specific education or specific trainings. In case that people participated in a special training it is documented according to the quality management system. For example the internal adjustment of the gas analyser is preformed only by technicians that have been trained by the supplier.

During onsite visits Lovochemie explained that in case of missing data due to equipment problems will substituted by average data from previous days. That procedure is part of the monitoring plan. However, Lovochemie emphasized that this situation has never happened before.

In the current verification any lack of data or records were not identified.

3.5.2 Findings

The verifier identified following findings related to the Initial Verification Checklist V.3.0 of the VVM, annex "Initial Verification" objectives G1, G5, G7, and related to the Periodic Verification Checklist V.3.0 of the VVM, annex 3.2.

OBJECTIVE	COMMENTS	Concl.
Calibration and quality assurance (IVC C5)	Clarification Request 1: During the onsite visit it could not be finally clarified according to which (inter-)national standard the gas analyzer is calibrated by the external company a/o by the internal staff. Appropriate information is requested. Further information is requested if the hired laboratoryatoryatory for calibrating the analyzer is certified according to ISO 17025.	CR#1
Data acquisition and data processing systems (IVC C6)	Forward Action Request 1: The development of a documented procedure and software manual for the data export has to be completed within 4 months. Its implementation shall be part of the next verification.	FAR#1

3.5.3 Conclusion

The internal adjustment is performed according to supplier's guidance by trained and qualified technicians. Neither the applied methodology NM0111 nor the monitoring plan commonly agreed by parties requires that an external laboratoryatory has to be certified according to ISO 17025 or that ISO 14181 has to be respected. Furthermore, the validator of the project emphasized that issue also and the agreement was signed on that basis. The evidence that the laboratoryatory is authorized by the equipments supplier and the signed agreement is considered as sufficient for verification.

The project complies with the requirements.

Periodic Verification Findings

3.6 Completeness of Monitoring

3.6.1 Discussion

The reporting procedures reflect the monitoring plan completely. All parameters were determined as prescribed.

No changes to the monitoring plan are required.

3.6.2 Findings

None.

3.6.3 Conclusion

The project complies with the requirements.

3.7 Accuracy of Emission Reduction Calculations

3.7.1 Discussion

According to the well documented procedures and the well documented calibrations and maintenance of used equipment the residual main risk can be identified in human errors in practise and systematic errors. Reporting risks due to accuracy of used equipment seems not to be relevant as those uncertainties have been considered in determination of the baseline factor of t N_2O/ t HNO_3. The applied equipment has not changed since that time.

- Systematic error:

  The submitted data records indicates that the daily period of nitric acid production and flow of ammonia dos not match with recorded data from tail gas measurements. The reason for that is that the data of nitric acid is determined per each shift and is summarized for 3 shifts running from 5 am to 5 am. The data from the tail gas, however, are determined automatically with the emission control system MiniTAL. For legal purposes the MiniTAL measures and submits data from 0:00 to 24:00. So in total there is a 5 hours balance difference in the records.

- Human errors

  Human errors can be reasoned due to lack of trainings, qualification or simply because of carelessness.

The systematic error because to different daily monitoring periods is considered as negligible, because this time difference is effective only at the beginning or in opposite at the end of reported monitoring period; so in this verification it is 5 hours in 14 months.

Staffs that are responsible for internal have been trained on the equipment by the equipment supplier. Training documentation has been provided. The documentation of conducted own calibrations indicates that it was done by the same trained persons. Since the frequency of internal calibration is about every 2-3 days the staffs should have enough routine to perform it professionally.

As mentioned above and expressed in FAR 1: the export of data is not easy and needs special know how of the data base. For that reason the stored and archived original data has been checked data and the process of exporting has been demonstrated.

Human errors due to carelessness are tried minimized due to internal check routines. Nevertheless the verification team verified randomly the original measured and stored data and compared it with reported ones.

The check of historical stored data has been performed on a representative partly randomly partly risk based. Risk based means periods of start ups and shuts downs has been checked more detailed because of mentioned time shifts. From each variable at least 25 values have been checked. All values are correct reported except the ammonia flow during December 15 and 31 of 2006. It needs to be corrected.

3.7.2 Findings

OBJECTIVE	COMMENTS	Concl.
Table 3 (PVC)	Corrective Action Request 1: The data has to be corrected. Furthermore the verification team emphasize the need for documented procedures to ensure that data are exported correctly and always according to the same procedure, see FAR 1.	CAR#1

3.7.3 Conclusion

The wrong data has been submitted corrected - determined in the same way as eligible and consistent with previous reported data.

3.8. Quality of Evidence to Determine Emission Reductions

3.8.1 Discussion

Concerning verification the calculation of emission reductions is based on internal data (the external grid emission factor is fixed). The origin of those data was explicitly checked. Further on, entering and processing of those data in the monitoring workbook Excel sheet was checked, where predefined algorithms compute the annual value of the emission reductions. All equations and algorithms used in the different workbook sheets were checked. Inspection of calibration and maintenance records for key equipment was performed for all relevant meters.

Human errors due to carelessness are tried minimized due to internal check routines. Nevertheless the verification team verified randomly the original measured and stored data and compared it with reported ones.

The check of historical stored data has been performed on a representative partly randomly partly risk based. Risk based means periods of start ups and shuts downs has been checked more detailed because of mentioned time shifts. From each variable at least 25 values have been checked. All values are correct reported except the ammonia flow during December 15 and 31 of 2006. It needs to be corrected see CAR#1 above.

3.8.2 Findings

None.

3.8.3 Conclusion

The project complies with the requirements.

3.9 Management System and Quality Assurance

3.9.1 Discussion

Due to the straightforward approach for calculating GHG emission reductions the existing management system is appropriate and quality assurance is guaranteed. There are some areas where improvement is needed; those are listed in section 3.5.

3.9.2 Findings

See section 3.5 above.

3.9.3 Conclusion

The project complies with the requirements.

4. PROJECT SCORECARD

The conclusions on this scorecard are based on the revised CDM monitoring report.

Risk Areas		Conclusions			Summary of findings and comments
		Baseline Emissions	Project Emissions	Emission Reductions	
Completeness	Source coverage/ boundary definition	✓	✓	✓	All relevant sources are covered by the monitoring plan and the boundaries of the project are defined correctly and transparently.
Accuracy	Physical Measurement and Analysis	✓	✓	✓	State-of-the-art technology is applied in an appropriate manner. Appropriate back-up solutions are provided.
	Data calculations	✓	✓	✓	Emission reductions are calculated correctly.
	Data management & reporting	✓	✓	✓	Data management and reporting were found to be satisfying. Potential for improvement is indicated by FARs 1
Consistency	Changes in the project	✓	✓	✓	Results are consistent to underlying raw data.

5 VERIFICATION STATEMENT

TÜV SÜD Industrie Service GmbH has performed an initial and first periodic verification of the registered JI project: **Nitrous Oxide Emission Reductions at Lovochemie - CZ**. The verification is based on requirements of the UN Framework Convention on Climate Change (UNFCCC). In this context, the relevant documents are the "Marrakech Accords".

The management of Lovochemie a.s. is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the document Monitoring Report; period November 4, 2005 up to December 31, 2006).

The verifier confirms that the project is implemented as planned and described in validated project design documents. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project does generate GHG emission reductions.

The verifier can confirm that the GHG emission reduction for the whole monitoring period is calculated without material misstatements. Our opinion relates to the project's GHG emissions and resulting GHG emissions reductions reported and related to the valid and registered project baseline and monitoring, and its associated documents. Based on the information we have seen and evaluated, we confirm the following statement:

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Stated values are correct; however, due to conservative rounding slightly inconsistencies could occur. The verification team also determined some areas of risks for the project in the context of the management system. Those issues indicated as "Forward Action Request" and should be submitted as indispensable information to the verification team of the next periodic verification.

Munich, 3/21/2007

Markus Knödlseder

Project manager

Munich, 3/21/2007

Werner Betzenbichler

Head of certification body „Climate and Energy"

6 REFERENCES

Category 1 Documents:

Documents provided by the Client that relate directly to the GHG components of the project. These have been used as direct sources of evidence for the initial verification conclusions.

1-1	Emission reduction purchase agreement (ERPA),
1-2	Calibration protocols 61222 and 61223, preformed by ANTEC, s.r.o Engineering Service
1-3	Calibration protocols 2152/06, performed by Mattech, s.r.o
1-4	PDD version 2.0, validated by DNV PDD version 2.1, annex one of ERPA
1-5	Specific Monitoring plan of N2O emissions from the KD6 nitric acid production plant, internal document of Lovochemie, a.s.
1-6	Monitoring Report of November 2005 – December 2006, Lovochemie, a.s.
1-7	DNV in the validation report: "NITROUS OXIDE EMISSION REDUCTIONS AT LOVOCHEMIE - CZ", report no. 2005-1181, rev. 1, dated 12/10/2005.

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Category 2 Documents:

Background documents related to the design and/or methodologies employed in the design or other reference documents. These documents have been used to cross-check project assumptions and confirm the validity of information given in the Category 1 documents and in verification interviews.

2-1	Participation list of performed audit on 20.3.2007 onsite at the utility of Lovochemie a.s
2-2	General quality assurance procedure for calibration and maintenance of equipment, document no. TOP-B05-66
2-3	Quality management handbook for ISO 9000 and 14000
2-4	Internal verification report, ZIP IMS-2006-100, Lovochemie a.s., Jan. 2007
2-5	"Katalog kvalifikačních požadavků" (Catalogue of qualification requirements) for all positions in Lovochemie and TOP C04 - 38 "Výcvik" (Training)
2-6	"Popis pracovní funkce" (Description of a job position)
2-7	Document TOP - C08 - 64 "Řízení dokumentů a záznamů" (Administration of documents and records)

1 INITIAL VERIFICATION CHECKLIST

OBJECTIVE	Ref.	COMMENTS	Concl.(incl FARs/CARs)
A. Opening Session			
A.1. Introduction to audits	2-1	On March 20, 2007 TÜV SÜD Industrie Service GmbH conducted an onsite audit at Lovochemie a.s. The audit was performed by: o Mr. Markus Knödlseder (GHG Auditor) TÜV SÜD Industrie Service GmbH o Mr. Petr Matušinskỳ TÜV Nord Czech, s.r.o. From Lovochemie following persons participated the audit: o Mr. Vaclav Šmíd (technician) Lovochemie a.s. o Ms. Pavla Záklasníková (air protection) Lovochemie a.s. o Ms. Stanislava Kadavá (Head of environmental dept.) Lovochemie a.s. o Mr. Petr Peterka (technician for metering) Lovochemie a.s. o Mr. Petr Cermánek (JI project manager) Lovochemie a.s. An emission reduction purchase agreement (ERPA) between Lovochemie and the Government of the Kingdom of Denmark, and a letter of approval from Environmental Ministry of the Czech Republic de-	☑

OBJECTIVE	Ref.	COMMENTS	Concl.(incl FARs/CARs)
		termines that the project shall be treated JI track one defined in the Kyoto Protocol.	
A.2. Clarification of access to data archives, records, plans, drawings etc.	-	The verification team had access to all demanded archives, records and facilities.	☑
A.3. Contractors for equipment and installation works	1-2 1-3	As stated in the monitoring report, Lovochemie changed the catalyst two times. At first a catalyst from Heraeus, Hanau (German), secondly a catalyst from BASF (German) and later on Lovochemie has changed back to Heraeus. The tail gas analyzer which has been used already before installation of the secondary catalyst is a multi-gas analyzer from Rosemount Analytics (Type NGA 2000, MTL3), the annual calibration is done by the Czech company ANTEC, s.r.o Engineering Service, which is an authorized service provider for Emerson Process Management (former Fischer-Rosemount). The flow meter equipment (pressure transmitter) for ammonia (NH_3) is also from Emerson Process Management and it is calibrated by Mattech, s.r.o - a national authorized institute for calibration. The nitric acid production is determined through the level changes in the tanks. The level of the each tank is measured with a self calibrating APEX^{TM} Sentry radar system from Emerson Process Management.	☑
A.4. Actual status of installation works	-	The use of the secondary catalyst does not cause any installation work vs. the pre project situation. All equipments mentioned above had been used already before project implementation for production control pur-	☑

OBJECTIVE	Ref.	COMMENTS	Concl.(incl FARs/CARs)
		poses. So all needed installations are in place.	
B. Open issues indicated in validation report *Especially in projects which are not yet registered at CDM-EB or JI-SB, there might be some outstanding issues which should have been indicated by the validation report.*			
B.1. Missing steps to final approval	1-1	An emission reduction purchase agreement (ERPA) between Lovochemie and the Government of the Kingdom of Denmark, and a letter of approval from Environmental Ministry of the Czech Republic determines that the project shall be treated JI track one defined in the Kyoto Protocol. From the point of view of Lovochemie there are no missing steps identifiable.	☑
C. Implementation of the project *This part is covering the essential checks during the on-site inspection at the project's site, which is indispensably for an initial verification*			
C.1. Physical components	1-2 1-3	As mentioned above in section A3 and A4 all required installations had been installed already before project implementation for production control purposes. So all needed installations are in place.	☑
C.2. Project boundaries	1-4	The project boundary has not changed according the PDD	☑
C.3. Monitoring and metering systems	1-1 1-2	The metering systems are mentioned above in section A3 and A4. The gas analyzer is connected to an automatic emission data processing and evaluation system called MiniTAL from Elidis s.r.o (www.elidis.cz). The flow of NH3 is monitored with internal process control system (internally called DCS).	☑

OBJECTIVE	Ref.	COMMENTS	Concl.(incl FARs/CARs)
		The production of nitric acid is determined per shift. Shift changes are at 5:00 am, 13:00 and 21:00. Some data which are processed at MiniTAL are also processed in the DCS in parallel. The monitoring is considered as a continuous measuring. Signals are recorded either once per 10 sec. (DCS) or average gas concentrations once per minute at MiniTAL	
C.4. Data uncertainty	1-4	In general main sources for data uncertainty are identified due to metering equipment and data processing. Uncertainties of used metering equipment are addressed in the PDD and can be confirmed by submitted specifications. Those uncertainties have been considered in the determination of the baseline factor. As mentioned above all data are monitored and recorded automatically in appropriate data bases. The data are rounded at least at the fifth digit. Furthermore archived data are not condensed. For calculating emission reductions, needed data are exported from those data bases to Excel spreadsheets. That data export does not cut any digits, so the calculation is done by using rounded values; only the final displayed amount emission reduction is rounded according to good practice Further potential source of uncertainties are not identified.	☑
C.5. Calibration and quality assurance	2-2	Procedures for calibration and maintenance of used equipment are embedded in the certified quality management system. Lovochemie is	**CR 1**

OBJECTIVE	Ref.	COMMENTS	Concl.(incl FARs/CARs)
		certified by TÜV Nord against ISO 9000 and 14000 standard. Responsible for calibration and maintenance of used equipment is Ms. Plackova. It can be confirmed that calibration has been performed before and during project activity. All equipment is calibrated by external companies according to a given period. Beyond that the gas analyzer is adjusted internally by trained people at least once per week. The established procedures minimize the risk that required calibrations will be missed. <u>Clarification Request 1:</u> During the onsite visit it could not be finally clarified according to which (inter-)national standard the gas analyzer is calibrated by the external company a/o by the internal staff. Appropriate information is requested. Further information is requested if the hired laboratory for calibrating the analyzer is certified according to ISO 17025.	
C.6. Data acquisition and data processing systems	1-1 1-2	The Data acquisition and data processing system is described in section C.3. The nitric acid production is determined in each shift of the nitric acid production unit. In operational notes those amount is recorded. At the end of each shift the leader of the shift has to aggregate the operational data to a second sheet. Nitric acid that is pumped to other units is measured and balanced against the for further nitric acid production unit. The balanced data are typed into the SAP system.	**FAR 1**

OBJECTIVE	Ref.	COMMENTS	Concl.(incl FARs/CARs)
		For JI project purposes the data from SAP, MiniTAL as well as from DCS are exported manually into Excel. During the onsite visit the demonstration of that export indicated that the procedure has an inherent risk to get wrong data, if the staffs are not aware about it. At the moment only Mr. Vaclav Šmíd knows about the handling of the export. <u>Forward Action Request 1:</u> The development of a documented procedure and software manual for the data export has to be completed with in 4 months. Its implementation shall be part of the next verification.	
C.7. Reporting procedures	1-5	There are ISO 9000/14000 embedded procedures for reporting. Tasks and responsibilities are defined in the monitoring plan.	☑
C.8. Documented instructions	1-5 2-3	Regarding monitoring, calibration and maintenance instructions are included in the existing quality management system as far as necessary. Mr. Kadava (environmental manager) takes care about national regulations. Further instruction except from FAR 1 above has not been identified.	☑
C.9. Qualification and training	1-2 2-3	The involved people are enough qualified due to their specific education or specific trainings. In case that people participated in a special training it is documented according to the quality management system. For example the internal calibration of the gas analyser is preformed only by technicians that have been trained by the supplier.	☑
C.10. Responsibilities	1-2 1-5	Responsibilities are usually allocated clearly in the quality management system. Regarding the specific task for emission reduction moni-	☑

OBJECTIVE	Ref.	COMMENTS	Concl.(incl FARs/CARs)
	2-3	toring and reporting procedures responsibilities are mentioned in the Monitoring Plan, too.	
C.11. Troubleshooting procedures	1-4 1-5	During onsite visits Lovochemie explained that in case of missing data due to equipment problems will substituted by average data from previous days. That procedure is part of the monitoring plan. However, Lovochemie emphasized that this situation has never happened before. In the current verification no lack of data or records were identified.	☑
D. Internal Data *Identifying the internal GHG data sources and ways in which the data have been collected, calculated, processed, aggregated and stored should be part of initial verification to assess accuracy and reliability of the internal GHG data..*			
D.1. Type and sources of internal data	1-6	Internal data can be identified as: Amount of produced nitric acid, amount of ammonia, flow of total gas in the tail gas, concentration of N2O and oxygen in the tail gas. The data are measured as described above.	☑
D.2. Data collection	-	See above	☑
D.3. Quality assurance	-	See above	☑
D.4. Significance and reporting risks	-	DCS export in Excel seems to be critical. See FAR 1	FAR 1

OBJECTIVE	Ref.	COMMENTS	Concl.(incl FARs/CARs)
E. External Data *Especially for data of baseline emissions there might be the necessity to include external data sources. The access to such data and a proof of data quality should be part of initial verification. If it is deemed to be necessary, an entity delivering such data should be audited.*			
E.1. Type and sources of external data	1-5 2-3	External data can be identified as: national regulations to mandatory measures regarding N2O reduction. It an essential task of the environmental manager Ms. Stanislavá Kadava to follow national regulations. At the time of verification national regulations are neither in place nor discussed in the Czech Republic.	
E.2. Access to external data	2-3	The access to national regulations is crucial in general for the company. Appropriate procedures are part of the established quality and environmental management system.	☑
E.3. Quality assurance	2-3	The compliance with national regulation is crucial generally. Appropriate procedures are part of the established quality and environmental management system.	☑
E.4. Data uncertainty	-	Regarding external data no uncertainty can be identified.	☑
E.5. Emergency procedures	-	Regarding external data any need for emergency procedures can be identified.	☑
F. Environmental and Social Indicators			

OBJECTIVE	Ref.	COMMENTS	Concl.(incl FARs/CARs)
F.1. Implementation of measures	1-4 1-5 1-6	The monitoring plan does not comprise any environmental and/or social indicators which could be necessary to monitor for the success of the project activity.	☑
F.2. Monitoring equipment	-	See comment in section F.1	☑
F.3. Quality assurance procedures	-	See comment in section F.1	☑
F.4. External data	-	See comment in section F.1	☑
G. Management and Operational System *In order to ensure a successful operation of a Client project and the credibility and verifiability of the ERs achieved, the project must have a well defined management and operational system.*			
G.1. Documentation	2-3	The documentation of the management and operational system where the GHG emission reduction monitoring is an inherent part of is defined in the quality management system.	☑
G.2. Qualification and training	2-3 2-5	Qualification and training are ´defined in the document "Katalog kvalifikačních požadavků" (Catalogue of qualification requirements) for all positions in Lovochemie and TOP C04 - 38 "Výcvik" (Training)	☑
G.3. Allocation of responsibilities	2-3 2-6	The allocation of responsibilities is ruled in the existing quality management system in the document "Popis pracovní funkce" (Description of a job position)	☑

OBJECTIVE	Ref.	COMMENTS	Concl.(incl FARs/CARs)
G.4. Emergency procedures	-	See C.11 and E.5.	☑
G.5. Data archiving	2-3 2-7	Procedures for Data archiving are also in place and documented according to the document TOP - C08 - 64 "Řízení dokumentů a záznamů" (Administration of documents and records)	☑
G.6. Monitoring report	2-3 1-5	Project specific procedure for monitoring report is based on the detailed Monitoring plan (a part of TOP - E14 - 9 "Monitorování BOZP a ŽP" - Monitoring of a working environment, occupational hygiene and environment)	☑
G.7. Internal audits and management review	2-3 2-4	The performance of internal audits regarding the project activity and emission reduction monitoring has been documented.	☑

Table 1: Data Management System/Controls

The project operator's data management system/controls are assessed to identify reporting risks and to assess the data management system's/control's ability to mitigate reporting risks. The GHG data management system/controls are assessed against the expectations detailed in the table. A score is assigned as follows:

- Full - all best-practice expectations are implemented.
- Partial - a proportion of the best practice expectations is implemented
- Limited - this should be given if little or none of the system component is in place.

Expectations for GHG data management system/controls	Score	Verifiers Comments (including Forward Action Requests)
1. Defined organisational structure, responsibilities and competencies		
1.1. Position and roles	**Full**	Position and role of each person in the GHG data management process is clearly defined and implemented, from raw data generation to submission of the final data. Accountability of senior management must also be demonstrated.
1.2. Responsibilities	**Full**	Specific monitoring and reporting tasks and responsibilities are not included in job descriptions or special instructions for employees. However, operational monitoring and responsibilities are covered by the existing quality management system.

Expectations for GHG data management system/controls	Score	Verifiers Comments (including Forward Action Requests)
1.3. *Competencies needed*	**Full**	Competencies needed for each aspect of the GHG determination process are analysed. Personnel competencies are assessed and training programme implemented as required. The involved people are enough qualified due to their specific education or specific trainings. In case that people participated in a special training it is documented according to the quality management system. For example the internal calibration of the gas analyser is preformed only by technicians that have been trained by the supplier.
2. Conformance with monitoring plan		
2.1. Reporting procedures	**Full**	Reporting procedures should reflect the monitoring plan content in the PDD. The validated monitoring plan is part of the ERPA. Deviations from the monitoring plan can not be identified,; internal monitoring plan concretise the specific reporting
2.2. Necessary Changes	**Full**	Necessary changes to the monitoring plan are not identified.
3. Application of GHG determination methods		

Expectations for GHG data management system/controls	Score	Verifiers Comments (including Forward Action Requests)
3.1. Methods used	**Full**	There are documented description of the methods used to determine GHG emissions and justification for the chosen methods. When the PDD was validated by DNV in 2005 the applied methodology was not finally approved by the UNFCCC CDM Executive Board. The applied methodology NM0111 divers from the final approved methodology AM0028. On the other hand the project does not fall under CDM, but rather on JI track one. Since the validated PDD including the project specific monitoring plan is part of the ERPA and considering that the project shall use track one, agreed by the Danish and Czech government any deviations from existing approved methodologies have not been considered. The verification team confirms that Lovochemie a.s. respect the agreed monitoring method described in the monitoring plan of validated PDD.
3.2. Information/process flow	**Full**	Monitored raw data are recorded automatically in three data base system. Nitric acid production is reported from the shift leader daily for transferring the data into the controlling system SAP. Pollution data are recorded by emission data system, called MiniTAL from Elidis s.r.o. Amonia data are monitored and recorded in the operational control system, called DCS. For reporting of emission reductions data from the data base systems are exported and calculated in Excel as attached in the monitoring report.

Expectations for GHG data management system/controls	Score	Verifiers Comments (including Forward Action Requests)
3.3. Data transfer	**Full**	The data transfer is highly automated. Before manual records like nitric acid production will be transferred into the SAP-system it will be checked and cross balanced from different persons. The second manual data transfer is by exporting stored data from the data bases into the appropriate Excel sheet. Internal verification procedures shall ensure also, that this transfer will be done correctly. The verification could not identify by random checks any wrong data transfers.
3.4. Data trails	**Full**	See comments in 3.3 and 3.2 above as well as comments in the previous initial verification checklist.
4. Identification and maintenance of key process parameters		
4.1. Identification of key parameters	**Full**	The key parameters are defined clearly in the monitoring plan: Amount of produced nitric acid, amount of ammonia, flow of total gas in the tail gas, concentration of N2O and oxygen in the tail gas. The data are measured as described above.

Expectations for GHG data management system/controls	Score	Verifiers Comments (including Forward Action Requests)
4.2. Calibration/maintenance	**Full**	Procedures for calibration and maintenance of used equipment are embedded in the certified quality management system. Lovochemie is certified by TÜV Nord against ISO 9000 and 14000 standard. Responsible for calibration and maintenance of used equipment is Ms. Plackova. It can be confirmed that calibration has been performed before and during project activity. All equipment is calibrated by external companies according to a given period. Beyond that the gas analyzer is calibrated internally by trained people at least once per week. The established procedures minimize the risk that required calibrations will be missed. Clarification Request 1: During the onsite visit it could not be finally clarified according to which (inter-) national standard the gas analyzer is calibrated by the external company a/o by the internal staff. Appropriate information is requested. Further information is requested if the hired laboratoryatory for calibrating the analyzer is certified according to ISO 17025.
5. GHG Calculations		
5.1. Use of estimates and default data	**Full**	For estimating the emission reduction two estimates and default values are applied: Global warming potential of N_2O, which is 310 CO_{2e} and the validated and agreed baseline factor of 7,52 kg N_2O / t HNO_3
5.2. Guidance on checks and reviews	**Full**	Specific documented guidance on checks and reviews are not identified. However, general established routines for internal verification as documented (ref. 2-4) ensures high reliable calculation and reporting

Expectations for GHG data management system/controls	Score	Verifiers Comments (including Forward Action Requests)
5.3. Internal verification / validation	**Full**	See 5.2 and G.7 of initial verification checklist.
5.4. Data protection measures	**Full**	The quality management system as well as the real handling demonstrated that each relevant data save. On the one hand specific skills for using the data bases are required and on the other hand defined quality assurance procedures are in place. Computer and electronic equipment are protected physically. Different data back up systems of using CDs, hardcopies are an additional measure of data protection.
5.5. IT systems	**Full**	Following IT systems and software solutions are used for data monitoring, recording and reporting: o MSOffice (Microsoft), o MiniTAL by ELIDIS, o Process control system DCS Delta V by Emerson

Table 2: GHG calculation procedures and management control testing

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
According to the well documented procedures and the well documented calibrations and maintenance of used equipment the residual main risk can be identified in human errors in practise and systematic errors. Reporting risks due to accuracy of used equipment seems not to be relevant as those uncertainties have been considered in determination of the baseline factor of t N_2O/ t HNO_3. The applied equipment has not changed since that time. o Systematic error: The submitted data records indicates that the daily period of nitric acid production and flow of ammonia dos not match with recorded data from tail gas measurements. The reason for that is that the data of nitric acid is determined per each shift and is summarized for 3 shifts running from 5 am to 5 am. The data from the tail gas, however, are determined automatically with the emission control system MiniTAL. For legal purposes the MiniTAL measures and submits data from 0:00 to 24:00. So in total there is a 5 hours balance difference	The systematic error because to different daily monitoring periods is considered as negligible, because this time difference is effective only at the beginning or in opposite at the end of reported monitoring period; so in this verification it is 5 hours in 14 months. Staffs that are responsible for internal have been trained on the equipment by the equipment supplier. Training documentation has been provided. The documentation of conducted own calibrations indicates that it was done by the same trained persons. Since the frequency of internal calibration is about every 2-3 days the staffs should have enough routine to perform it professionally. As mentioned above and expressed in FAR 1: the export of data is not easy and needs special know how of the data base. For that reason the stored and archived original data has been checked data and the process of exporting has been demonstrated. Human errors due to carelessness are tried minimized due to internal check routines. Nevertheless the verification team verified randomly the original	As mentioned above and in the left column: the data export is sensitive. The wrong export of data for the ammonia flow during second half of December 2006 demonstrate this. Corrective Action Request 1: The data has to be corrected. Furthermore the verification team emphasize the need for documented procedures to ensure that data are exported correctly and always according to the same procedure, see CR1.

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
in the records. o Human errors Human errors can be reasoned due to lack of trainings, qualification or simply because of carelessness.	measured and stored data and compared it with reported ones. The check of historical stored data has been performed on a representative partly randomly partly risk based. Risk based means periods of start ups and shuts downs has been checked more detailed because of mentioned time shifts. From each variable at least 25 values have been checked. All values are correct reported except the ammonia flow during December 15 and 31 of 2006. It needs to be corrected.	

Table 3: Detailed audit testing of residual risk areas and random testing

Areas of residual risks	Additional verification testing performed	Conclusions and Areas Requiring Improvement (including *Forward Action Requests*)
Corrective Action Request 1: The data has to be corrected. Furthermore the verification team emphasize the need for documented procedures to ensure that data are exported correctly and always according to the same procedure, see FAR 1.	Revised data has been submitted.	Forward Action Request 1: The development of a documented procedure and software manual for the data export has to be completed with in 4 months. Its implementation shall be part of the next verification.

Table 4: Compilation of open issues

Corrective and Forward Action Requests by audit team	Summary of project owner response	Audit team conclusion
Clarification Request 1: During the onsite visit it could not be finally clarified according to which (inter-) national standard the gas analyzer is calibrated by the external company a/o by the internal staff. Appropriate information is requested. Further information is requested if the hired laboratoryatory for calibrating the analyzer is certified according to ISO 17025.	Internal calibration of analysers is performed according to manual for analyser NGA2000 in English. A procedure for the calibration is on the page 30 - 31. (See attached file: NGA200MLT manual En.pdf) There is no accredited company for the calibration of N2O analysers in the Czech Republic. ANTEC is certified to make service, calibrations and maintenance of all analysers produced by Emerson Process Management (former Fisher Rosemount). See provided certificate. (See attached file: ANTEC - certificate.jpg) External calibration is made by the standards and manual of the analyser producer (Emerson P.M.)	The internal calibration is performed according to supplier's guidance by trained and qualified technicians. Neither the applied methodology NM0111 nor the monitoring plan commonly agreed by parties requires that an external laboratory has to be certified according to ISO 17025. Furthermore, the validator of the project emphasized that issue also and the agreement was signed on that base. The evidence that the laboratoryatory is authorized by the equipments supplier and the signed agreement is considered as sufficient for verification.
Forward Action Request 1: The development of a documented procedure and software manual for the data export has to be completed within 4 months. Its implementation shall be part of the next verification.		To be considered in the next verification.