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Determination Report

OJSC AZOT

DETERMINATION OF THE JI TRACK-2 PROJECT: "REDUCTION OF N2O EMISSIONS FROM NITRIC ACID PRODUCTION AT OJSC "AZOT", CHERKASY, UKRAINE"

REPORT NO. 1444147

January 19th 2011

TÜV SÜD Industrie Service GmbH
Carbon Management Service
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Industrie Service

Report No.	Date of first issue	Revision No.	Date of this revision	Certificate No.
1444147	07-07-2010	2.0	19-01-2011	-

Subject: Determination of a JI Track-2 project

Accredited TÜV SÜD Unit:	**TÜV SÜD Contract Partner:**
TÜV SÜD Industrie Service GmbH Certification Body "climate and energy" Westendstr. 199 80686 Munich Germany	TÜV SÜD Industrie Service GmbH Carbon Management Service Westendstr. 199 80686 Munich Germany
Project Participant(s): OJSC "AZOT" 72 Pervomayskaya str. 18014 Cherkassy Ukraine DONG Naturgas AS 6 Agern Allé 24-26 2970 Hørsholm Denmark	**Project Site(s):** OJSC "AZOT" 72 Pervomayskaya str. 18014 Cherkassy Ukraine

Project Title: Reduction of N2O Emissions from Nitric Acid Production at OJSC "AZOT", Cherkasy, Ukraine

Applied Methodology / Version: AM0034 / version 3.4	**Scope(s):** 5	**TA(s):** 5.1, 5.2

First PDD Version:		**Final PDD version:**	
Date of issuance:	25-05-2009	Date of issuance:	06-09-2010
Version No.:	01	Version No.:	04
First publishing	05-02-2010		

Estimated Annual Emission Reduction (2010-2012): 580,250 tCO2e

Assessment Team Leader:	**Further Assessment Team Members:**
Nikolaus Kröger	Olena Maslova, Andrey Atyakshev

Summary of the Determination Opinion:

☒ The review of the project design documentation and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the JI. Hence, TÜV SÜD will recommend the project for registration under JI Track-2 in case letter of approval at least from the host Party involved will be available.

☐ The review of the project design documentation and the subsequent follow-up interviews have not provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. Hence TÜV SÜD will not recommend the project for registration and will inform the project participants and the JI Supervisory committee on this decision.

Abbreviations

AIE	Accredited Independent Entity
AM	Approved Methodology
AOR	Ammonia Oxidation Reactor
Azot	OJSC "Azot"
CAR	Corrective Action Request
CJSC	Closed Joint Stock Company
CR	Clarification Request
DFP	Designated Focal Point
DVM	Determination and Verification Manual, version 01
EF	Emission Factor
EIA / EA	Environmental Impact Assessment / Environmental Assessment
ER	Emission Reduction
ERUs	Emission Reduction Unit(s)
FAR	Forward Action Request
GHG	Greenhouse gas(s)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
IRL	Information Reference List
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
KP	Kyoto Protocol
LoA	Letter of Approval
LoE	Letter of Endorsement
MP	Monitoring Plan
NDIR	Non-Dispersive Infrared Spectroscopy
NGO	Non Governmental Organisation
OJSC	Open Joint Stock Company
PCS	Process Control System
PDD	Project Design Document
PP	Project Participant
TÜV SÜD	TÜV SÜD Industrie Service GmbH
UNFCCC	United Nations Framework Convention on Climate Change

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1 INTRODUCTION

1.1 Objective

The determination objective is an independent assessment by a Third Party (Accredited Independent Entity, AIE) of a proposed project activity against all defined criteria set for the registration under the Joint Implementation scheme (JI). Determination is part of the JI project cycle and will finally result in a conclusion by the executing AIE whether a project activity is valid and should be submitted for registration to the Joint Implementation Supervisory Committee by UNFCCC. The ultimate decision on the registration of a proposed project activity rests on the JISC decision and the Parties involved.

The project activity discussed by this determination report has been submitted under the project title:

Reduction of N2O Emissions from Nitric Acid Production at OJSC "AZOT", Cherkasy, Ukraine

1.2 Scope

The scope of any assessment is defined by the underlying legislation, regulation and guidance given by relevant entities or authorities. In the case of JI project activities the scope is set by:

- The Kyoto Protocol, in particular § 6
- Decision 2/CMP1 and Decision 3/CMP.1 (Marrakech Accords)
- Further COP/MOP decisions with reference to the JI (e.g. decisions 9/CMP.1)
- Decisions by the JI-SC published under http://ji.unfccc.int
- Specific guidance by the JI-SC published under http://ji.unfccc.int
- Guidelines for Completing the Project Design Document (JI-PDD)
- The applied approved CDM methodology(s)
- The technical environment of the project (technical scope)
- Internal and national standards on monitoring and QA/QC
- Technical guideline and information on best practice

The Determination is not meant to provide any consultancy towards the client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

Once TÜV SÜD receives an initial PDD version, it is made publicly available in the internet on TÜV SÜD's webpage as well as on the UNFCCC JI webpage. In case of any request a PDD might be revised and the final PDD will form the basis for the final evaluation as presented in this report. Information on the initial and on the final PDD version is presented on page 1.

The only purpose of a Determination is its use during the registration process as part of the JI project cycle. Hence, TÜV SÜD cannot be held liable by any party for decisions made or not made based on the Determination opinion, which will go beyond that purpose.

2 METHODOLOGY

The project assessment applies standard auditing techniques to assess the correctness of the information provided by the PPs. The assessment is based on the DVM. The work starts with appointment of team covering the technical scope(s), sectoral scope(s) and relevant host country experience for evaluating the JI project activity. Once the project is made public available, members of the team carry out the desk review, follow-up actions, resolution of issues identified and finally preparation of the determination report. The prepared determination report and other supporting documents then undergo an internal quality control by the CB "climate and energy" before submission to the DFPs of the Parties involved.

In order to ensure transparency, assumptions are clear and explicitly stated; the background material is clearly referenced. TÜV SÜD developed methodology-specific checklists and protocol customised for the project. The protocol shows, in a transparent manner, criteria (requirements), the discussion of each criterion by the assessment team and the results from validating the identified criteria. The determination protocol serves the following purposes:

It organises, details and clarifies the requirements the particular JI Track-2 project is expected to meet; it ensures a transparent determination process where the determiner will document how a particular requirement has been validated and the result of the determination and any adjustment made to the project design.

The determination protocol consists of three tables. The different columns in these tables are described in the figure below. The completed determination protocol is enclosed in Annex 1 to this report.

Determination Protocol Table 1: Conformity of Project activity and PDD				
Checklist Topic / Question	**Reference**	**Comments**	**Published PDD**	**Final PDD**
The checklist is organised in sections following the arrangement of the applied PDD version. Each section is then further sub-divided. The lowest level constitutes a checklist question / criterion.	*Gives reference to documents where the answer to the checklist question or item is found in case the comment refers to documents other than the PDD.*	*The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached. In some cases sub-checklist are applied indicating yes/no decisions on the compliance with the stated criterion. Any **Request** has to be substantiated within this column.*	*Conclusions are presented based on the assessment of the first PDD version. This is either acceptable based on evidence provided (☑), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question (see below). **Clarification Request (CR)** is used when the determination team has identified a need for further clarification. **Forward action request** to highlight issues related to project implementation that require review during the first verification.*	*Conclusions are presented in the same manner based on the assessment of the final PDD version and further documents including assumptions presented in the documentation.*

Determination Protocol Table 2: Resolution of Corrective Action and Clarification Requests			
Clarifications and corrective action requests	**Ref. to table 1**	**Summary of project owner response**	**Determination team conclusion**
If the conclusions from table 1 are either a Corrective Action, a Clarification or a Forward action Request, these should be listed in this section.* ** In the latest revision of this Report **Table 4** serves for summurising of Forward Action Requests that require review during the first verification.*	*Reference to the checklist question number in Table 1 where the issue is explained.*	*The responses given by the client or other project participants during the communications with the determination team should be summarised in this section.*	*This section should summarise the discussion on and revision to project documentation together with the determination team's responses and final conclusions. The conclusions should be reflected in Table 1, under "Final PDD".*

In case of a denial of the project activity more detailed information on this decision will be presented in table 3.

Determination Protocol Table 3: Unresolved Corrective Action and Clarification Requests		
Clarifications and corrective action requests	**Id. of CAR/CR 1**	**Explanation of the Conclusion for Denial**
If the final conclusions from table 2 results in a denial the referenced request should be listed in this section.	*Identifier of the Request.*	*This section should present a detail explanation, why the project is finally considered not to be in compliance with a criterion with a clear reference to the requirement which is not complied with.*

2.1 Appointment of the Assessment Team

According to the technical scopes and experiences in the sectoral or national business environment TÜV SÜD has composed a project team in accordance with the appointment rules of the TÜV SÜD certification body "climate and energy". The composition of an assessment team has to be approved by the Certification Body (CB) ensuring that the required skills are covered by the team. The CB TÜV SÜD operates four qualification levels for team members that are assigned by formal appointment rules:

- Assessment Team Leader (ATL)
- Greenhouse Gas Auditor (GHG-A): determiner/ verifier
- Greenhouse Gas Auditor Trainee (T)
- Experts (E)

It is required that the sectoral scope and technical area linked to the methodology as well as host country expertise are covered by the assessment team.

The Determination team was consisting of the following experts (the responsible Assessment Team Leader in written in bold letters):

Name	Qualification	Coverage of technical scope	Coverage of technical area	Host country experience
Nikolaus Kröger	**ATL**	☑	☑	
Olena Maslova	A	☑	☑	☑
Andrey Atyakshev				☑

Nikolaus Kröger is environmental engineer and expert for emissions monitoring and quality assurance at the department "TÜV SÜD Carbon Management Service". He is located in the TÜV SÜD Hamburg office and is also engaged as personally accredited verifier in the EU-ETS serving the Northern German market. Being ghg auditor and assessment team leader for CDM and JI projects he has already been involved in several CDM/JI activities with a special focus on industrial non-CO_2 projects. Constitutive on 13 years experience at the department "Environmental Service" he verified many metallurgical plants, refineries, chemical plants, waste treatment and power plants and process engineering in many types of facilities. One of his former focal points had been implementation and calibration of complex automatic Environment-Data-Systems. Reflecting on earlier projects he is familiar with political, economical and technical random conditions in host country.

Olena Maslova is an auditor in the "Carbon Management Service" department of TÜV SÜD Industrie Service GmbH in Munich, Germany. She is chemical engineer and host country expert for projects in Ukraine and Commonwealth of Independent States. Olena Maslova specializes in the assessment of JI projects in the sector of chemical industries and waste handling and disposal. In this project she functioned as project manager and lead auditor.

Andrey Atyakshev is mechanical engineer in the field of metal forming and expert for metallurgical works and engineering plants, mechanical and chemical testing for metal production. He is located in TÜV SÜD Ukraine, Kiev office and responsible for the Indusrty Service as well as Carbon Managment Service of TÜV SÜD in Ukraine. Being Industrial inspector, he has been involved in many third party industrial inspections and acceptance of products. Also he is appointed ISO 9001 Lead auditor. Being GHG determiner/verifier for CDM and JI projects, he has already been involved in several of CDM and JI activities with a special focus on industrial projects[*].

2.2 Review of Documents

A first version of the PDD was submitted to the AIE in January 2010. The first PDD version submitted by the PP and additional background documents related to the project design and baseline were reviewed to verify the correctness, credibility and interpretation of the presented information, furthermore a cross-check between information provided and information from other sources have been done as initial step of the determination process. A complete list of all documents and proofs reviewed is attached as Annex 2 to this report.

2.3 Follow-up Interviews

In the period of February 25-26, 2010 TÜV SÜD performed interviews and physical site inspection with project stakeholders to confirm relevant information and to resolve issues identified in the first document review. The table below provides a list of all persons interviewed in this context.

[*] Under the old standard appointed as validator / determiner for CDM- and JI- projects; currently not re-appointed.

Name	Organisation
Mr Vitaliy Sklyarov	AZOT, Technical Director
Mr Igor Chaban	AZOT, Chief of Technical Department
Mr Petr Kuksin	AZOT, Project Manager
Mr Nikolay Antonevich	AZOT, Deputy Technical Director on Technical Development
Mr. Alexander Yarmolenko	AZOT, Project Manager
Mr Yuriy Simonov	AZOT, Chief M-5 of Technical Department
Mr Ruslan Balanyak	AZOT, Principal Engineer
Mr Genadiy Rubkin	AZOT, Design Manager of Automatic Control System of Process
Ms Raisa Konyushaya	AZOT, Engineer of Environmental Protection
Ms Marina Melnichenko	AZOT, Engineer
Dr Volodymyr K. Ivashchenko	MGM, Senior Technical Expert
Mr Vladyslav Zhezherin	MGM, Director MGM Eastern Europe
Mr Ruslan Kudenko	Engineering Systems, Technical Director
Mr Alexander Bush	Engineering Systems, Project Manager
Mr Petro Vasylyev	Siemens Ukraine, Head of Group Sensors and Communication

2.4 Further cross-check

During the determination process, the team makes reference to the available information related to similar projects or technologies as the proposed JI Track-2 project activity. The documentation has also been reviewed against the approved methodology(s) applied with several adjustments to confirm the appropriateness of formulae and correctness of calculations.

2.5 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the determination is to resolve the requests for corrective actions and clarifications and any other outstanding issues which needed to be clarified for TÜV SÜD`s conclusion on the project design. The CARs and CRs raised by TÜV SÜD were resolved during communication between the client and TÜV SÜD. To guarantee the transparency of the determination process, the concerns raised and responses that have been given are documented in more detail in the determination protocol in Annex 1.

2.6 Internal Quality Control

As final step of a determination the final documentation including the determination report and the protocol have to undergo an internal quality control by the Certification Body "climate and energy", i.e. each report has to be finally approved either by the head of the Certification Body or the deputy. In case one of these two persons is part of the assessment team approval can only be given by the other one.

It rests on the decision of TÜV SÜD's Certification Body whether a project will be submitted for requesting registration by the JISC or not.

3 SUMMARY

The assessment work and the main results are described below in accordance with the DVM reporting requirements. The reference documents indicated in this section and Annex 1 are stated in Annex 2.

3.1 Approval

The dedicated project participants are OJSC "Azot", Cherkassy from Ukraine and DONG Naturgas AS, Hørsholm from Denmark. The Host Party Ukraine and Investor Party Denmark meet the requirements to participate in the JI.

The Ministry of Environmental Protection of Ukraine has issued a LoE (IRL 8) in August 21, 2006 indicating that the Ministry supports further development of this particular project. TÜV SÜD has received this letter from the project participant directly and considers the provided letter as authentic.

However since July 30, 2007 the Ukrainian DFP is National Environmental Investment Agency of Ukraine coordinated by the Ministry of Environmental Protection of Ukraine.

The PPs received the LoAs from the Host and Investor parties on the basis of the TÜV SÜD's determination opinion in accordance with the Host and Investor parties' procedures for approving of JI projects.

The LoA from Ukraine (Host) does authorize OJSC "Azot" as a project participant; the LoA from Denmark (Investor) does authorize DONG Naturgas AS as a project participant.

Both LoAs have been issued by the respective Party's DFP, National Environmental Investment Agency of Ukraine and Danish Energy Agency, respectively.

3.2 Participation

The dedicated project participants are OJSC "Azot", Cherkassy from Ukraine and DONG Naturgas AS, Hørsholm from Denmark. The participation of all project proponents as well as their roles in this JI project is confirmed with the Emission reduction units purchase agreement between OJSC "Azot" and DONG Naturgas AS (IRL 81).

3.3 Project design document

The PDD is compliant with relevant form and guidance as provided by the UNFCCC JISC.

TÜV SÜD concludes that the guidelines for the completion of the PDD in their most recent version have been followed. Relevant information has been provided by the participants in the applying PDD sections. Completeness was assessed through the checklist included to Annex 1 of this report.

3.4 Project description

The following description of the project as per PDD could be verified during the on-site mission:

Project is going to be implemented at the existing facilities of Azot located in Cherkassy town, Ukraine. The plant has an operation history since 1965. The project activity aims at GHG emissions reduction of nitrous oxide, N_2O, which is an unwanted by-product by the industrial production of nitric acid and at the same time is a green house gas with GWP of 310.

In particular, the installation of the secondary N_2O abatement catalyst system directly in the ammonia oxidation reactor (AOR) underneath the ammonia oxidation catalyst (Pt-Rh catalyst gauze) is envisaged. The employed secondary catalyst type O3-88 produced by BASF SE has a warranted abatement efficiency of 75%.

In order to implement the project, Azot will be equipped with a state of the art AMS according to DIN EN 14181 for continuous monitoring of the project key parameters.

The information presented in the PDD on the technical design is consistent with the actual planning and implementation of the project activity as confirmed by:

- Review of data and information (see Annex 2) using sectoral knowledge and expertise of the assessment team, cross check the same with other sources available in the respective technical literature, official publications, etc.
- The on-site visit has been performed and relevant stakeholders and personnel with knowledge of the project were interviewed, in case of doubt further cross checks through additional interviews have been done.
- Finally information related to similar technologies or projects as the JI project activity have been used if available to confirm the accuracy and completeness of the project description.

In light of the above, TÜV SÜD confirms that the project description as included to the PDD is sufficiently accurate and complete in order to comply with the requirements of the JI Track-2.

3.5 Baseline and monitoring methodology

3.5.1 Applicability of the selected methodology

It should be highlighted here that the JI specific approach - application of selected elements of approved CDM methodology AM0034 v.03.4 - was applied to this project activity. Compliance with each applicability condition as listed in the chosen baseline and monitoring methodology AM0034, version 3.4 has been demonstrated.

The assessment was carried out for each applicability criteria and included among others the compliance check of the local project setting with the applicability conditions in regard to baseline setting and eligible project measures. This assessment also included the review of secondary sources which sustain that applicability conditions are complied with.

The methodology specific protocol included to the Annex 1 documents the assessment process, including the steps taken. The outcome on the compliance check as well as the relevant evidences is explicitly presented in Annex 1 and Annex 2.

TÜV SÜD confirms that the chosen baseline and monitoring methodology is applicable to the project activity.

Emission sources which are not addressed by the applied methodology and which are expected to contribute more than 1% of the overall expected average annual emissions reduction have not been identified.

3.5.2 Project boundary

The project boundary was assessed in the context of physical site inspection, interviews and based on the secondary evidence received on the design of the project.

Conforming to AM0034, Azot plant industrial process covered by the project activity is nitric acid production serving by the existing AORs. The project boundary comprises the complete production process from the inlet to the AORs to the stack, including all compressors and SCR DeNOx unit and covers the shop M-5 of non-concentrated nitric acid production divided on 2 divisions No. 1 and 2 with 10 production lines. There is one common stack for production lines No. 1-3 of the division No. 1, the second and the third one for lines No. 1-4 and No. 5-7, respectively, of division No. 2.

Description of emission sources including justification of gases included/excluded in/from the project boundaries is provided in appropriate manner, and can be considered as complete and correct.

The most relevant documentation assessed in order to confirm the project boundary is the following: Elementary diagram of non-concentrated nitric acid production in the shop M-5 (IRL 21).

The same have been validated during the determination process using standard audit techniques. For further details on TÜV SÜD observations on-site refer to the Annexes 1 and 2.

Hence, TÜV SÜD confirms that the identified boundary and the selected sources and gases as documented in the PDD are justified for the project activity.

3.5.3 Baseline identification

The AM0034 refers to the procedure for identification of the baseline scenario described the latest version of the approved methodology AM0028 "Catalytic N2O destruction in the tail gas of nitric acid plants". This procedure is applied in the PDD and provides for a step-wise approach to identify the baseline scenario.

The list of plausible alternative scenarios to the project activity is complete and no reasonable alternative scenarios have been excluded.

As a result of the baseline identification procedure provided in the final PDD the baseline scenario has been defined as "status quo"- the continuation of the current situation, where there will be no installation of technology for the destruction or abatement of N_2O.

The information presented in the PDD has been determined by a first document review of all the data, further confirmation based on the on-site visit and a final step by cross checking the information with similar relevant projects and/or technologies. The sources referenced in the PDD have been quoted correctly.

Transparent and documented evidences were provided to assessment team within on-site visit. Based on conservative interpretation of collected audit evidences, TÜV SÜD considers that the identified baseline scenario is reasonable.

TÜV SÜD confirms that all relevant JI requirements, including relevant national and/or sectoral policies and circumstances, have been identified correctly taken into account in the definition of the baseline scenario.

A verifiable description of the baseline scenario has been included to the PDD.

In conclusion TÜV SÜD confirms that:

1. All the assumptions and data used by the project participants are listed in the PDD, including their references and sources;
2. All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD;
3. Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;
4. Relevant national and/or sectoral policies and circumstances are considered and listed in the PDD;
5. The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed JI project activity.

3.5.4 Algorithm and/or formulae used to determine emission reductions

3.5.4.1 Baseline Emissions

TÜV SÜD has assessed the calculations of project emissions, baseline emissions and leakage and emission reductions estimates. Corresponding calculations were carried out based on calculation spreadsheets as presented via Emissions reductions calculation sheet (final version IRL 80). The parameters and equations presented in the PDD and further documentation have been compared with the information and requirements presented in the methodology and respective tools. The equation comparison has been made explicitly following all the formulae presented in the calculation files.

Essential differences from AM0034 v.03.4 introduced in the project specific methodology were taken into account by the final determination of the provided project documentation, i.e. changed procedure for estimation of the baseline campaign length, monitoring periods etc.

The Azot company operates ten separate production lines, and each of these lines includes AOR, absorption tower, turbine, DeNOx plant and monitoring system. Thus in order to prevent a delay in project implementation and as a result losing the possibility of reducing a considerable amount of GHG emissions, the PPs developed the project specific baseline and monitoring methodology which is based on selected elements of CDM approved methodology AM0034 version 03.4.

In doing so project proponents proposed to start baseline monitoring immediately after the installation of the AMS at each of production lines. Each of the ten production lines has its own operating schedule. Due to this fact the baseline data for the calculation of the baseline emissions and baseline emission factor may be obtained not only from one complete baseline campaign, but also from two consecutive campaigns (so called overlapping of the production campaigns). It will be ensured that the total length of the measurement periods is equivalent to the normal campaign length in any case. If the baseline campaign/ period will be longer than normal campaign length, the PDD applies the data treatment approach described in the Annex 12 EB 51 in order to ensure conservativeness.

For avoidance of the possibility to modify the operating conditions of the nitric acid plant in such way that increases N2O generation during the baseline campaign, the normal ranges for operating conditions shall be determined for oxidation temperature and pressure, ammonia gas flow rate and air input flow rates. During the on-site assessments the audit team noticed that there are historical data available for establishing those ranges at the plant.

In order to establish the normal campaign length for each of the 10 production lines the historic amounts of the nitric acid produced by the each line should be used according to the AM0034. However the 3 production lines of division 1 at Azot plant are not equipped with any nitric acid flow meters. Hence a project specific approach was established in order to calculate the historic HNO3 production. In doing so the plant records of ammonia input and the standard ammonia consumption obtained from the design documents for the high-pressure ammonia oxidation reactors are used.

However the PDD does not demonstrate any specific figures as at the time of determination the historical campaigns were still in progress. As soon as the historical campaigns are finished the project proponents will define permitted ranges for all operating parameters (incl. the normal campaign length) using a statistical data analysis as proposed by the AM0034 v.03.4. The defined normal operating conditions will be available at the first periodic verification and have to be verified by the verifying AIE.

The TÜV SÜD assessment team considered the approach proposed by PPs is correct, reasonable and applicable to the specific project case on the basis of the reviewed documentation, further references and the result of the interviews.
The exact value of the baseline Emission Factor for each line ($EF_{BL,i}$) can only be confirmed after the verification of this particular project is conducted.

Detailed information on the verification of the project specific methodology can be found in the Annex 1 to this report.

3.5.5 Project emissions

The project emissions were calculated ex-ante in accordance with formulae set defined in the approved CDM methodology AM0034 (version 3.4). For this estimation following conservative assumptions have been made:

- Baseline Emission Factor of 4,23 kg N2O/tHNO3 is applied and calculated (IRL 77) on the basis of AIRTEC's preliminary N_2O concentration measurements and subsequent report summarizing the measurement results (IRL 63) and Azot's records of flow rates and nitric

acid production data (IRL 78). The applied baseline EF is lower than the conservative IPCC default EF of 4,5 N2O/tHNO3;

- The lower secondary catalyst abatement efficiency of 75% was used for project emissions estimation, even though the secondary catalyst provider identifies the abatement efficiency to be 75- 85%.

All values presented in the PDD are considered reasonable based on the documentation reviewed, further references and the result of the interviews.

The estimated project emissions can be confirmed, as the same have been replicated by the audit team using the information provided. Detailed information on the verification of the parameters used in the equations can be found in the Annex 1.

3.5.6 Leakage

No leakage is expected from the project activity.

3.5.7 Emission Reductions

The calculation of the baseline emissions, project emissions, and the emission reductions, respectively, can be considered as correct. The baseline and project emissions are calculated in the PDD in transparent manner and using conservative assumptions.

Therefore based on the calculations in the project documentation it is expected that the project activity will lead to a reduction of GHG emissions of 1 257 208 tCO_2e in the period from 2010 until 2012.

In order to set a cap on the annual emissions reductions which can be claimed for by the project, the methodology applied requires an indication of a design (or nameplate) production capacity of the nitric acid plant. By nameplate implies the total yearly capacity (considering 365 days of operation per year) as per the documentation of the plan technology provider.

As already mentioned above, Azot operates ten high pressure production lines of UKL-7 type. The plan design documentation issued in year 1969 (IRL 14) demonstrates the annual design capacity of each production line at Cherkassy Azot to be 120 000 tHNO3/a. After 1969 no plant modifications or expansion measures have been undertaken. Therefore the annual cap on the emission reductions was calculated to be 1 200 000 tHNO3/a.

The assessment team reviewed the provided evidence at the on-site visit and found it to be sufficient for demonstration of the plant's design capacity.

3.6 Additionality

Simple cost analysis has been used for demonstrating additionality according to the "Tool for the demonstration and assessment of additionality" (Version 05) as it is clearly shown that that there is no economical benefit by the reduction of the nitrous oxide concentration other than the JI revenues. The costs associated with the project activity are summerized in Annex 4 of the final PDD.

The approach used in the PDD has been assessed based on a document review and interviews on-site with plant representatives (for details see Annex 2). All audit evidences have been checked using sectoral knowledge and expertise as well as public available information published in the internet.

Based on this determination steps, the AIE can confirm that the documentation assessed is appropriate for this project.

3.7 Monitoring plan

The assessment team has checked all the parameters presented in the monitoring plan (MP) against the requirements of the methodology applied. The MP presented in the PDD complies with the requirements of the AM0034 v.03.4 which elements have been used for the MP design. The

main differences to the AM0034 introduced in the project specific methodology were taken into account by the final determination of the provided project documentation. One of the main issues is a project specific approach of measuring and calculation of volume flow rate of the stack gas (VSG_i).

Due to specific design of nitric acid production at Azot, where

the first common stack exists for production lines 1-3 of the division No. 1,

the second common stack exists for production lines 1-4 of division No. 2, and

the third common stack exists for lines 5-7 of division No. 2,

the measuring points of tail gas volume flow at the lines were revised. The volume of stack gas of line 1 of division No. 1 is measured directly. The volume of the tail gas produced by line 2 of division No. 1 is calculated as a difference between the total gas flow of line 1 + line 2 and gas flow generated by line 1. The volume of gas produced by line 3 of division No. 1 is calculated as a difference between the total gas flow at the end of the stack (which includes gas from all lines of division No. 1) and the gas flow of previous two lines. The volume of stack gas of lines of division No. 2 will be measured and calculated in a similar way.

The N2O concentration will be measured at each line separately and independent from others.

In order to consider the level of uncertainty (UNC) for each AMS and possible error propagation, the overall UNC will be calculated using the Gauss's law of error propagation. In such way all the relevant uncertainties arising from the individual performance characteristics of the AMSs components will be considered. The resulting UNC will be than used in order to reduce the baseline emission factor.

Furthermore the PDD describes provisions for possible overlapping of the monitoring periods according to Clarification regarding overlapping monitoring periods under the verification procedure under the Joint Implementation Supervisory Committee (JISC 13).As required by this JISC clarification, the particular project is composed of clearly identifiable lines and monitoring can be performed independently for each of line. The monitoring plan ensures that monitoring is performed for all production lines and that all requirements of the JI guidelines regarding monitoring are met. This was assessed and confirmed by the audit team during the on-site determination.

As already mentioned above, the preliminary baseline emission factor of 4,23 kg N2O/tHNO3 is applied and calculated (IRL 77) on the basis of AIRTEC's (entity accredited according to DIN EN ISO/IEC 17025) preliminary N_2O concentration measurements and subsequent report summarizing the measurement results (IRL 63) and Azot's records of flow rates and nitric acid production data (IRL 78). The applied preliminary baseline EF is lower than the conservative IPCC default EF of 4,5 N2O/tHNO3. Due to this fact the provisions of AM0034 for the cases where the composition of the primary catalyst gauzes are changed in the project campaign to the composition not used in the baseline measurements and AMS downtime cannot be applied. Therefore the project proponents were requested to establish the project specific approach for such cases.

The final PDD describes the following project specific provisions:

1. Composition of the ammonia oxidation catalyst

Three possible approaches can be used:

a) In case the plant will change the composition of primary gauzes ("new gauzes") in line "A" in a project campaign to a one not used in the baseline campaign ("old gauzes"), the project proponents shall set the baseline emission factor to the IPPC default value of 4.5 kgN2O/tHNO3 only if the factual baseline emission factor (with old gauzes) at the respective production line is higher than 4,5 kgN2O/tHNO3.
b) If for line "A" the factual EFbaseline (with old gauzes) is lower than 4,5 kgN2O/tHNO3, the PP shall assessed if at least other 3 production lines were operating with the respective primary gauzes composition (the same as "new gauzes") during the baseline campaign. The lowest baseline emission factor among them shall be applied to the production line "A".

c) If none of the above approaches is possible the baseline campaign for the respective production line with changed catalyst should be repeated to determine a new baseline emission factor with the "new gauzes" composition. That baseline emission factor should then be compared to the emission factor obtained from the baseline campaign with "old gauzes" composition; the lowest of them should be applied as a factual baseline emission factor.

2. AMS downtime

In case the AMS is down, the lowest measured value obtained during the baseline campaign will be applied for the downtime period in the baseline, and the highest measured value obtained during the project campaign will be applied for the downtime period in the project campaign.

The quality assurance procedures have been audited by the assessment team through document review and interviews with the relevant personnel; this information together with a physical inspection allows the assessment team to confirm that the proposed MP is feasible within the project design. The major parameters to be monitored have been discussed with the PPs especially regarding the location of the meters, the data management, and in general the quality assurance and quality control procedures to be implemented in the context of the project.

Due to importance of the quality assurance and quality control procedure for the future data quality, the project proponents agreed to implement a so called "JI Manual" which will comprise description of the work scope as well as tasks of responsible personnel, qualification requirements and continuous training for responsible staff, procedures on the data treatment acc. to AM0034 rules and requirements (e.g. downtime of AMS), QAL 3 procedures, JI project related documentation procedures, troubleshooting procedures, etc. (FAR 2 of Annex 1). During the first periodic verification the PPs will provide the JI Manual to a verifying AIE.

All the audit evidences proving the appropriateness of monitoring provisions undertaken by the PPs were provided to the AIE and have been considered as sufficient. For details please refer to Annex 2 of this report.

Hence, it is expected that the PPs will be able to implement the monitoring plan and the emission reductions achieved can be reported ex-post and verified.

3.8 Local stakeholder consultation

In accordance with the order No. 33 of June 25, 2008 "On Approval of JI Project Preparation Requirements" issued by the National Environmental Investment Agency of Ukraine (IRL 71) Azot has invited the relevant local stakeholders by means of local newspaper (IRL 74) as well as Azot informed the relevant trade union (IRL 76) and Cherkassy branch of Ministry of Environmental Protection that the project implementation will not violate any environmental protection requirements (IRL 45).

Furthermore on March 10, 2010 Azot carried out the labour conference with the employees and informed them about the JI project and its impact on improvement of environmental conditions (IRL 75).

The PPs have received positive comments and decisions from local and state government bodies. The assessment team has review the documentation in order to validate the inclusion of relevant stakeholders and using the local expertise can confirmed that the communication method used to invite the stakeholders can be considered appropriate. The summary of comments presented in the PDD has been cross check with the documentation of the stakeholder consultation and it is found to be complete. Hence, the local stakeholder consultation has been adequately performed according to the Host Country requirements.

3.9 Environmental impacts

The document with EIA was developed by the project proponents since the State Environmental Authority in Cherkassy region have officially informed Azot by the Letter (IRL 45), that an EIA is

required for this particular project. In this connection the PPs elaborated the EIA (IRL 79) in accordance with the State construction norms of Ukraine (IRL 70). As a result the EIA confirmed that the project is not expected to have any significant impact on the environment.

TÜV SÜD assessment team remarks that the project has a strong positive environmental impact, since the primary object of the project is reduction of N2O emissions. So far TÜV SÜD host country expert assessment team members are familiar with local laws and regulations the project complies with environmental legislation in Ukraine.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOs

TÜV SÜD published the project documents on UNFCCC website by installing a link to TÜV SÜD's own website and invited comments by Parties, stakeholders and non-governmental organisations during a period of 30 days.

The following table presents all key information on this process:

<table>
<tr><td colspan="2">Webpage:
http://www.netinform.net/KE/Wegweiser/Guide2_1.aspx?ID=6890&Ebene1_ID=26&Ebene2_ID=2302&mode=1</td></tr>
<tr><td colspan="2">Starting date of the global stakeholder consultation process:
2010-02-05</td></tr>
<tr><td>Comment submitted by:
None</td><td>Issues raised:
-</td></tr>
<tr><td colspan="2">Response by TÜV SÜD:
-</td></tr>
</table>

Industrie Service

5 DETERMINATION OPINION

TÜV SÜD has performed a determination of the following proposed JI project activity:

Reduction of N2O Emissions from Nitric Acid Production at OJSC "AZOT", Cherkasy, Ukraine

Standard auditing techniques have been used for the determination of the project. Methodology-specific checklists and protocol customised for the project have been prepared to carry out the audit and present the outcome in a transparent and comprehensive manner.

The review of the project design documentation, the subsequent follow-up interviews and the further cross check of references have provided TÜV SÜD with sufficient evidence to determine the fulfilment of stated criteria in the protocol. In our opinion, the project meets all relevant UNFCCC requirements for the JI as well as all the requirements set by host country (Ukraine) for approving projects under JI – Track 2. Hence, TÜV SÜD can recommend the project for registration under JI Track-2 in case letter of approval of at least Host Party is available.

An analysis as provided by the applied CDM methodology demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are, hence, additional to any that would occur in the absence of the project activity. Given that the project is implemented as designed, the project is likely to achieve the estimated amount of emission reductions as specified within the final PDD version.

The determination is based on the information made available to us and the engagement conditions detailed in this report. The determination has been performed following the JI requirements. The only purpose of this report is its use during the registration process as part of the JI Track-2 project cycle. Hence, TÜV SÜD cannot be held liable by any party for decisions made or not made based on the determination opinion, which will go beyond that purpose.

Munich, 19-01-2011

Certification Body "climate and energy"
TÜV SÜD Industrie Service GmbH

Munich, 19-01-2011

Assessment Team Leader

Annex 1: Determination Protocol

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
A. General description of project activity				
A.1. Title of the project activity				
A.1.1. Does the used project title clearly enable identification of the unique JI activity?	1, 2	The project title clearly enables the identification of the JI activity. No second JI activity exists with a similar title or at the same site.	☑	☑
A.1.2. Are there any indication concerning the revision number and the date of the revision?	1, 2	The revision number and the date of the issuance of this revision is correctly indicated PDD version 1 dated May 25, 2009	☑	☑
A.1.3. Is this consistent with the time line of the project's history?	1, 2, 8, 9, 68, 69	Yes, it is. The date of the issuance is consistent with the time line of project's history, however see CR below. The Letter of Endorsement for the project was issued at August 21, 2006, the starting day of project activity is June 20, 2008 and the starting date of the crediting period is stated to be November 1, 2010. Please also refer to CR (C.1.1). **Clarification Request 1:** Please clarify the 2-year's delay in the project implementation taking into account that the LoE was issued by Ukrainian DFP in August 2006, however the project start is defined to be in June 2008. In doing so please describe a project implementation history a little bit.	**CR**	☑
A.2. Description of the project activity				
A.2.1. Is the description delivering a transparent overview of the project activities?	1, 2	Yes, it is. The description is delivering a transparent overview of the project activities however please refer to CR below.	**CR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Published PDD	Final PDD
		Clarification Request 2: Chapter A.2 of the PDD has to indicate the expected outcome of project scenario and briefly summarize the history of the project including information about implementation schedule of the project according to requirements of the Guidelines for users of the JI PDD form, version 3. Please adjust the PDD accordingly.		
A.2.2. What proofs are available demonstrating that the project description is in compliance with the actual situation or planning?	1, 2, 10, 13, 14, 16, 18, 21, 32, 34, 57, 80	For demonstrating that the project description is in compliance with the actual situation or planning the following proofs had been provided during on-site mission: - Design statement for non-concentrated nitric acid production; - Technical regulations of non-concentrated nitric acid production; - Handbook of nitric acid industry worker (Specification of UKL-7 and its capacity); - Elementary diagram of non-concentrated nitric acid production in the shop No. M-5; - Resolution of Cabinet Council of Ukraine No. 1598 concerning hazardous substances which is subject to control; - JI project implementation plan; - Minutes of tender committee meeting No. 23. (Engineering Systems was approved as a developer and supplier of AMS); - Techno-commercial proposal for supplying of the secondary catalyst O3-88. During the on-site visit the secondary catalyst technology to be installed in this project has been discussed. PPs submitted the techno-commercial proposal for supplying of the secondary cata-	**CAR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		lyst, type O3-88, which is planned to be installed after finishing the baseline measurements. According to this proposal the guaranteed abatement rate of the secondary catalyst is 75%. However for ex-ante estimations of emission reductions AZOT use the abatement rate of 80%. Even though the PPs stated to be doing a market research for another secondary catalyst with a higher N2O abatement rate, the ex-ante ER estimations should be done in a conservative way. **Corrective Action Request 1:** The PDD should be corrected by including the correct abatement efficiency of the applied secondary catalyst according to provided evidence. Furthermore the ex-ante estimation of emission reductions should be re-calculated accordingly and it is necessary to submit the revised Excel sheets with ERs calculations to the audit team.		
A.2.3. Is the information provided by these proofs consistent with the information provided by the PDD?	1, 2	Yes, all information provided by these proofs consistent with the information provided by the PDD.	☑	☑
A.2.4. Is all information presented consistent with details provided by further chapters of the PDD?	1, 2	Yes, all information presented is consistent with details provided by further chapters of the PDD.	☑	☑
A.3. Project participants and project approvals by Parties involved				
A.3.1. Is the form required for the indication of project participants correctly applied?	1, 2	Yes, the form is correctly applied.	☑	☑
A.3.2. Is the participation of the listed entities or Parties confirmed by each one of them?	1, 2, 81	At the time of on-site visit AZOT plant was a sole Project Participant and represents Ukraine (Host Party). However during further determination process the audit team has been informed by AZOT	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Published PDD	Final PDD
		that the future buyer of ERUs will be DONG Naturgas A/S and it represents Denmark (Invest Party). To confirm this fact the Emission Reduction Units Purchase Agreement (ERPA) between the project participants has been submitted to the audit team.		
A.3.3. Is all information on participants / Parties provided in consistency with details provided by further chapters of the PDD (in particular annex 1)?	1, 2	Yes, the information on PPs is consistent throughout the PDD and Annex 1.	☑	☑
A.3.4. Is each of the legal entities listed as project participants in the PDD authorized by a Party involved, which is also listed in the PDD, through: - A written project approval by a Party involved, explicitly indicating the name of the legal entity? Or - Any other form of project participant authorization in writing, explicitly indicating the name of the legal entity?	8	The Letter of Endorsement for the project was issued by Ministry of Environmental Protection of Ukraine in August 21, 2006. The LoE was submitted to the audit team. Letter of Approvals from the host and investment parties will be applied for after the determination of the project will be finalized. **Forward Action Request 1:** It is required to submit Letter of Approvals from the host and investment parties before the submission of the final determination report to the JISC for registration of the particular project.	**FAR**	☑
A.3.5. Have the DFPs of all parties listed as involved in the PDD provided written project approvals?	8	Please refer to FAR (A.3.4.).	**FAR**	☑
A.3.6. Does the PDD identify at least the host Party as a "Party involved"?	1, 2	Yes, the host party- Ukraine- is identified in the PDD.	☑	☑
A.3.7. Has the DFP of the host Party issued a written project approval?	8	Please refer to FAR (A.3.4.).	**FAR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
A.3.8. Are all the written project approvals by Parties involved unconditional?	8	Please refer to FAR (A.3.4.).	**FAR**	☑
A.4. Technical description of the project activity				
A.4.1. **Location of the project activity**				
A.4.1.1. Does the information provided on the location of the project activity allow for a clear identification of the site(s)?	1, 2	Yes, it does. The information provided on the location of the project activity allows for a clear identification of the site.	☑	☑
A.4.1.2. How is it ensured and/or demonstrated, that the project proponents can implement the project at this site (ownership, licenses, contracts etc.)?	15, 17, 20, 44	It is ensured by means of: • License on the ammonia production; • Ground rent contract between AZOT and Cherkassy Town Council; • AZOT's state registration certificate; • AZOT's Articles of Association.	☑	☑
A.4.2. **Technology(ies) to be employed, or measures, operations or actions to be implemented by the project activity**				
A.4.2.1. Does the technical design of the project activity reflect current good practices?	1, 2	Yes, it does.	☑	☑
A.4.2.2. Does the description of the technology to be applied provide sufficient and transparent input/ information to evaluate its impact on the greenhouse gas balance?	34	Yes, it does. The project activity aims to reduce the amount of N_2O emitted by catalytically decomposing the N_2O produced in the undesired side reaction during ammonia oxidation. AZOT is planning to install a secondary catalyst type O3-88 supplied by the BASF SE. This type of secondary catalyst does not require additional heat or other energy input (electricity, steam etc.). During on-site audit AZOT submitted BASF's techno-commercial proposal with description of the secondary catalyst type O3-88 which confirms that no additional greenhouse gases produced during the N_2O decomposition as well as it does not	**CR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		affect the HNO_3 production level and not increase NOx emissions. Please refer to CR (A.2.1).		
A.4.2.3. Does the implementation of the project activity require any technology transfer from annex-I-countries to the host country(s)?	11, 12, 34	Yes, the implementation of the project activity requires technology transfer from Annex-I-countries and includes secondary catalyst system and monitoring equipment.	☑	☑
A.4.2.4. Is the technology implemented by the project activity environmentally safe?	33, 36	According to information provided by the BASF company (Material safety data sheet for secondary catalyst O3-88 and the techno-commercial proposal) the additional catalyst is made of non-precious metals and does not create significant negative environmental effect. The obsolete catalyst will be recycled according to the prevailing EU standards.	☑	☑
A.4.2.5. Is the information provided in compliance with actual situation or planning?	1, 2, 34	**Clarification Request 3:** In chapter A.4.2. of the PDD, version 1, mentioned that AZOT is in the process of selecting the secondary catalyst supplier. However during the on-site visit PPs stated to have chosen the secondary catalyst supplied by BASF (which specifications, e.g. abatement rate, were used for ERs estimation). Please clarify and adjust the PDD if necessary.	**CR**	☑
A.4.2.6. Does the project use state of the art technology and / or does the technology result in a significantly better performance than any commonly used technologies in the host country?	21, 30, 36	Yes, it is a state of art technology providing significant N_2O emission abatement.	☑	☑
A.4.2.7. Is the project technology likely to be substituted by other or more efficient tech-	36	Currently there is no reason for PPs to substitute project technology by any other more efficient technology.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Published PDD	Final PDD
nologies within the project period?				
A.4.2.8. Does the project require extensive initial training and maintenance efforts in order to be carried out as scheduled during the project period?	10, 11	Yes, it does. Every need for training and maintenance efforts will be followed and Engineering Systems, future developer and supplier of AMS at shop M-5, is responsible for these. The extensive training is required in the context of operation of the catalyst, monitoring system, data acquisition and reporting.	☑	☑
A.4.2.9. Is information available on the demand and requirements for training and maintenance?	7, 11, 12	During on-site visit a contract with Engineering Systems, future developer and supplier of AMS at shop M-5, has not been signed yet therefore any trainings have not been done yet. However representatives of Engineering Systems submitted to the audit team the schedule of delivery of equipment as well as developing and implementation of AMS at shop M-5 where mentioned that the extensive training for AZOT's staff is planned.	☑	☑
A.4.2.10. Is a schedule available for the implementation of the project and are there any risks for delays?	10, 16	Yes, the project implementation plan has been submitted to audit team. At the day of audit on-site there were no possible risks for delay. The AMS and secondary catalyst suppliers have been approved and delivery contracts will be signed according to project implementation plan. However please refer to CR (A.4.2.5).	**CR**	☑
A.4.3. **Brief Explanation of how the anthropogenic emissions of greenhouse gases by sources are to be reduced by the proposed JI project, including why the emission reduction would not occur in the absence of the proposed project, taking into account national and/or sectoral policies and circumstances**				
A.4.3.1. Is there a brief explanation of how the anthropogenic emissions of greenhouse gases by sources are to be reduced by the proposed JI project, including why the emission reduc-	1, 2	Yes, a brief explanation on how the anthropogenic emissions of greenhouse gases by sources are to be reduced by the proposed JI project is presented in the PDD.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
tion would not occur in the absence of the proposed project, taking into account national and/or sectoral policies and circumstances?				
A.4.3.2. Is the explanation transparent, feasible and – if based on calculations – mathematical correct calculated?	1, 2, 14, 22, 28, 63, 65, 68, 69, 77, 80	During on-site visit the production plan of AZOT from 2009-2015 including plan of non-concentrated nitric acid production and AIRTEC's report with N_2O concentration measurements have been submitted to the audit team. **Clarification Request 4:** In chapter A.4.3.1 of the PDD, version 1, it is mentioned that for estimation of ERs over the crediting period the production plan of AZOT from 2009-2019 with the conservative value of 590,000 ton HNO_3/year for 2010-2012 and the average value of 800,000 ton HNO_3/year for 2013-2019 was applied. The design capacity is stated to be 1,200,000 tones HNO_3/year. The applicability of the methodology which PPs intended to apply is limited to the existing production capacity measured in tones of nitric acid, where the commercial production had began no later than 31 December 2005. Definition of existing production capacity is applied for the process with the existing ammonia oxidization reactor where N2O is generated and not for the process with new ammonia oxidizer. Existing production capacity is defined as the designed capacity, measured in tons of nitric acid per year. The discussion on this criterion should be included in the PDD taking into account project specific information. Furthermore please provide the production plan of AZOT from 2009-2019 in order to justify the figures presented. In addition an explanation and evidence should be provided on how the AM0034 applicability criterion "The project activity shall	**CR CAR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		not affect the level of nitric acid production" is fulfilled while production lines from division No. 1 were recently made operative after a long shutdown period. **Corrective Action Request 2:** Chapter A.4.3.1 of the PDD, version 1, states that for estimation of ERs over the crediting period AIRTEC's report with N_2O concentration and gas volume flow measurements resulting in EF 3.48 $kgN_2O/tHNO_3$ was applied. However from the e-mail of AIRTEC it is clear, that only the concentration measurement results can be applied in order to estimate baseline emissions, since the results of the flow measurement conducted by AIRTEC cannot be considered as plausible due to fact that the measurement was conducted only along one axis (acc. to the E-mail sent by Mr. Meier, AIRTEC, in June 10, 2010 the measurements on the second axis are missing due to local conditions at the time of AIRTEC's on-site visit). Please clarify and present correct estimations of the baseline emissions. Please revise PDD accordingly. **Corrective Action Request 3:** Some editorial changes should be conducted in the PDD. The content and format of the PDD has to be in accordance with UNFCCC JI-SC requirements and information given has to be consistent throughout the PDD (format of tables and data, statements and figures, translation of documents name, references of formulas in the text, JI definitions, order of provided information and final statements). Please adjust the PDD accordingly.		

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
A.4.4. **Estimated amount of emission reductions over the chosen crediting period**				
A.4.4.1. Is the form required for the indication of projected emission reductions correctly applied?	1, 2	No, it is not. Please refer to CAR (A.4.3.2).	**CAR**	☑
A.4.4.2. Are the figures provided consistent with other data presented in the PDD?	77, 80	All figures which are presented in the PDD are consistent with other data.	☑	☑
A.4.4.3. Is the annual average of estimated emission reductions calculated by dividing the total estimated emission reductions over the crediting period by the total months of the crediting period and multiplying by twelve?	1, 2	Yes, the annual average of estimated emission reductions presented in the PDD is calculated by dividing the total estimated emission reductions over the crediting period by the total months of the crediting period and multiplying by twelve	☑	☑
B. Baseline				
B.1. Description and justification of the baseline chosen				
B.1.1. Does the PDD explicitly indicate which of the following approaches is used for indentifying the baseline? - JI specific approach - Approved CDM methodology approach	1, 2, 3	The first version of the PDD mentions the approved CDM methodology AM0034 v. 03.4 to be used as a basis for this project activity. AM0034 is solely addressing the destruction of nitrous oxide by secondary measures. Hence it is considered that AM0034 is the appropriate choice for this project activity fitting to the baseline and project scenario of this project. Nevertheless it is not directly applicable due to various distinctions between the assumptions of the methodology and the real situation at AZOT plant. **Corrective Action Request 4:** During the on-site determination TÜV SÜD assessment team noted several deviations from AM0034 applied (determination of baseline emission factor, definition of campaign/overlapping,	**CAR** **CR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Published PDD	Final PDD
		measuring points of $NCSG_{n,i}$, $VSG_{n,i}$, $NAP_{n,i}$, ERs calculation, etc.). Thus a detailed description of the project specific approach has to be included in revised PDD according to the Guidelines for users of JI PDD form, version 03. **Clarification Request 5:** Please indicate the title and version of the baseline and monitoring methodology in the PDD.		
B.1.2. If JI specific approach is used, does the PDD provide a detailed theoretical description and justification of the baseline chosen in a complete and transparent manner taking into account §23 of DVM v.1?	1, 2	Yes, the PDD provides a detailed theoretical description and justification of the baseline chosen in complete and transparent manner taking into account the DVM requirements. The identification of the baseline scenario was conducted acc. to AM0028 as suggested by the AM0034 v. 03.4.	☑	☑
B.1.3. If selected elements or combinations of approved CDM methodologies or methodological tools for baseline setting are used, are the selected elements supplementary developed by the project proponents in line with §23 of DVM v.1?	1, 2	Yes, the selected elements of the AM0034 v.03.4 applied are developed in line with DVM requirements (e.g. § 23 DVM v.1).	☑	☑
B.1.4. Does the PDD provide a justification of the applicability of the methodological approach chosen with a clear and transparent description?	1, 2, 3	Yes, the PDD provides a justification of the applicability of the methodological approach chosen (the selected elements of AM0034 v.03.4) with a clear and transparent description. Please refer to sections B.1.12. - B.1.19. below in this checklist.	☑	☑
Date of completion of the application of the baseline study and monitoring methodology and the name of the responsible person(s)/entity(ies)				
B.1.5. Is there any indication of a date when the baseline was determined?	1, 2, 16	The baseline for the project activity has not been set yet. The PDD under determination presents preliminary estimates of the baseline and project emissions. Also on the date of on-site mission, the baseline study was still in progress.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Published PDD	Final PDD
B.1.6. Is this consistent with the time line of the PDD history?	1, 2	Please refer to comment above.	☑	☑
B.1.7. Is the information on the person(s) / entity (ies) responsible for the application of the baseline and monitoring methodology provided consistent with the actual situation?	1, 2, 9	Yes, it is. The information is consistent with the actual situation.	☑	☑
B.1.8. Is information provided whether this person / entity is also considered a project participant?	1, 2, 9	The baseline study and monitoring methodology was applied by MGM International Group LLC. The PDD indicated in section D.4 that MGM International Group LLC is not project participant.	☑	☑
Approved CDM methodology : justification of the choice of the methodology and why it is applicable to the project activity				
B.1.9. Are reference number, version number, and title of the baseline and monitoring methodology clearly indicated?		N/A	☑	☑
B.1.10. Is the applied version the most recent one and / or is this version still applicable (within the grace period) when the PDD is submitted for publication?		N/A	☑	☑
B.1.11. Does the PDD provide a description of why the approved CDM methodology is applicable to the project?		N/A	☑	☑
Integrate the required amount of sub-checklists on **the applicability criteria** as given by the applied methodology and comment on at least every line answered with "No";				

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
B.1.12. Criterion 1: The applicability is limited to the existing production capacity measured in tonnes of nitric acid, where the commercial production had began no later than 31 December 2005. Definition of "existing" production capacity is applied for the process with the existing ammonia oxidization reactor where N2O is generated and not for the process with new ammonia oxidizer. Existing production "capacity" is defined as the designed capacity, measured in tons of nitric acid per year.	1, 2, 3, 13, 14	Applicability checklist / Yes / No Criterion discussed in the PDD? / Yes Compliance provable? / Yes Compliance verified? / Yes	☑	☑
B.1.13. Criterion 2: The project activity will not result in the shutdown of any existing N2O destruction or abatement facility or equipment in the plant.	1, 2, 3, 21, 37	Applicability checklist / Yes / No Criterion discussed in the PDD? / Yes Compliance provable? / Yes Compliance verified? / Yes As there's no N_2O abatement unit in the plant, the project activity will not result in the shutdown of any existing N_2O destruction or abatement facility or any further emission reduction equipment in the plant.	☑	☑
B.1.14. Criterion 3: The project activity shall not affect the level of nitric acid production	1, 2, 3, 34, 36	Applicability checklist / Yes / No Criterion discussed in the PDD? / Yes Compliance provable? / Yes	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Published PDD	Final PDD
		Compliance verified? — Yes The secondary catalyst applied does not have any impact to level of NO yield. Moreover it is ensured by the secondary catalyst supplier that the project activity will not affect the level of nitric acid production.		
B.1.15. Criterion 4: There are currently no regulatory requirements or incentives to reduce levels of N2O emissions from nitric acid plants in the host country.	1, 2, 3, 48, 57, 58	Applicability checklist — Yes / No Criterion discussed in the PDD? — Yes Compliance provable? — Yes Compliance verified? — Yes During on-site visit, it was discussed and confirmed that there are currently no regulatory requirements or incentives to reduce levels of N_2O emissions from HNO_3 plants in Ukraine.	☑	☑
B.1.16. Criterion 5: The project activity will not increase NOx emissions.	1, 2, 3, 47	Applicability checklist — Yes / No Criterion discussed in the PDD? — Yes Compliance provable? — Yes Compliance verified? — Yes The BREF (August 2007, p. 124) confirms that NO yields for the ammonia oxidation reaction remain unchanged when operating secondary N_2O abatement catalysts. NOx is a regulated gas in the Ukraine and it is monitored in the stack gas of line No. 1-10. During on-site visit the annual report of hazardous substances emissions for the shop M-5 in 2008 and	☑	☑

<table>
<tr><th>CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>Pub-lished PDD</th><th>Final PDD</th></tr>
<tr><td></td><td></td><td>2009 was submitted to by AZOT and the audit team confirms that the emissions of NOx are not exceed required limits.</td><td></td><td></td></tr>
<tr><td>B.1.17. Criterion 6:
NOx abatement catalyst installed, if any, prior to the start of the project activity is not a Non-Selective Catalytic Reduction (NSCR) DeNOx unit.</td><td>1, 2, 3, 21, 37</td><td><table><tr><th>Applicability checklist</th><th>Yes / No</th></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>During on-site visit, it was confirmed that Selective Catalytic Re-daction DeNOx units are installed on each production line of AZOT plant and prior to the start of the project activity there is no Non-Selective Catalytic Reduction (NSCR) DeNOx unit at the project site.</td><td>☑</td><td>☑</td></tr>
<tr><td>B.1.18. Criterion 7:
Operation of the secondary N2O abatement catalyst installed under the project activity does not lead to any process emissions of greenhouse gases, directly or indirectly.</td><td>1, 2, 3, 36</td><td><table><tr><th>Applicability checklist</th><th>Yes / No</th></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>There is no further impact on greenhouse gas emissions by this kind of technology. According to the BREF issued by IPPC on August 2007 the application of secondary N_2O catalyst does gen-erally not lead to any process emissions of GHG – direct or indi-rect.</td><td>☑</td><td>☑</td></tr>
</table>

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
B.1.19. Criterion 8: Continuous real-time measurements of N2O concentration and total gas volume flow can be carried out in the stack: - Prior to the installation of the secondary catalyst for one campaign, and - After the installation of the secondary catalyst throughout the chosen crediting period of the project activity	1, 2, 3, 7, 11	<table><tr><th>Applicability checklist</th><th>Yes / No</th></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table> During on-site visit the representatives of Engineering Systems, future developer and supplier of AMS at the shop M-5, have been interviewed by the audit team and they confirmed that continuous real-time measurements of N_2O concentration and total gas volume flow can be carried out in the stack prior to and after the installation of the secondary catalyst. Also it was proved by the explanatory note to the techno-commercial proposal for developing and implementation of AMS at the shop M-5.	☑	☑
The baseline scenario *shall be identified using procedure for Identification of the baseline scenario described in the approved methodology AM0028 "Catalytic N_2O destruction in the tail gas of Nitric Acid Plants" version 05.*				
B.1.20. Are all explanations, descriptions and analyses pertaining to the baseline in the PDD made in accordance with the referenced approved CDM methodology?	1, 2, 3, 4	As mentioned above this project activity is based on the selected elements of the approved CDM methodology AM0034 v.03.4. The identification of the baseline scenario therefore was conducted according to the baseline identification procedure described in the latest version of AM0028 as required by the AM0034. Hence following checklist's questions are also relevant for this project.	☑	☑
B.1.21. Have all technically feasible baseline scenario alternatives (at least all scenarios listed under step 1a in AM0028, vers.5) to the project activity been identified and discussed by the PDD? Why can this list be considered as being complete?	1, 2, 3, 4	Yes, all technically feasible baseline scenario alternatives been identified and discussed in the PDD version 1. The list can be considered as being complete because all options available from known methodologies have been reviewed.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Published PDD	Final PDD
B.1.22. Have all technically feasible alternatives (at least all scenarios listed under step 1b in AM0028, vers.4.2) to handle NOx emissions been identified and discussed by the PDD?	1, 2, 3, 4	Yes, all technically feasible alternatives (at least all scenarios listed under step 1a in AM0028, vers.04.2) to handle NOx emissions been identified and discussed in the PDD. The list was reviewed and can be considered as being complete.	☑	☑
B.1.23. Does the project identify correctly and exclude those options not in line with regulatory or legal requirements (Step 2)?	1, 2, 3, 4	Yes, it does.	☑	☑
B.1.24. Have applicable regulatory or legal requirements been identified?	1, 2, 3, 4, 48, 57, 58	The existing regulation in Ukraine does not require implementation any technologies for N_2O abatement. There are no subsidies or other support available for such technologies. Hence, the installation of different N_2O abatement technologies (other than secondary catalysts) is not feasible as any of the existing N_2O abatement technologies imply additional costs and no revenues outside the JI mechanism.	☑	☑
B.1.25. Is a complete list of barriers developed that prevent alternatives to occur (step 3a)?	1, 2, 3, 4	Yes, it does. A complete list of barriers was developed.	☑	☑
B.1.26. Is transparent and documented evidence provided on the existence and significance of these barriers?	1, 2, 3, 4	Yes, it does. The existence and significance of these barriers is discussed in the PDD in transparent manner.	☑	☑
B.1.27. Is it transparently shown that at least one of the alternatives (except the proposed JI project activity) is not prevented by the identified barriers (step 3b)?	1, 2, 3, 4	Yes, it is. Continuation of the status quo, installation of a secondary catalytic DeN2O and new SCR DeNOx are not prevented by the identified barriers.	☑	☑
B.1.28. Does the PDD include an appropriate discussion if and how any alternatives generate financial or economic benefits (step 4)?	1, 2, 3, 4	Yes, it does. There is an appropriate discussion on this question. It can be concluded that no alternatives would generate financial or eco-	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Published PDD	Final PDD
		nomic benefits.		
B.1.29. In case of Option I: Is the least costly alternative clearly identified?	1, 2, 3, 4	The continuation of of the status quo is clearly identified as the least costly option.	☑	☑
B.1.30. In case of Option II: Is the most suitable financial indicator clearly identified?	-	N/A	☑	☑
B.1.31. In case of Option II: Is the calculation of financial figures for this indicator correctly done for all remaining alternatives?	-	N/A	☑	☑
B.1.32. In case of Option II: Is the investment analysis presented in a transparent manner providing public available proofs for data?	-	N/A	☑	☑
B.1.33. In case of Option II: Is the sensitivity analysis evidencing the robustness of the financial attractiveness of the selected baseline scenario?	-	N/A	☑	☑
B.1.34. In case of Option II: Have reasonable variations been applied in critical assumptions?	-	N/A	☑	☑
B.1.35. In case of a re-assessment in the course of the project's lifetime: Are there any new or modified NOx-emission regulations, which may address the project baseline?	1, 2, 3, 4	In case of new or modified NOx or N_2O emission regulations a re-assessment of the baseline scenario should be executed as established in AM0028 (Step 5a: New or modified NOx emission regulations, and Step 5b: New or modified N_2O regulation).	☑	☑
B.1.36. In case of a re-assessment in the course of the project's lifetime: Have new base-line scenarios been properly discussed reflecting the altered situation?	-	N/A	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Published PDD	Final PDD
B.1.37. In case of a re-assessment in the course of the project's lifetime: Are there any new or modified N2O-emission regulations, which may address the project baseline?	1, 2, 3, 4	In case of new or modified NOx or N_2O emission regulations a re-assessment of the baseline scenario should be executed as established in AM0028 (Step 5a: New or modified NOx emission regulations, and Step 5b: New or modified N_2O regulation).	☑	☑
B.1.38. In case of a re-assessment in the course of the project's lifetime: Have new base-line scenarios been properly discussed reflecting the altered situation?	-	N/A	☑	☑
B.1.39. Is the baseline identified appropriately as a result?	1, 2, 3, 4	Yes, the baseline scenario- the continuation of N_2O emission to the atmosphere, without the installation of N_2O destruction or abatement technologies and technologies that indirectly reduce N_2O emissions- is identified appropriately as a result.	☑	☑
B.2. Description of how the anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the JI project (assessment and demonstration of additionality):				
B.2.1. Does the PDD indicate which of the following approaches for demonstrating additionality is used? a) Provision of traceable and transparent information showing the baseline was identified on the basis of conservative assumptions, that the project scenario is not part of the identified baseline scenario and that the project will lead to ERs; b) Provision of traceable and transparent information that an AIE has already positively determined that a comparable project (to be) implemented under comparable circumstances has additionality; c) Application of the most recent version of the	1, 2, 5	The additionality of the project activity is demonstrated and assessed using the "Tool for demonstration and assessment of additionality" version 5.2.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Published PDD	Final PDD
"Tool for the demonstration and assessment of additionality" or any other method for proving additionality approved by the CDM Executive Board.				
B.2.2. Does the PDD provide a justification of the applicability of the approach with a clear and transparent description?	1, 2, 3, 5	Yes, it does. Furthermore the AM0034, which elements have been applied in this project activity, requires using the additionality tool for additionality assessment and demonstration.	☑	☑
B.2.3. If the approach (c) was chosen (additionality tool), are all explanations, descriptions and analyses made in accordance with the selected tool/method?	1, 2, 3, 5	Because of the similarity of both approaches used to determine the baseline scenario and the additionality tool, Step 1 of the "Tool for the demonstration and assessment of additionality" was omitted while assessing the additionality. Consistency was ensured between the determination of the baseline scenario and the demonstration of additionality. Furthermore acc. to AM0034 the baseline scenario alternative selected in the previous section shall be used when applying Steps 2 to 5 of the "Tool for the demonstration and assessment of additionality".	☑	☑
B.2.4. In case of applying step 2 / investment analysis of the additionality tool: Is the analysis method identified appropriately (step 2a)?	1, 2, 5	As in chapter B.2 the investment analysis has been selected as the appropriate choice of possible methods.	☑	☑
B.2.5. In case of Option I (simple cost analysis): Is it demonstrated that the activity produces no economic benefits other than JI income?	1, 2, 3, 5	It is clearly shown that there is no economical benefit by the reduction of N_2O concentration other than the JI revenues.	☑	☑
B.2.6. In case of Option II (investment comparison analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?	1, 2, 3, 5	**Clarification Request 6:** Although a simple cost analysis conducted and evidence provided on-site are considered to be sufficient for demonstration of additionality of this particular project (since no revenues are expected from the project activity other than JI related income), current	**CR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Published PDD	Final PDD
		available PDD states NPV and IRR of the project to be negative without JI revenues. In order to justify this statement please provide related calculations and support the raw data by proofs.		
B.2.7. In case of Option III (benchmark analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?	-	N/A	☑	☑
B.2.8. In case of Option II or Option III: Is the calculation of financial figures for this indicator correctly done for all alternatives and the project activity?	-	N/A	☑	☑
B.2.9. In case of Option II or Option III: Is the analysis presented in a transparent manner including publicly available proofs for the utilized data?	-	N/A	☑	☑
B.2.10. In case of applying step 3 (barrier analysis) of the additionality tool: Is a complete list of barriers developed that prevent the different alternatives to occur?	-	N/A	☑	☑
B.2.11. In case of applying step 3 (barrier analysis): Is transparent and documented evidence provided on the existence and significance of these barriers?	-	N/A	☑	☑
B.2.12. In case of applying step 3 (barrier analysis): Is it transparently shown that the execution of at least one of the alternatives is not prevented by the identified barriers?	-	N/A	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
B.2.13. Have other activities in the host country / region similar to the project activity been identified and are these activities appropriately analyzed by the PDD ?	1, 2	**Clarification Request 7:** It is necessary to add more up-to-date information about similar types of project activities in the host country and discuss whether this project activity can be implemented without the JI component.	**CR**	☑
B.2.14. If similar activities are occurring: Is it demonstrated that in spite of these similarities the project activity would not be implemented without the JI component (step 4b)?	1, 2	Please refer to CR (B.2.13).	**CR**	☑
B.2.15. Is it appropriately explained how the approval of the project activity will help to overcome the economic and financial hurdles or other identified barriers (step 5)?	1, 2, 3, 5	As there is no other incentive than the JI this criterion is fulfilled.	☑	☑
B.2.16. Are sufficient additionality proofs provided?	9, 11, 34,	Yes, sufficient proofs have been provided to justify the simple const analysis conducted in order to demonstrate additionality.	☑	☑
B.2.17. Is the additionality demonstrated appropriately as a result?	1, 2, 3, 5	Yes, additionality was demonstrated appropriately as a result.	☑	☑
B.3. Description of how the definition of the project boundary is applied to the project				
Integrate the required amount of sub-checklists for sources and gases as given by the methodology applied and comment on at least every line answered with "No"				
B.3.1. If the JI specific approach is used: Does the project boundary defined in the PDD encompass all anthropogenic emissions by sources of GHGs that are: a) Under the control of the project participants?	1, 2, 21	Boundary checklist / Yes / No Source and gas(es) discussed in the PDD? / Yes Is a definition of the boundary based on case-by-case assessment acc. to §32 (a) of / Yes	**CAR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
b) Reasonably attributable to the project? c) Significant?		DVM? | Is the delineation of the boundary described by using a figure/flow chart? | No Inclusion / exclusion justified? | Yes Explanation / Justification sufficient? | Yes Consistency with monitoring plan? | Yes A specific flow diagram is missing in the PDD. Please refer to the CAR (B.3.4).		
B.3.2. If the approved CDM methodology is used: Is the project boundary defined in accordance with the approved CDM methodology?		N/A	☑	☑
B.3.3. Source: Waste stream exiting the stack of the Nitric Acid plant (Burner inlet to stack) Gas(es): N2O Type: Baseline Emissions and Project Emissions	1, 2, 21	Boundary checklist | Yes / No Source and gas(es) discussed in the PDD? | Yes Inclusion / exclusion justified? | Yes Explanation / Justification sufficient? | Yes Consistency with monitoring plan? | Yes	☑	☑
B.3.4. Do the spatial and technological boundaries as verified on-site comply with the	1, 2	Yes, they do. The boundaries as verified on-site checking compliance with the	**CAR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Published PDD	Final PDD
discussion provided by / indication included to the PDD (plant specific flow diagram)?		discussion in the PDD. The project boundary covers the shop M-5 of non-concentrated nitric acid production divided on 2 divisions No. 1 and 2 with 10 production lines from the inlet to the AORs until monitoring points after recovery boilers. There is one common stack for production lines No. 1-3 of the division No. 1, the second and the third one for lines No. 1-4 and No. 5-7, respectively, of division No. 2. **Corrective Action Request 5:** In order to demonstrate project boundary clearly and transparently revised PDD has to be amended by including a plant specific flow diagram. On the diagram key components of the process as well as JI related measuring points/equipment shall be identified.		
B.4. Further baseline information, including the date of baseline setting and the name(s) of the person(s)/entity(ies) setting the baseline:				
B.4.1. Are the name(s) of the person(s)/entity(ies) whom setting the baseline available?	1, 2	The baseline of the particular project has not been set yet according to current status of project implementation. However the names of the persons and entity that set the preliminary estimates of the baseline emission are available.	☑	☑
B.4.2. Is the date of baseline setting available?	1, 2	No, please see comment above.	☑	☑
C. Duration of the project activity / crediting period				
C.1. Starting date of the project:				
C.1.1. Is the project's starting date clearly defined in the PDD and reasonable?	1, 2, 9	Yes, the project starting date is identified in the PDD. However it is not described which actions is the starting date of the project defined with.	**CR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		Clarification Request 8: Please clarify which actions are the starting date of the project activity and crediting period defined with. In doing so please refer to the Glossary of JI terms v. 1 JISC 13. PDD should be amended accordingly then.		
C.1.2. Is the starting date of the project after the beginning of 2000?	1, 2, 9	Yes, the project started after the beginning of 2000 (the starting date of the project is June 20th 2008).	☑	☑
C.2. Expected operational lifetime of the project:				
C.2.1. Is the expected operational lifetime of the project clearly defined in the PDD in years and months and reasonable?	1, 2, 40, 41	The expected operational lifetime of the project is at least 21 years. As long as N_2O catalyst is replaced regularly, project lifetime is the same as estimated minimum AORs lifetime. The AORs of AZOT were commissioned in 1970 line No. 1, 1971 lines No. 2-3, 1972 lines No. 4-6, 1973 lines No. 7-9 and 1980 line No. 10. Therefore the estimated operational lifetime of the project is reasonable because its common technical approach that AORs are operational for at least 50 years (depending on factors such as production conditions, quality of maintenance, shut frequency and metal stress limits etc.) According to the requirements of construction and safety operating rules for pressure equipment No. НПАОП-0.00.1.07-94. The AORs are under supervision of national inspection company "State Committee of Health and Safety at Work of Ukraine" and every 4 years AORs have to pass the third party inspection. AZOT submitted to audit team the proofs that AORs regularly pass required inspections.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
C.3. Length of the crediting period:				
C.3.1. Is the assumed crediting period clearly defined in the PDD in years and months and reasonable?	1, 2, 16	The length of crediting period has been set 12 years 2 months and starting date is November 1, 2010. However please refer to CAR below. **Corrective Action Request 6:** Please set the length of crediting period in years and months as required by the Guidelines for users of the JI PDD form, version 3.	**CAR**	☑
C.3.2. Is the starting date of the crediting period on or after the date of the first emission reductions generated by the project?	1, 2, 16	Yes, the starting date of the crediting period is November 1st, 2010, when the secondary catalyst is planned to be installed and the project is expected to generate the first emission reductions.	☑	☑
C.3.3. Does the PDD state that the crediting period for issuance of ERUs starts only after the beginning of 2008 and doesn't extend beyond the operational lifetime of the project?	1, 2, 16	Yes, it is clearly stated in the section C of the PDD.	☑	☑
C.3.4. If the crediting period extends beyond 2012, does the PDD state that the extension is subject to the host Party approval? Are the estimates of ERs presented separately for those until 2012 and those after 2012?	1, 2	Yes, it is clearly stated in the section C.3 of the PDD. The estimates of emission reductions are presented separately for those until and those after 2012 in section A.4.3.1. of the PDD..	☑	☑
D. Monitoring plan				
D.1. Description of monitoring plan chosen:				
D.1.1. Does the PDD explicitly indicate which of the following approaches is used?	1, 2, 3	The first version of the PDD mentions the approved CDM methodology AM0034 v. 03.4 to be used as a basis for this project activity. AM0034 is solely addressing the destruction of nitrous oxide	**CAR CR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
- JI specific approach - Approved CDM methodology approach		by secondary measures. Hence it is considered that AM0034 is the appropriate choice for this project activity fitting to the baseline and project scenario of this project. Nevertheless it is not directly applicable due to various distinctions between the assumptions of the methodology and the real situation at AZOT plant. Therefore please refer to CRs and CARs in section B of this checklist.		
D.1.2. If the monitoring plan indicates overlapping monitoring periods during the crediting period, is the underlying project composed of clearly identifiable components for which emission reductions can be calculated independently?	1, 2	During the on-site determination audit team noticed that there can be an overlapping of the monitoring periods as the project boundary comprises the ten production lines of one nitric acid plant operated by Azot. However this fact was not discussed and clearly presented by the PDD, therefore a CAR has been issued (refer to CAR in section B.1.1 of this checklist). As a result of the on-site audit the TÜV SÜD assessment team can confirm that the production lines operated are independent from each other and therefore emission reduction can be calculated independently in the future for each of them. However the PDD has to be adapted as requested by the CAR in B.1.1.	**CAR**	☑
D.1.3. If the monitoring plan indicates overlapping monitoring period during the crediting period, can monitoring be performed independently for each of these components (i.e. the data/parameters monitored for one component are not dependent on/effect data/parameters to be monitored for another component)?	1, 2	At the on-site determination the project proponents confirmed that the monitoring will be performed for all production lines independently. However the PDD should be revised as requested by CAR in B.1.1.	**CAR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Published PDD	Final PDD
D.1.4. If the monitoring plan indicates overlapping monitoring periods during the crediting period, does the monitoring plan ensure that monitoring is performed for all components and that in these cases all the requirements of the JI guidelines and further guidance by the JISC regarding monitoring are met?	1, 2	At the on-site determination the project proponents confirmed that the monitoring will be performed for all production lines independently and that all the requirements of the JI guidelines and further JISC guidance regarding monitoring will be met. However the PDD should be revised as requested by CAR in B.1.1.	**CAR**	☑
D.1.5. If the monitoring plan indicates overlapping monitoring period during the crediting period, does the monitoring plan explicitly provide for overlapping monitoring periods of clearly defined project components, justify its need and state how the conditions mentioned above are met?	1, 2	Please refer to CAR in B.1.1.	**CAR**	☑
D.1.6. Is the uncertainty of key parameters described and, where possible, is in uncertainty range at 95% confidence level for key parameters for the calculation of ERs provided?	1, 2	The uncertainty of the key parameters is clearly described in the PDD. In doing so the PDD explicitly follows the AM0034 v.03.4 (UNC of the AMS, calculation of the 95% confidence level for the measured values etc.).	☑	☑
D.1.7. Does the monitoring plan identify a national or international monitoring standard incl. a reference to its detailed description, if such applied to the project?	1, 2	Yes, the monitoring plan identifies all applicable national and international monitoring standards (section D of the PDD) incl. a detailed description (Annex 3).	☑	☑
D.1.8. Are the statistical techniques used in a conservative manner?		The statistical techniques used explicitly follow the approved CDM methodology AM0034 v.03.4.	☑	☑
D.1.9. Does the monitoring plan present the QA/QC procedures for the monitoring process	1, 2, 7,	On the day of on-site audit the AMS has not been installed yet however Siemens' declaration of conformity for the gas analyzer	**FAR**	**FAR**

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
(e.g. QA for AMS acc. to EN14181)?	11, 16, 55	of AMS, type ULTRAMAT 23, according to requirements of EN 14956 and QAL1 according to EN 14181 has been submitted to the audit team. Also according to the JI project implementation plan the QAL2 is planned by PPs after installation of AMS. **Forward Action Request 2:** During the on-site visit the quality assurance and quality control procedure have been discussed while TÜV SÜD assessment team underlined the importance of such procedures for the future data quality. Therefore project proponents agreed to implement a so called "JI Manual" which will comprise description of the work scope as well as tasks of responsible personnel, qualification requirements and continuous training for responsible staff, procedures on the data treatment acc. to AM0034 rules and requirements (e.g. downtime of AMS), QAL 3 procedures, JI project related documentation procedures, troubleshooting procedures, etc. During the first periodic verification the PPs will provide the JI Manual to a verifying entity.		
D.1.10. Does the monitoring plan clearly identify the responsibilities and the authority regarding the monitoring activities?	1, 2, 52	**Clarification Request 9:** The PDD (section D.3) provides the operational and management structure as to the proposed JI project. However this responsibility chart is rather general. Please revise the chart by including more project specific information and clearly state JI related tasks/ responsibilities shared among the AZOT and MGM members. In addition please include more detailed information on the person in charge and frequency of EF_{reg} monitoring.	**CR**	**FAR**

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Published PDD	Final PDD
D.1.11. Is the inclusion of external accredited services providers for calibration and function tests foreseen in the planning of the project?	1, 2, 16	The inclusion of external accredited services providers for calibration and function tests according to the EN14181 is foreseen in the planning of the project.	☑	☑
D.1.12. Are the specific performance characteristics of the monitoring system chosen by the project listed in the PDD	1, 2	**Corrective Action Request 7:** The specific performance characteristics of the monitoring system chosen by the PPs have to be listed in the PDD. Please revise the PDD.	**CAR**	☑
D.1.13. Does the monitoring plan, on the whole, reflect good monitoring practices appropriate to the project type?	1, 2	Yes, the monitoring plan provides current good monitoring practice. However please also refer to CARs (B.1.1.).	**CAR**	☑
D.1.14. Does the monitoring plan provide, in tabular form, a complete compilation of the data to be collected for its application incl. data that are measured / sampled and data collected from other sources, but not including data that are calculated with equations?	1, 2	Yes the monitoring plan provided the relevant data in tabular form (section D of the PDD), however please refer to the CARs below in this checklist.	**CAR**	☑
D.1.15. Does the monitoring plan indicate that the data monitored and required for verification are to be kept for two years after the last transfer of ERUs for the project?	1, 2	Yes, the monitoring plan indicates that the data monitored and required for verification are to be kept for two years after the last transfer of ERUs for the project	☑	☑
JI specific approach *(project specific methodology or selected elements or combinations of approved CDM methodologies or methodological tools)*				
D.1.16. Does the monitoring plan describe all relevant factors/ key characteristics to be monitored, all decisive factors for the control	1, 2	Yes, the monitoring plan describes all relevant factors/ key characteristics to be monitored, all decisive factors for the control and reporting of project performance and the period in which they will	**CAR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
and reporting of project performance and the period in which they will be monitored?		be monitored. However please refer to the CARs below in this checklist.		
D.1.17. If default values are used: - Are accuracy and reasonableness carefully balanced in their selection? - Do the default values originate from recognized sources? - Are the default values supported by statistical analyses providing reasonable confidence levels? - Are the default values presented in a transparent manner?	1, 2, 3	Basically no default values are used in this project. However for some specific situations (e.g. in case the composition of the primary catalyst used for the baseline campaign has been changed to other than used in the previous 5 campaigns and the specific conditions are not met, etc.) a default value of 4,5 kgN2O/ tHNO3 has to be used as required by the AM0034 which elements are applied to this project. Furthermore the methodology applied requires a parameter EFreg to be monitored throughout the crediting period. Since the value of this parameter is/ will be set by the host country, it will be another possible default value which can be applied during the project duration. The PDD demonstrates clearly, transparently and in accordance with AM0034 v.03.4 the provisions for any default values which can eventually be applied during the crediting period.	☑	☑
D.1.18. For those default values that are to be provided by the project participants, does the monitoring plan clearly indicate how the values are to be selected and justified?	1, 2, 3	The PDD clearly specify EFreg- emissions level set by incoming policies or regulations- to be monitored prior to the preparation of each monitoring report, updated every time if new regulations come into force and archive the data during project crediting period.	☑	☑
D.1.19. For other default values: - Does the monitoring plan clearly indicate the precise references from which these values are taken? - Is the conservativeness of the values provided justified?		N/A	☑	☑
D.1.20. For all data sources, does the monitoring plan specify the procedures to be followed	1, 2	See FAR in D.1.9.	**FAR**	**FAR**

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
if expected data are unavailable?				
D.1.21. Does the monitoring plan draw on the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring"?	1, 2	Yes, it does.	☑	☑
D.1.22. Does the monitoring plan explicitly and clearly distinguish: a) Data and parameters that are not monitored throughout the crediting period, but are determined only once and thus remain fixed throughout the crediting period, and that are available already at the stage of determination? b) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), but that are not already available at the stage of determination? c) Data and parameters that are monitored throughout the crediting period?	1, 2, 3	Yes, it does. The monitoring plan explicitly and clearly distinguishes such data and parameter as required by the AM0034 v.03.4 which elements have been applied.	☑	☑
D.1.23. Does the monitoring plan describe the methods employed for data monitoring (incl. its frequency) and recording?	1, 2	Yes, the monitoring plan describes the monitoring methods, frequency and recording in complete manner. However pls. see CAR below: **Corrective Action Request 8:** All information related to the parameter (title, data unit, description, source etc.) should be in accordance with methodology applied. Please revise the PDD accordingly.	**CAR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		Please refer to CAR (D.3.1.2).		
D.1.24. Is information on the margins of errors and the cumulative error for the complete measurement system provided in the PDD?	1, 2, 80	As AMS has not been installed yet, the PDD, version 1, provides preliminary typical measurement uncertainty of the monitoring system required for ex-ante estimation of baseline emissions. Please refer to CAR in B.1.1.	**CAR**	☑
D.1.25. Are the requirements on the treatment of downtime of the AMS clearly reflected in the envisioned calculation routines?	1, 2	**Corrective Action Request 9:** The PDD should be amended by including information on the data treatment in case AMS downtime.	**CAR**	☑
D.1.26. Is the monitoring plan established appropriately as a result?	1, 2	Yes, the monitoring plan is established appropriately.	☑	☑
Approved CDM methodology approach				
D.1.27. Are all explanations, descriptions and analyses pertaining to monitoring in the PDD made in accordance with referenced approved CDM methodology?		N/A	☑	☑
D.1.28. Is it explained how the procedures provided in the methodology are applied by the proposed project activity?		N/A	☑	☑
D.1.29. Is every selection of options offered by the methodology correctly justified and is this justification in line with the situation verified on-site?		N/A	☑	☑
D.1.30. Is the operational and management structure clearly described and in compliance with the envisioned situation?		N/A	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
D.1.31. Are responsibilities and institutional arrangements for data collection and archiving clearly provided?		N/A	☑	☑
D.1.32. Has the monitoring system installed using the European Norm 14181 (2004)?		N/A	☑	☑
D.1.33. Will the three quality assurance levels been met by the planned Automated Measuring System (AMS) according to the EN14181?		N/A	☑	☑
D.1.34. Are the specific performance characteristics of the monitoring system chosen by the project listed in the PDD?		N/A	☑	☑
D.1.35. Is information on the margins of errors and the cumulative error for the complete measurement system provided in the PDD?		N/A	☑	☑
D.1.36. Are the requirements on the treatment of downtime of the AMS clearly reflected in the envisioned calculation routines?		N/A	☑	☑
D.1.37. Is the monitoring plan established appropriately as a result?		N/A	☑	☑
D.2. Data and parameters not monitored- determination of the permitted ranges for the operating parameters				
D.2.1. Does the PDD explicitly indicate which of following sources were used for determination of the permitted ranges for the operating parameters: (a) Historical data from the immediately previous five campaigns. (or fewer, if the plant has not been operating for five campaigns).	1, 2, 3	At the time of on-site visit the determination of permitted operation conditions are still in process as not all historic campaigns was completed according to last version of the schedule of historic and baseline campaigns at each line provided to the audit team. Therefore values for permitted operation conditions, normal campaign length and normal gauze composition/supplier are to be verified later by the verifying entity.	**CAR**	☑

<table>
<tr><th>CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>Pub-lished PDD</th><th>Final PDD</th></tr>
<tr><td>(b) If no data on historical data is available, the range stipulated in the operating manual for the existing equipment; or
(c) If no operating manual is available or the operating manual gives insufficient information, from an appropriate technical literature source?</td><td></td><td><u>Corrective Action Request 10:</u>
During the on-site visit assessment team noticed that there are historical data available for each of 10 production lines. Therefore PDD has to be amended by including a clear statement on sources of data used for determination of the permitted operating conditions and permitted operating ranges established for all 10 lines. Furthermore please specify GC_{normal} and GS_{normal} in the PDD, e.g. Annex 2.</td><td></td><td></td></tr>
<tr><td>D.2.2. In case option (a) is selected, has a proper statistical analysis of the historical data been conducted as required by AM0034?</td><td>1, 2, 3</td><td>Please refer to the comments in D.2.1.</td><td>CAR</td><td>☑</td></tr>
<tr><td>D.2.3. Once the permitted ranges of the operating parameters are determined, is it demonstrated that those ranges are within the specifications of the facility?</td><td>1, 2, 3</td><td>Please refer to the comments in D.2.1.</td><td>CAR</td><td>☑</td></tr>
<tr><td>D.2.4. Parameter:
OT_{normal}
Normal operating temperature (of line i)</td><td>1, 2, 3</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>No</td></tr><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table></td><td>CAR</td><td>☑</td></tr>
</table>

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<tr><th>CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>Pub-lished PDD</th><th>Final PDD</th></tr>
<tr><td></td><td></td><td>Please refer to the comments in D.2.1.
The value is to be verified later by the verifying entity.</td><td></td><td></td></tr>
<tr><td>D.2.5. Parameter:
OP_{normal}
Normal operating pressure (of line i)</td><td>1, 2, 3</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>No</td></tr><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table>Please refer to the comments in D.2.1.
The value is to be verified later by the verifying entity.</td><td>CAR</td><td>☑</td></tr>
<tr><td>D.2.6. Parameter:
$AFR_{max,i}$
Maximum ammonia gas flow rate to the AOR (of line i)</td><td>1, 2, 3</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr></table></td><td>CAR</td><td>☑</td></tr>
</table>

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		Indication of accuracy provided? — Yes QA/QC procedures described? — No QA/QC procedures appropriate? — No Please refer to the comments in D.2.1. The value is to be verified later by the verifying entity.		
D.2.7. Parameter: $AIFR_{max}$ Maximum ammonia to air ratio	1, 2, 3	Monitoring Checklist — Yes / No Title in line with methodology? — Yes Data unit correctly expressed? — Yes Appropriate description of parameter? — No Source clearly referenced? — Yes Correct value provided for estimation? — N/A Has this value been verified? — N/A Measurement method correctly described? — No Correct reference to standards? — Yes Indication of accuracy provided? — Yes QA/QC procedures described? — No QA/QC procedures appropriate? — No Please refer to the comments in D.2.1. The value is to be verified later by the verifying entity.	**CAR**	☑
D.2.8. Parameter: GS_{normal} Normal gauze supplier for the operation condition campaigns (of line i)	1, 2, 3	Monitoring Checklist — Yes / No Title in line with methodology? — Yes Data unit correctly expressed? — Yes Appropriate description of parameter? — No Source clearly referenced? — Yes Correct value provided for estimation? — N/A	**CAR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		Has this value been verified? N/A Measurement method correctly described? No Correct reference to standards? Yes Indication of accuracy provided? Yes QA/QC procedures described? No QA/QC procedures appropriate? No Please refer to the comments in D.2.1. The value is to be verified later by the verifying entity.		
D.2.9. Parameter: GC_{normal} Gauze composition during the operation campaign	1, 2, 3	Monitoring Checklist: Yes / No Title in line with methodology? Yes Data unit correctly expressed? Yes Appropriate description of parameter? No Source clearly referenced? Yes Correct value provided for estimation? N/A Has this value been verified? N/A Measurement method correctly described? No Correct reference to standards? Yes Indication of accuracy provided? Yes QA/QC procedures described? No QA/QC procedures appropriate? No Please refer to the comments in D.2.1. The value is to be verified later by the verifying entity.	**CAR**	☑
D.2.10. Parameter: CL_{normal} Normal campaign length (of campaign n of line i)	1, 2, 3, 19, 21, 30,	Monitoring Checklist: Yes / No Title in line with methodology? Yes Data unit correctly expressed? Yes	**CAR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
	38, 39, 42, 43	<table><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>No</td></tr><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table> **Corrective Action Request 11:** During the on-site determination assessment team noticed that the production lines of division No. 1 are not equipped with any mass flow meters and therefore there is no historic data for nitric acid production available on those lines. PPs stated that it is planned to install the mass flow meters on each of the lines in division No. 1 before beginning of the baseline. It should be clearly explained how the CL_{normal} will be calculated for those lines (lab analysis results for HNO_3 concentration, mass balance analysis with NH_3 input for the HNO_3 flow). PDD should be revised accordingly then. Please also refer to the comments in D.2.1. The value is to be verified later by the verifying entity.		
D.2.11. Does the PDD explicitly state the design capacity of the plant? By nameplate (design) implies the total yearly capacity (considering 365 days of operation per year) as per the documentation of the plant technology provider (such as the Opera-	14, 22, 28, 63, 65, 68, 69,	See CR in A.4.3.2.	**CR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
tion Manual).	77, 80			
D.3. Monitoring of the emissions in the project scenario and the baseline scenario:				
D.3.1. **Data to be collected in order to monitor emissions from the project and how these data will be archived:**				
D.3.1.1. Is the list of parameters collected in order to monitor emissions from the project in chapter D.1.1. considered to be complete with regard to the requirements of the applied methodology?	1, 2, 3	No, it is not. **Corrective Action Request 12:** All parameters required for monitoring of project emissions, determining of baseline emissions and how these data will be calculated and archived has to be presented in tables D.1.1.1 and D.1.1.3 of the PDD, respectively.	**CAR**	☑
D.3.1.2. Is the data provided in this section in consistency with data as presented in other chapters of the PDD?	1, 2	**Corrective Action Request 13:** Deviations from AM0034 have to be taken into account during calculations; hence all related formulae have to be revised accordingly. In doing so please also pay attention to the fact that this particular project is a multiline one and clearly identify it (e.g. by index) in the parameters' title and formulae applied.	**CAR**	☑
Integrate the required amount of sub-checklists for monitoring parameter and comment on any line answered with "No"				
D.3.1.3. Parameter Title: $NCSG_{PC,i}$ N2O concentration in the stack gas (of line i)	1, 2, 3	Monitoring Checklist / Yes / No Title in line with methodology? — No Data unit correctly expressed? — No Appropriate description of parameter? — No Source clearly referenced? — Yes Correct value provided for estimation? — N/A Has this value been verified? — N/A Measurement method correctly described? — Yes	**CAR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		Correct reference to standards? Yes Indication of accuracy provided? N/A QA/QC procedures described? Yes QA/QC procedures appropriate? Yes Please refer to CAR in D.3.1.2. The value is to be verified later by the verifying entity.		
D.3.1.4. Parameter Title: $VSG_{PC, i}$ Volume flow rate of the stack gas in project campaign (of line i)	1, 2, 3	Monitoring Checklist: Yes / No Title in line with methodology? No Data unit correctly expressed? No Appropriate description of parameter? No Source clearly referenced? Yes Correct value provided for estimation? N/A Has this value been verified? N/A Measurement method correctly described? Yes Correct reference to standards? Yes Indication of accuracy provided? N/A QA/QC procedures described? Yes QA/QC procedures appropriate? Yes Please refer to CAR in D.3.1.2. The value is to be verified later by the verifying entity.	**CAR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
D.3.1.5. Is the application of the methodological requirements for re- calculation of the $EF_{baseline}$ when the project campaign length is shorter than normal campaign length (EB 51 Annex 12) correctly described in the PDD?	1, 2, 3	Yes, the application of the methodological requirements for re-calculation of the $EF_{baseline}$ when the project campaign length is shorter than normal campaign length is correctly described in the PDD.	☑	☑
D.3.1.6. Parameter Title: $OH_{PC, i}$ Operating hours in project campaign (of line i)	1, 2, 3	Monitoring Checklist / Yes / No: Title in line with methodology? No; Data unit correctly expressed? Yes; Appropriate description of parameter? No; Source clearly referenced? No; Correct value provided for estimation? N/A; Has this value been verified? N/A; Measurement method correctly described? Yes; Correct reference to standards? N/A; Indication of accuracy provided? N/A; QA/QC procedures described? Yes; QA/QC procedures appropriate? Yes Please refer to CAR in D.3.1.2. **Corrective Action Request 14:** The source/control data used for monitoring of operation hours of baseline and project campaigns should be clearly described in revised PDD. The value is to be verified later by the verifying entity.	**CAR**	☑
D.3.1.7. Parameter Title:	1, 2,		**CAR**	☑

<table>
<tr><th>CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>Pub-lished PDD</th><th>Final PDD</th></tr>
<tr><td>NAP_{PC}
Nitric acid (100% concentrated) over the project campaign
(of line i)</td><td>3</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table>Please refer to CARs in D.2.10 and D.3.1.2.
The value is to be verified later by the verifying entity.</td><td></td><td></td></tr>
<tr><td>D.3.1.8. Parameter Title:
TSG
Temperature of stack gas
(of line i)</td><td>1, 2, 3</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table>Please refer to CAR in D.3.1.2.</td><td>CAR</td><td>☑</td></tr>
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<tr><td>D.3.1.9. Parameter Title:
PSG
Pressure of stack gas
(of line i)</td><td>1, 2, 3</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table>Please refer to CAR in D.3.1.2.
The value is to be verified later by the verifying entity.</td><td>CAR</td><td>☑</td></tr>
<tr><td>D.3.1.10. Parameter Title:
AFR
Ammonia gas flow rate to the AOR
(of line i)</td><td>1, 2, 3</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr></table></td><td>CAR</td><td>☑</td></tr>
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<tr><td>Has this value been verified?</td><td>N/A</td></tr>
<tr><td>Measurement method correctly described?</td><td>No</td></tr>
<tr><td>Correct reference to standards?</td><td>No</td></tr>
<tr><td>Indication of accuracy provided?</td><td>N/A</td></tr>
<tr><td>QA/QC procedures described?</td><td>No</td></tr>
<tr><td>QA/QC procedures appropriate?</td><td>No</td></tr>
</table>
Please refer to CAR in D.3.1.2.
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<tr><td>D.3.1.11. Parameter Title:
AIFR
Ammonia to Air ratio
(of line i)</td><td>1, 2, 3</td><td>
<table>
<tr><th>Monitoring Checklist</th><th>Yes / No</th></tr>
<tr><td>Title in line with methodology?</td><td>No</td></tr>
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<tr><td>QA/QC procedures described?</td><td>No</td></tr>
<tr><td>QA/QC procedures appropriate?</td><td>No</td></tr>
</table>
Please refer to CAR in D.3.1.2.
The value is to be verified later by the verifying entity.</td><td>CAR</td><td>☑</td></tr>
<tr><td>D.3.1.12. Parameter Title:
OT_h
Oxidation temperature for each hour</td><td>1, 2, 3</td><td>
<table>
<tr><th>Monitoring Checklist</th><th>Yes / No</th></tr>
<tr><td>Title in line with methodology?</td><td>No</td></tr>
</table></td><td>CAR</td><td>☑</td></tr>
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<tr><td>(of line i)</td><td></td><td>
<table>
<tr><td>Data unit correctly expressed?</td><td>No</td></tr>
<tr><td>Appropriate description of parameter?</td><td>No</td></tr>
<tr><td>Source clearly referenced?</td><td>No</td></tr>
<tr><td>Correct value provided for estimation?</td><td>N/A</td></tr>
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<tr><td>QA/QC procedures appropriate?</td><td>No</td></tr>
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OP_h
Oxidation Pressure for each hour
(of line i)</td><td>1, 2, 3</td><td>
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<tr><td>QA/QC procedures appropriate?</td><td>No</td></tr>
</table>
Please refer to CAR in D.3.1.2.
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<tr><th>CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>Pub-lished PDD</th><th>Final PDD</th></tr>
<tr><td>D.3.1.14. Parameter Title:
$GS_{Project}$
Gauze supplier for project campaign
(of line i)</td><td>1, 2, 3</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table>Please refer to CAR in D.3.1.2. The value is to be verified later by the verifying entity.</td><td>CAR</td><td>☑</td></tr>
<tr><td>D.3.1.15. Parameter Title:
$GC_{Project}$,
Gauze composition during project campaign
(of campaign n of of line i)</td><td>1, 2, 3</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>No</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr></table></td><td>CAR</td><td>☑</td></tr>
</table>

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		QA/QC procedures described? — No QA/QC procedures appropriate? — No Please refer to CAR in D.3.1.2. The value is to be verified later by the verifying entity.		
D.3.1.16. Parameter Title EF_{reg} Emissions level set by incoming policies or regulations	1, 2, 3	Monitoring Checklist — Yes / No Title in line with methodology? — Yes Appropriate description of parameter? — No Source clearly referenced? — Yes Correct value provided for estimation? — N/A Has this value been verified? — N/A QA/QC procedures described? — No QA/QC procedures appropriate? — No Please refer to CAR and CR (D.1.23 and D.1.10). The value is to be verified later by the verifying entity.	**CAR CR**	**FAR**
D.3.2. **Description of formulae used to estimate <u>project</u> emissions (for each gas, source etc.; emissions in units of CO_2 equivalent**				
JI specific approach				
D.3.2.1. Does the monitoring plan elaborate all algorithms and formulae used for the estimation/calculation of project emissions?	1, 2, 3	Pls. refer to CAR in D.3.1.2.	**CAR**	☑
D.3.2.2. Is the underlying rationale for the algorithms/formulae explained?	1, 2, 3	Yes, the underlying rationale for the formulae is explained. However see CAR in D.3.1.2.	**CAR**	☑
D.3.2.3. For the equations presented: - Are consistent variables, equation formats, subscripts etc. used?	1, 2, 3	Pls. refer to CAR in D.3.1.2.	**CAR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
- Are all equations numbered? - Are all variables, with units indicated de-fined?				
D.3.2.4. Is the conservativeness of the algo-rithms/procedures justified?	1, 2, 3	Yes, the conservativeness of the algorithms is justified in the PDD. However see CAR in D.3.1.2.	**CAR**	☑
D.3.2.5. To the extent possible, are methods to quantitatively account for uncertainty in key parameters included?	1, 2	Due to specific design of nitric acid production at Azot, where the first common stack exists for production lines 1-3 of the division No. 1, the second common stack exists for production lines 1-4 of division No. 2, and the third common stack exists for lines 5-7 of division No. 2, the measuring points of tail gas volume flow at the lines were revised. The volume of stack gas of line 1 of division No. 1 is measured directly. The volume of the tail gas produced by line 2 of division No. 1 is calculated as a difference between the total gas flow of line 1 + line 2 and gas flow generated by line 1. The volume of gas produced by line 3 of division No. 1 is calculated as a difference between the total gas flow at the end of the stack (which includes gas from all lines of division No. 1) and the gas flow of previous two lines. The volume of stack gas of lines of division No. 2 will be measured and calculated in a similar way. The N2O concentration will be measured at each line separately and independent from others. In order to consider the level of uncertainty (UNC) for each AMS and possible error propagation, the overall UNC will be calculated using the Gauss's law of error propagation. In such way all the relevant uncertainties arising from the individual performance characteristics of the AMSs components will be considered. The resulting UNC will be than used in order to reduce the baseline emission factor.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Published PDD	Final PDD
D.3.2.6. Is it justified that the procedure is consistent with standard technical procedures in the sector?	1, 2, 3	Yes, it is justified. Furthermore the procedure for estimation/ calculation of the project emissions is based on the on proposed by the AM0034, it was just adapted to the needs of this particular project activity.	☑	☑
D.3.2.7. Are the formulae required for the derivation of a moving average emission factor correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1, 2, 3	Yes, however see CAR in D.3.1.2.	**CAR**	☑
D.3.2.8. Are implicit and explicit key assumptions explained in a transparent manner?	1, 2, 3	Yes, all key assumptions are described in a transparent and complete manner. However pls. refer to CAR in D.3.1.2.	CAR	☑
D.3.2.9. Is it clearly stated which assumptions and procedures have significant uncertainty associated with them, and how such uncertainty is to be addressed?	1, 2, 3	Yes, it is. See also comments to D.3.2.5.	☑	☑
Approved CDM methodology approach				
D.3.2.10. Are the formulae required for the determination of project emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?		N/A	☑	☑
D.3.2.11. Are the formulae required for the derivation of a moving average emission factor correctly presented, enabling a complete identification of parameter to be used and / or monitored?		N/A	☑	☑
D.3.3. **Relevant data necessary for determining the <u>baseline</u> of anthropogenic emissions of greenhouse gases by sources within the project boundary, and how such data will be collected and achieved:**				

<table>
<tr><th>CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>Pub-lished PDD</th><th>Final PDD</th></tr>
<tr><td>D.3.3.1. Is the list of parameters monitored in chapter D.1.3. considered to be complete with regard to the requirements of the applied methodology?</td><td>1, 2, 3</td><td>Yes, it is.</td><td>☑</td><td>☑</td></tr>
<tr><td>D.3.3.2. Is the data provided in this section in consistency with data as presented in other chapters of the PDD?</td><td>1, 2</td><td>The data provided in this section are in consistency with data as presented in other chapters of the PDD.</td><td>☑</td><td>☑</td></tr>
<tr><td colspan="5">Integrate the required amount of sub-checklists for monitoring parameter and comment on any line answered with "No"</td></tr>
<tr><td>D.3.3.3. Parameter Title:
$NCSG_{BC, i}$
N2O concentration in the stack gas in baseline campaign (of line i)</td><td>1, 2, 3</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table>At the time of the audit on-site the AMS has not been installed.
Please refer to CARs (D.1.23 and D.3.1.2) and FAR (D.1.9).
The value is to be verified later by the verifying entity.</td><td>CAR
FAR</td><td>FAR</td></tr>
<tr><td>D.3.3.4. Parameter Title:
$VSG_{BC, i}$
Volume flow rate of the stack gas</td><td>1, 2, 3</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr></table></td><td>CAR
FAR</td><td>FAR</td></tr>
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<tr><th>CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>Pub-lished PDD</th><th>Final PDD</th></tr>
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<tr><td>Appropriate description of parameter?</td><td>No</td></tr>
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<tr><td>Indication of accuracy provided?</td><td>N/A</td></tr>
<tr><td>QA/QC procedures described?</td><td>Yes</td></tr>
<tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr>
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Please refer to CARs (D.1.23 and D.3.1.2) and FAR (D.1.9).
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<tr><td>D.3.3.5. Parameter Title:
$CL_{BC, i}$
Baseline campaign length (of line i)</td><td>1, 2, 3</td><td>
<table>
<tr><th>Monitoring Checklist</th><th>Yes / No</th></tr>
<tr><td>Title in line with methodology?</td><td>No</td></tr>
<tr><td>Data unit correctly expressed?</td><td>Yes</td></tr>
<tr><td>Appropriate description of parameter?</td><td>No</td></tr>
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<tr><td>Correct reference to standards?</td><td>Yes</td></tr>
<tr><td>Indication of accuracy provided?</td><td>N/A</td></tr>
<tr><td>QA/QC procedures described?</td><td>Yes</td></tr>
<tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr>
</table>
Please refer to CARs (D.1.23, D.2.10 and D.3.1.2).
The value is to be verified later by the verifying entity.</td><td>CAR</td><td>☑</td></tr>
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<tr><th>CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>Pub-lished PDD</th><th>Final PDD</th></tr>
<tr><td>D.3.3.6. Is the application of the methodological requirements to calculate the EFbaseline when the baseline campaign length is longer/shorter than normal campaign length (EB 51 Annex 12) correctly described in the PDD?</td><td>1, 2, 3</td><td>Yes, the application of the methodological requirements to calculate the EFbaseline when the baseline campaign length is longer/shorter than normal campaign length is correctly described in the PDD.</td><td>☑</td><td>☑</td></tr>
<tr><td>D.3.3.7. Parameter Title:
$OH_{BC, i}$
Operating hours in baseline campaign (of line i)</td><td>1, 2, 3</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>No</td></tr><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table>Please refer to CARs (D.1.23, D.3.1.2 and D.3.1.6).
The value is to be verified later by the verifying entity.</td><td>CAR</td><td>☑</td></tr>
<tr><td>D.3.3.8. Parameter Title:
$NAP_{BC, i}$
Nitric Acid production (100% concentrated) over
baseline campaign (of line i)</td><td>1, 2, 3</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr></table></td><td>CAR</td><td>☑</td></tr>
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<tr><td>QA/QC procedures described?</td><td>Yes</td></tr>
<tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr>
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The value is to be verified later by the verifying entity.</td><td></td><td></td></tr>
<tr><td>D.3.3.9. Parameter Title:
TSG_i
Temperature of stack gas (of line i)</td><td>1, 2, 3</td><td>
<table>
<tr><th>Monitoring Checklist</th><th>Yes / No</th></tr>
<tr><td>Title in line with methodology?</td><td>No</td></tr>
<tr><td>Data unit correctly expressed?</td><td>Yes</td></tr>
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<tr><td>Indication of accuracy provided?</td><td>Yes</td></tr>
<tr><td>QA/QC procedures described?</td><td>Yes</td></tr>
<tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr>
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<tr><td>D.3.3.10. Parameter Title:
PSG_i
Pressure of stack gas
(of line i)</td><td>1, 2, 3</td><td>
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<tr><th>Monitoring Checklist</th><th>Yes / No</th></tr>
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<tr><td>QA/QC procedures described?</td><td>Yes</td></tr>
<tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr>
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<tr><td>D.3.3.11. Parameter Title:
$GS_{BC, i}$
Gauze supplier for the baseline campaign (of line i)</td><td>1, 2, 3</td><td>
<table>
<tr><th>Monitoring Checklist</th><th>Yes / No</th></tr>
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<tr><td>D.3.3.12. Parameter Title:
$GC_{BC, i}$
Gauze composition during baseline cam-paign
(of line i)</td><td>1, 2, 3</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table>Please refer to CARs (D.1.23 and D.3.1.2).
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<tr><td>D.3.3.13. Parameter Title:
$OP_{h, i}$
Oxidation Pressure for each hour
(of line i)</td><td>1, 2, 3</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table></td><td>CAR</td><td>☑</td></tr>
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<tr><td>D.3.3.14. Parameter Title:
$OT_{h, i}$
Oxidation Temperature for each hour
(of line i)</td><td>1, 2, 3</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table>Please refer to CAR (D.3.1.2).
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<tr><td>D.3.3.15. Parameter Title:
AFR_{i}
Ammonia gas flow rate
(of line i)</td><td>1, 2, 3</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr></table></td><td>CAR</td><td>☑</td></tr>
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</td><td></td><td></td></tr>
<tr><td>D.3.3.16. Parameter Title:
$AIFR_i$
Ammonia to Air Flow Ratio
(of line i)</td><td>1, 2, 3</td><td>
<table>
<tr><td>Monitoring Checklist</td><td>Yes / No</td></tr>
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<tr><td>Data unit correctly expressed?</td><td>Yes</td></tr>
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<tr><td>Source clearly referenced?</td><td>Yes</td></tr>
<tr><td>Correct value provided for estimation?</td><td>N/A</td></tr>
<tr><td>Has this value been verified?</td><td>N/A</td></tr>
<tr><td>Measurement method correctly described?</td><td>Yes</td></tr>
<tr><td>Correct reference to standards?</td><td>Yes</td></tr>
<tr><td>Indication of accuracy provided?</td><td>Yes</td></tr>
<tr><td>QA/QC procedures described?</td><td>Yes</td></tr>
<tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr>
</table>
Please refer to CARs (D.1.23 and D.3.1.2).
The value is to be verified later by the verifying entity.
</td><td>CAR</td><td>☑</td></tr>
<tr><td>D.3.3.17. Parameter Title:
EF_{reg}
Emissions level set by incoming policies or regulations</td><td>1, 2, 3</td><td>
<table>
<tr><td>Monitoring Checklist</td><td>Yes / No</td></tr>
<tr><td>Title in line with methodology?</td><td>Yes</td></tr>
<tr><td>Data unit correctly expressed?</td><td>N/A</td></tr>
<tr><td>Appropriate description of parameter?</td><td>No</td></tr>
</table>
</td><td>CAR
CR</td><td>FAR</td></tr>
</table>

<table>
<tr><th>CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>Pub-lished PDD</th><th>Final PDD</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>Source clearly referenced?</td><td>Yes</td></tr>
<tr><td>Correct value provided for estimation?</td><td>N/A</td></tr>
<tr><td>Has this value been verified?</td><td>N/A</td></tr>
<tr><td>Measurement method correctly described?</td><td>No</td></tr>
<tr><td>Correct reference to standards?</td><td>Yes</td></tr>
<tr><td>Indication of accuracy provided?</td><td>Yes</td></tr>
<tr><td>QA/QC procedures described?</td><td>No</td></tr>
<tr><td>QA/QC procedures appropriate?</td><td>No</td></tr>
</table>
Please refer to CAR and CR (D.1.23 and D.1.10).
The value is to be verified later by the verifying entity.</td><td></td><td></td></tr>
<tr><td>D.3.3.18. Parameter Title:
UNC_i
Overall measurement uncertainty of the monitoring system
(of line i)</td><td>1, 2, 3</td><td>
<table>
<tr><th>Monitoring Checklist</th><th>Yes / No</th></tr>
<tr><td>Title in line with methodology?</td><td>No</td></tr>
<tr><td>Data unit correctly expressed?</td><td>Yes</td></tr>
<tr><td>Appropriate description of parameter?</td><td>Yes</td></tr>
<tr><td>Source clearly referenced?</td><td>Yes</td></tr>
<tr><td>Correct value provided for estimation?</td><td>Yes</td></tr>
<tr><td>Has this value been verified?</td><td>N/A</td></tr>
<tr><td>Measurement method correctly described?</td><td>Yes</td></tr>
<tr><td>Correct reference to standards?</td><td>Yes</td></tr>
</table>
Please refer to CAR (D.3.1.2).
The value is to be verified later by the verifying entity.</td><td>CAR</td><td>☑</td></tr>
<tr><td colspan="5">D.3.4. Description of formulae used to estimate <u>baseline</u> emissions (for each gas, source etc.; emissions in units of CO_2 equivalent)</td></tr>
<tr><td colspan="5">JI specific approach</td></tr>
<tr><td>D.3.4.1. Does the monitoring plan elaborate all</td><td>1, 2,</td><td>Pls. refer to CAR in D.3.2.1.</td><td>CAR</td><td>☑</td></tr>
</table>

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Published PDD	Final PDD
algorithms and formulae used for the estimation/calculation of baseline emissions?	3			
D.3.4.2. Is the underlying rationale for the algorithms/formulae explained?	1, 2, 3	Yes, the underlying rationale for the formulae is explained. However see CAR in D.3.2.1.	**CAR**	☑
D.3.4.3. For the equations presented: - Are consistent variables, equation formats, subscripts etc. used? - Are all equations numbered? - Are all variables, with units indicated defined?	1, 2, 3	Pls. refer to CAR in D.3.2.1.	**CAR**	☑
D.3.4.4. Is the conservativeness of the algorithms/procedures justified?	1, 2, 3	Yes, the conservativeness of the algorithms is justified in the PDD. However see CAR in D.3.2.1.	**CAR**	☑
D.3.4.5. To the extent possible, are methods to quantitatively account for uncertainty in key parameters included?	1, 2,	Due to specific design of nitric acid production at Azot, where the first common stack exists for production lines 1-3 of the division No. 1, the second common stack exists for production lines 1-4 of division No. 2, and the third common stack exists for lines 5-7 of division No. 2, the measuring points of tail gas volume flow at the lines were revised. The volume of stack gas of line 1 of division No. 1 is measured directly. The volume of the tail gas produced by line 2 of division No. 1 is calculated as a difference between the total gas flow of line 1 + line 2 and gas flow generated by line 1. The volume of gas produced by line 3 of division No. 1 is calculated as a difference between the total gas flow at the end of the stack (which includes gas from all lines of division No. 1) and the gas flow of previous two lines. The volume of stack gas of lines of division No. 2 will be measured and calculated in a similar way. The N2O concentration will be measured at each line separately and independent from others.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Published PDD	Final PDD
		In order to consider the level of uncertainty (UNC) for each AMS and possible error propagation, the overall UNC will be calculated using the Gauss's law of error propagation. In such way all the relevant uncertainties arising from the individual performance characteristics of the AMSs components will be considered. The resulting UNC will be than used in order to reduce the baseline emission factor.		
D.3.4.6. Is it justified that the procedure is consistent with standard technical procedures in the sector?	1, 2, 3	Yes, it is justified. Furthermore the procedure for estimation/ calculation of the baseline emissions is based on the one proposed by the AM0034, it was just adapted to the needs of this particular project activity.	☑	☑
D.3.4.7. Are implicit and explicit key assumptions explained in a transparent manner?	1, 2, 3	Yes, however see CAR in D.3.2.1.	**CAR**	☑
D.3.4.8. Is it clearly stated which assumptions and procedures have significant uncertainty associated with them, and how such uncertainty is to be addressed?	1, 2, 3	Yes, it is. See also comments to D.3.2.5.	**CAR**	☑
D.3.4.9. Is consistency between the elaboration of the baseline scenario and the procedure for calculating the emissions of the baseline ensured?	1, 2, 3	Yes, it is ensured. Furthermore the procedure for estimation/ calculation of the baseline emissions is based on the one proposed by the AM0034, it was just adapted to the needs of this particular project activity.	☑	☑
Approved CDM methodology approach				
D.3.4.10. Is consistency between the elaboration of the baseline scenario and the procedure for calculating the emissions of the baseline ensured?		N/A	☑	☑
D.3.4.11. Are the formulae required for the de-		N/A	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
termination of baseline emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?				
D.3.4.12. Are the formulae required for the determination of leakage emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?		N/A	☑	☑
***E.* Estimation of greenhouse gas emission reductions**				
E.1. Estimation of baseline and project emissions, leakage and emission reductions as a result				
E.1.1. Does the PDD provide ex ante estimates of - Project emissions - Leakage - Baseline emissions - Emission reductions	1, 2	Please see the comments and CAR in A.2.2. There are no leakage emissions in the project.	**CAR**	☑
E.1.2. Are the estimates given - On a periodic basis? - At least from the beginning until the end of the crediting period? - On a source-by-source basis? - In tones of CO2 equivalent using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol?	1, 2, 32, 64, 66, 67, 77, 80	The estimates are given from the beginning until the end of the crediting period on monthly basis in tones of CO2 equivalent using global warming potential of N2O defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol.	☑	☑
E.1.3. Are key factors influencing the baseline emissions and the activity level of the project	1, 2, 32,	Please see the comments and CAR in A.2.2.	**CAR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
and the emissions as well as risks associated with the project taken into account, as appropriate?	64, 66, 67, 77, 80			
E.1.4. Are data sources used for calculating the estimates clearly identified, reliable and transparent?	1, 2, 32, 64, 66, 67, 77, 80	In principle yes, however see the comments and CAR in A.2.2.	**CAR**	☑
E.1.5. Are emissions factors (incl. default emission factors) used for calculating the estimates selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice?	1, 2, 32, 64, 66, 67, 77, 80	Yes, they are. In doing so project developers were guided by the AM0034 v.03.4. However see the comments and CAR in A.2.2.	**CAR**	☑
E.1.6. Is the estimation based on conservative assumptions and the most plausible scenarios in a transparent manner?	1, 2, 32, 64, 66, 67, 77, 80	Please see the comments and CAR in A.2.2.	**CAR**	☑
E.1.7. Are the estimates of project emissions, baseline emissions and leakage consistent	1, 2, 32, 64,	Yes, the data provided in this section is consistent with data as presented in other chapters of the PDD. However please refer to CAR and CRs (A.4.3.2), CAR (D.3.1.2) and CAR in A.2.2.	**CAR CR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
throughout the PDD?	66, 67, 77, 80			
E.1.8. Are the estimates of project emissions, baseline emissions and leakage transparent, feasible and mathematical correct calculated?	1, 2, 32, 64, 66, 67, 77, 80	Please see the comments and CAR in A.2.2.	**CAR**	☑
E.1.9. If the calculation of the baseline emission is to be performed ex post, does the PDD include an illustrative ex ante emissions calculation?	1, 2, 32, 64, 66, 67, 77, 80	Yes, the baseline emissions are calculated ex-ante by the PPs in order to estimate ERs.	☑	☑
E.1.10. Is the projection of estimated project emissions, baseline emissions and leakage based on the same procedures as used for future monitoring?	1, 2, 32, 64, 66, 67, 77, 80	The projection of estimated project emissions and baseline emissions is done by the same algorithms as used for later monitoring. Leakage does not exist in this project.	☑	☑
E.1.11. Does the PDD appropriately describe an assessment of the potential leakage of the project and appropriately explain which sources of leakage are to be calculated and	1, 2, 3	No leakage exists in this project acc. to the methodology applied.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
which can be neglected?				
E.1.12. If approved CDM methodology approach is used, is the estimation of ERs made in accordance with the approved CDM methodology?		N/A	☑	☑
E.1.13. Are the formulae required for the determination of emission reductions correctly presented?	1, 2	Yes, it is correctly presented in the PDD.	☑	☑
E.1.14. Will the project result in fewer GHG emissions than the baseline scenario?	1, 2, 80	The project activity will result in emission reductions.	☑	☑
E.1.15. Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period?	1, 2, 16	Yes, the projection is in line with the project implementation plan.	☑	☑
E.1.16. Is the form/table required for the indication of projected emission reductions correctly applied?	1, 2, 6	No, it is not. **Corrective Action Request 15:** The form/table required for the indication of projected emission reductions has to be applied according to requirements of the Guidelines for users of the JI PDD form, version 3. Please adjust the PDD accordingly.	**CAR**	☑
F. Environmental impacts				
F.1. Documentation on the analysis of the environmental impacts, including transboundary impacts				
F.1.1. Does the PDD list and attach documentation on the analysis of the environmental impacts (e.g. EIA) of the project, including transboundary impacts, in accordance with procedure as determined by the host Party?	1, 2, 45, 46, 79	AZOT issued the draft proposal on EIA for MGM dated February 15, 2010 according to the letter from State Environmental Authorities in Cherkassy region (No. 20/06 dated January 11, 2010) concerning necessity of EIA for this specific JI project; at the time of on-site determination EIA was under preparation.	**CAR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		The letter and draft proposal were provided and discussed during on-site audit. **Corrective Action Request 16:** The PDD has to be updated in accordance with the last information given by the State Environmental Authority in Cherkassy region concerning the EIA requirements for the particular project. As soon as EIA is completed AZOT has to provide the EIA and its results to the assessment team. In addition EIA information has to be included in revised PDD, referring to all relevant environmental laws and regulations.		
F.1.2. Are the respective host Party requirements for an Environmental Impact Assessment (EIA) clearly referenced in the PDD?	45, 70	Please refer to CAR (F.1.1).	**CAR**	☑
F.1.3. Has the EIA conducted been approved by the host Party?	45, 70	Please refer to CAR (F.1.1).	**CAR**	☑
F.1.4. If the EIA indicates that the environmental impacts are considered significant by the project participants or/and the host party, does the PDD provide conclusion and all references to supporting documentation of an EIA undertaken in accordance with the procedures as required by the host Party?	1, 2, 79	Please refer to CAR (F.1.1).	**CAR**	☑
G. Stakeholders' comments				
G.1. Brief description how comments by local stakeholders have been invited and compiled				
G.1.1. Have relevant stakeholders been consulted?	73-76	At the time of on-site audit the local stakeholders' consultations have not been done yet by AZOT.	**CAR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		Please refer to CAR (G.2.1).		
G.1.2. Have appropriate media been used to invite comments by local stakeholders?	73-76	Please refer to CAR (G.2.1).	**CAR**	☑
G.1.3. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	73-76	Please refer to CAR (G.2.1).	**CAR**	☑
G.2. Summary of the comments received				
G.2.1. If stakeholder consultation was undertaken in accordance with procedure as required by the host Party, does the PDD provide: (a) A list of stakeholders from whom comments on the projects have been received, if any? (b) The nature of the comments? (c) A description on whether and how the comments have been addressed?	1, 2, 73-76	**Corrective Action Request 17:** The proofs concerning conducted local stakeholders' consultations have to be submitted to the audit team (minutes of local stakeholders' meeting, appropriate media been used to invite comments by local stakeholders) as soon as they will be available. Also the PDD has to be updated and information about the future local stakeholder meeting, the requirements for local stakeholder consultation process in Ukraine, topics discussed during the local stakeholder meeting as well as a summary of the received stakeholder comments has to be added in the PDD.	**CAR**	☑
G.3. Report on how due account was taken of any comments received				
G.3.1. Has due account been taken of any stakeholder comments received?	73-76	Please refer to CAR (G.2.1).	**CAR**	☑
G.3.2. If the AIE received comments on the PDD and any supporting information from Parties, stakeholders and UNFCCC accredited observers within the 30-day period, did the AIE promptly acknowledge the receipts of the	-	No comments have been received during the 30-day period of PDD publishing.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
comments?				
H. Annexes 1 – 3				
H.1. Annex 1: Contact Information				
H.1.1. Is the information provided consistent with the one given under section A.3?	1, 2	Yes, it is.	☑	☑
H.1.2. Is the information on all private participants and directly involved Parties presented?	1, 2	Yes, it is.	☑	☑
H.2. Annex 2: Baseline information				
H.2.1. Does Annex 2 of the PDD provide key elements of the baseline and any supporting documentation/information?	1, 2	Yes, Annex 2 provides ex-ante estimations of the key baseline parameters.	☑	☑
H.2.2. If additional background information on baseline data is provided: Is this information consistent with data presented by other sections of the PDD?	1, 2	Please see the comments and CAR in A.2.2 and CRs (A.4.3.2).	**CAR CR**	☑
H.2.3. Is the data provided verifiable? Has sufficient evidence been provided to the validation team?	17, 81	Please refer to CRs (A.4.3.2).	**CR**	☑
H.3. Annex 3: Monitoring information				
H.3.1. If applicable: Does Annex 3 provide useful information enabling a better understanding of the envisioned monitoring provisions?	1, 2	Yes, it does. However please refer to CAR (D.1.23 and B.1.1).	**CAR**	☑
H.3.2. If additional background information on monitoring is provided: Is this information consistent with data presented in other sections of	1, 2	Please refer to CARs (D.3.1.2) and (A.4.3.2).	**CAR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
the PDD?				
H.3.3. Is the information provided verifiable? Has sufficient evidence been provided to the validation team?	10, 11, 36	Please refer to comments in D.1.9.	**CR**	☑
H.3.4. Do the additional information and / or documented procedures substantiate / support statements given in other sections of the PDD?	1, 2	Yes, it does.	☑	☑

Table 2 Resolution of Corrective Action and Clarification Requests

Clarifications and corrective action requests by the assessment team	Reference to table 1	Summary of project owner's responses	Determination team conclusion
Corrective Action Request 1: The PDD should be corrected by including the correct abatement efficiency of the applied secondary catalyst according to provided evidence. Furthermore the ex-ante estimation of emission reductions should be recalculated accordingly and it is necessary to submit the revised Excel sheets with ERs calculations to the audit team.	A.2.2	The N_2O abatement efficiency of 75% is applied in emission reduction calculations. The changes were made in A.4.3.1, E.1, E.4, E.5, E.6, Annex 2. Updated Excel sheet with calculation of expected emission reductions is presented in file Cherkasy Azot Emission reductions PDD v.2.xlsx	The ex-ante estimation of emission reductions has been recalculated and the PDD has been revised accordingly. CAR is considered to be closed. ☑
Corrective Action Request 2: Chapter A.4.3.1 of the PDD, version 1, states that for estimation of ERs over the crediting period AIRTEC's report with N_2O concentration and gas volume flow measurements resulting in EF 3.48 $kgN_2O/tHNO_3$ was applied. However from the e-mail of AIRTEC it is clear, that only the concentration measurement results can be applied in order to estimate baseline emissions, since the results of the flow measurement conducted by AIRTEC cannot be considered as plausible due to fact that the measurement was conducted only along one axis (acc. to the E-mail sent by Mr. Meier, AIRTEC, in June 10, 2010 the measurements on the second axis are missing due to local conditions at the time of AIRTEC's	A.4.3.2	A short explanation of the calculation of the emission factor for estimation of ERs is included in A.4.3.1. The emission factor is updated accordingly. The calculation of the emission factor is provided in file Cherkasy Azot EF estimates 2010-03-10.xls. The estimates of baseline and projects emissions and ERs are updated in A.4.3.1, E.1, E.4, E.5, E.6, Annex 2. **Second loop:** The calculation of the ex-ante EF is supported by the copies of production logbooks that were presented to the audit team. The emission factor and calculation of the emission reductions are updated in the Excel files and the PDD.	The calculation of EF has been provided to the audit team. However such calculation is not verifiable. Please support such calculation by raw data (concentration, flow rates and production data). Also raw data and all calculations (formulas, constants and assumptions, if any) have to be presented in Excel file in order to do across-check of the data flow and final results. **Second loop:** Additional Request 5 was raised on this issue.

Clarifications and corrective action requests by the assessment team	Reference to table 1	Summary of project owner's responses	Determination team conclusion
on-site visit). Please clarify and present correct estimations of the baseline emissions. Please revise PDD accordingly.			
Corrective Action Request 3: Some editorial changes should be conducted in the PDD. The content and format of the PDD has to be in accordance with UNFCCC JI-SC requirements and information given has to be consistent throughout the PDD (format of tables and data, statements and figures, translation of documents name, references of formulas in the text, JI definitions, order of provided information and final statements). Please adjust the PDD accordingly.	A.4.3.2	The format of the PDD is corrected. The text is edited Excessive information in Section A.3 is removed. The order of provided information is corrected. In particular, the information regarding baseline methodology is moved from B.1 to D.1.1.4, and the order of information in B.1 is rearranged. Repeating paragraphs regarding assumptions for ER estimation are removed. **Second loop:** The identification of the shop and divisions is included in Section B.3 and corrected throughout the text.	According to the documentation obtained by audit team during on-site mission the project boundary covers the shop M-5 of non-concentrated nitric acid production divided on 2 divisions No. 1 and 2 with 10 production lines. However the revised PDD has the statements (e.g. see B.3) that 10 production lines located in 2 shops (No. 1 and 2). Please identify the shops and divisions, if any, according to the definitions applied at AZOT plant. **Second loop:** The PDD has been revised. ☑
Corrective Action Request 4: During the on-site determination TÜV SÜD assessment team noted several deviations from AM0034 applied (determination of baseline emission factor, definition of campaign/overlapping, measuring points of $NCSG_{n,i}$, $VSG_{n,i}$, $NAP_{n,i}$, ERs calculation,	B.1.1	The detailed description of the project specific approach to baseline monitoring is included in Sections D.1.1, D.1.1.2, D.1.1.4. Relevant paragraphs are moved from Section B.1 to D.1.1.4. Definition of *baseline measurement period* (instead of a baseline campaign) is included in D.1.1.4. Overlapping issue and ERs calculation is	The description of deviations from AM0034 and the project specific approach has been included in the PDD. However Additional Request 4 was raised on this issue.

Clarifications and corrective action requests by the assessment team	Reference to table 1	Summary of project owner's responses	Determination team conclusion
etc.). Thus a detailed description of the project specific approach has to be included in revised PDD according to the Guidelines for users of JI PDD form, version 03.		discussed in D.1.2.2. Measurement points for $NCSG_{n,i}$, $VSG_{n,i}$, $NAP_{n,i}$, are shown on Figures 6 and 7 and calculation of $VSG_{n,i}$, is explained in D.1.1.2.	
Corrective Action Request 5: In order to demonstrate project boundary clearly and transparently revised PDD has to be amended by including a plant specific flow diagram. On the diagram key components of the process as well as JI related measuring points/equipment shall be identified.	B.3.4	Two diagrams are included in Section B.3, which show the key components of the process and JI related measuring points at the plant level and at the level of an individual production line.	The plant specific flow diagram has been included in the PDD. ☑
Corrective Action Request 6: Please set the length of crediting period in years and months as required the Guidelines for users of the JI PDD form, version 3.	C.3.1	Section C.3. of the PDD is updated accordingly.	Additional Request 1 was raised on this issue.
Corrective Action Request 7: The specific performance characteristics of the monitoring system chosen by the PPs have to be listed in the PDD. Please revise the PDD.	D.1.12	The specific performance characteristics of the monitoring system are included in D.1 and Annex 3.	The information has been added in the PDD. ☑
Corrective Action Request 8: All information related to the parameter (title, data unit, description, source etc.) should be in accordance with methodology applied. Please revise the PDD accordingly.	D.1.23	The information related to the parameters is corrected throughout the PDD (tables D.1.1.1 and D.1.1.3 in particular).	The PDD has been revised. ☑
Corrective Action Request 9: The PDD should be amended by including information on the data treatment in case	D.1.25	The procedure for data treatment during AMS downtime is described at the end of Annex 3.	The information has been added in the PDD.

Clarifications and corrective action requests by the assessment team	Reference to table 1	Summary of project owner's responses	Determination team conclusion
AMS downtime.			☑
Corrective Action Request 10: During the on-site visit assessment team noticed that there are historical data available for each of 10 production lines. Therefore PDD has to be amended by including a clear statement on sources of data used for determination of the permitted operating conditions and permitted operating ranges established for all 10 lines. Furthermore please specify GC_{normal} and GS_{normal} in the PDD, e.g. Annex 2.	D.2.1	The sources of data for determination of the permitted operating conditions are included for each parameter in Table D.1.1.3 and the procedure is described in D.1.1.4. The permitted operating ranges and gauze compositions for each line cannot be established at the moment since historical campaigns are currently in progress (historical data will be collected up to the start of baseline monitoring). The permitted operating ranges will be presented to a verifying AIE at the first ER verification at the latest. Preliminary data on GC_{normal} and GS_{normal}.are presented in file Cherkasy Azot Gauze composition.doc (for confidentiality reasons it should not be included in the PDD). The summary of the applied gauzed is included in Annex 2.	The information has been added in the PDD. ☑
Corrective Action Request 11: During the on-site determination assessment team noticed that the production lines of division No. 1 are not equipped with any mass flow meters and therefore there is no historic data for nitric acid production available on those lines. PPs stated that it is planned to install the mass flow meters on each of the lines in division No. 1 before beginning of the baseline. It should be clearly explained how the CL_{normal} will be calculated for those lines (lab analysis results for HNO_3 concentration, mass balance analysis with NH_3 input for the	D.2.10	CL_{normal} will be calculated for lines not equipped with nitric acid flow meters, based on mass balance of NH_3 input (measured) per HNO_3 output. This is described in D.1.1.4 (Campaign length). **Second loop:** The source and value of the standard ammonia consumption per tonne of nitric acid produced (APN) are defined in Section D.1.1.4 (under *Historic Campaign Length*). The standard ammonia consumption per tonne of nitric acid produced will not be applied to the pro-	The calculation of CL_{normal} for 3 lines in the division No. 1 is described in the PDD. However please define APN (the standard ammonia consumption per tonne of nitric acid tNH_3/ $tHNO_3$) in the PDD. **Second loop:** The PDD has been revised. ☑

Clarifications and corrective action requests by the assessment team	Reference to table 1	Summary of project owner's responses	Determination team conclusion
HNO_3 flow). PDD should be revised accordingly then. Since the figures are not available yet, please indicate that those figures and procedures are to be verified by the verifying entity.		ject campaigns. It is only used to establish historic campaign length for 3 out of 10 production lines, where nitric acid flow meters are not installed. For baseline and project monitoring nitric acid flow meters will be installed at all production lines and actual data will be used. Thus, there is no need and possibility to obtain measured data on historic nitric acid production. It is indicated that the procedures and figures used to define historic campaign length will be verified by a verifying AIE at the first ER verification (D.1.1.4, Historic Campaign Length).	
Corrective Action Request 12: All parameters required for monitoring of project emissions, determining of baseline emissions and how these data will be calculated and archived has to be presented in tables D.1.1.1 and D.1.1.3 of the PDD, respectively.	D.3.1.1	All monitoring parameters and how they will be calculated and archived are included in tables D.1.1.1 and D.1.1.3.	The PDD has been revised. ☑
Corrective Action Request 13: Deviations from AM0034 have to be taking into account during calculations; hence all related formulae have to be revised accordingly. In doing so please also pay attention to the fact that this particular project is a multi-line one and clearly identify it (e.g. by index) in the parameters' title and formulae applied.	D.3.1.2	The parameters relevant to individual production lines or campaigns are indexed. The changes are made throughout the PDD, in particular in D.1.1.2, D.1.1.4, D.1.2.2, D.1.4, tables D.1.1.1. and D.1.1.3, and the monitoring plan (Annex 3).	The PDD has been revised. ☑
Corrective Action Request 14: The source/control data used for monitoring of operation hours of baseline and project	D.3.1.6	The control data for establishing operating hours of each line are specified in tables D.1.1.1. and D.1.1.3 (P.4 and B.4, respectively), and de-	The information has been added in the PDD. ☑

Clarifications and corrective action requests by the assessment team	Reference to table 1	Summary of project owner's responses	Determination team conclusion
campaigns should be clearly described in revised PDD.		scribed in Annex 3 (paragraph 4).	
Corrective Action Request 15: The form/table required for the indication of projected emission reductions has to be applied according to requirements of the Guidelines for users of the JI PDD form, version 3. Please adjust the PDD accordingly.	E.1.16	The table in Section E.6 of the PDD is adjusted accordingly.	The PDD has been revised. ☑
Corrective Action Request 16: The PDD has to be updated in accordance with the last information given by the State Environmental Authority in Cherkassy region concerning the EIA requirements for the particular project. As soon as EIA is completed AZOT has to provide the EIA and its results to the assessment team. In addition EIA information has to be included in revised PDD, referring to all relevant environmental laws and regulations.	F.1.1	Section F.1 has been updated with the latest decision of the State Environmental Protection Authority in Cherkas'ka Oblast (included in file Cherkasy Azot EIA State Administration response.jpg). Regulation regarding EIA is listed in the abovementioned section, and attached in the following files: Ukraine NEIA Requirements to JI Projects.pdf Ukraine_EIA_DBN regulation.html The summary of EIA is included in Section F.2. The text of the EIA will be provided to the determination team as soon as it is finalized and approved. **Second loop:** A copy to the final EIA is provided to the audit team Cherkasy Azot EIA vol 1-1.pdf and Cherkasy Azot EIA vol 1-2.pdf	The approved EIA has to be provided to the audit team. **Second loop:** The approved EIA has been provided audit team. ☑
Corrective Action Request 17: The proofs concerning conducted local	G.2.1	The information about the local stakeholders' consultations and the relevant legislation has	The information has been added in the PDD and required proofs have

Clarifications and corrective action requests by the assessment team	Reference to table 1	Summary of project owner's responses	Determination team conclusion
stakeholders' consultations have to be submitted to the audit team (minutes of local stakeholders' meeting, appropriate media been used to invite comments by local stakeholders) as soon as they will be available. Also the PDD has to be updated and information about the future local stakeholder meeting, the requirements for local stakeholder consultation process in Ukraine, topics discussed during the local stakeholder meeting as well as a summary of the received stakeholder comments has to be added in the PDD.		been included in Section G. The decision of the Trade Union is provided in file Cherkasy Azot Local Stakeholders Trade Union.pdf. The conclusion of the employee's conference is provided in Cherkasy Azot Local Stakeholders Conference Decision.pdf. A copy of the publication in a local newspaper can be found in Cherkasy Azot Newspaper Publication.pdf. The minutes of the meeting with employees of the nitric acid production is provided in file Cherkasy Azot Local Stakeholders Minutes.pdf	been submitted to the audit team. CAR is considered to be closed. ☑
Clarification Request 1: Please clarify the 2-year's delay in the project implementation taking into account that the LoE was issued by Ukrainian DFP in August 2006, however the project start is defined to be in June 2008. In doing so please describe a project implementation history a little bit.	A.1.3	The reason for the delay in project implementation is provided in the last paragraph of Section A.2, where the project implementation history is described.	The clarification has been provided and CR is considered to be closed. ☑
Clarification Request 2: Chapter A.2 of the PDD has to indicate the expected outcome of project scenario and briefly summarize the history of the project including information about implementation schedule of the project according to requirements of the Guidelines for users of the JI PDD form, version 3. Please adjust the PDD	A.2.1	Expected outcome of project scenario is presented in paragraphs 5-7 of Section A.2.The project history and the implementation schedule are summarized in the last paragraph of Section A.2. More details of the project implementation schedule are included at the end of Section A.4.2.	The information has been provided and CR is considered to be closed. ☑

Clarifications and corrective action requests by the assessment team	Reference to table 1	Summary of project owner's responses	Determination team conclusion
accordingly.			
Clarification Request 3: In chapter A.4.2. of the PDD, version 1, mentioned that AZOT is in the process of selecting the secondary catalyst supplier. However during the on-site visit PPs stated to have chosen the secondary catalyst supplied by BASF (which specifications, e.g. abatement rate, were used for ERs estimation). Please clarify and adjust the PDD if necessary.	A.4.2.5	The supplier of the secondary catalyst is included in Section A.4.2	The PDD has been revised. ☑
Clarification Request 4: In chapter A.4.3.1 of the PDD, version 1, it is mentioned that for estimation of ERs over the crediting period the production plan of AZOT from 2009-2019 with the conservative value of 590,000 ton HNO_3/year for 2010-2012 and the average value of 800,000 ton HNO_3/year for 2013-2019 was applied. The design capacity is stated to be 1,200,000 tones HNO_3/year. The applicability of the methodology which PPs intended to apply is limited to the existing production capacity measured in tones of nitric acid, where the commercial production had began no later than 31 December 2005. Definition of existing production capacity is applied for the process with the existing ammonia oxidization reactor where N2O is generated and not for the process with new ammonia oxidizer. Existing production capacity	A.4.3.2	The explanation of the expected production is detailed at the first point of Section A.4.3.1. It is shown that the plant will repair existing production facilities and the output will not exceed the design capacity. Further, the criterion is discussed in Section B.1 (the applicability conditions of AM0034). The production plan of AZOT from 2009-2015 is presented in file Cherkasy Azot production plan for 2009-2015.jpg. The plant does not have any specific plan of production beyond 2015. The start of the project activity did not affect the level of nitric acid production. The division No. 1 was shut down for a relatively short period (around 1 year). It was shut down on 1 September 2006 (which, by coincidence, was shortly after the issuance of LoE). It was re-started for purely commercial and technical reasons, regardless of the JI project. Namely, the demand for	The PDD has been revised and required evidences have been submitted to the audit team. ☑

Clarifications and corrective action requests by the assessment team	Reference to table 1	Summary of project owner's responses	Determination team conclusion
is defined as the designed capacity, measured in tons of nitric acid per year. The discussion on this criterion should be included in the PDD taking into account project specific information. Furthermore please provide the production plan of AZOT from 2009-2019 in order to clarify the figures presented. In addition an explanation and evidence should be provided on how the AM0034 applicability criterion "The project activity shall not affect the level of nitric acid production" is fulfilled while production lines from division No. 1 were recently made operative after a long shutdown period.		ammonia nitrate increased in 2007, whereas the production lines in the division No. 2 were not able to produce required amount of nitric acid due to repair and maintenance operations. The dates of shut down and reasons for the re-start the division No. 1 can be found in the internal order of the plant management on re-starting (file Cherkasy Azot Orders Shop#1.pdf).	
Clarification Request 5: Please indicate the title and version of the baseline and monitoring methodology in the PDD.	B.1.1	The titles and versions of the baseline and monitoring methodologies are included in Section B.1	The PDD has been revised. ☑
Clarification Request 6: Although a simple cost analysis conducted and evidence provided on-site are considered to be sufficient for demonstration of additionality of this particular project (since no revenues are expected from the project activity other than JI related income), current available PDD states NPV and IRR of the project to be negative without JI revenues. In order to justify this statement please provide re-	B.2.6	Considering that the catalytic destruction of N_2O does not generate any financial or economic benefits for the plant except for generation of ERUs under JI project, simple cost analysis is sufficient to demonstrate additionality without calculating NPV and IRR. The reference to NPV and IRR are removed from the PDD (Section B.2, Conclusion) as it does not make sense.	The PDD has been revised. However Additional Request 2 was raised on this issue.

Clarifications and corrective action requests by the assessment team	Reference to table 1	Summary of project owner's responses	Determination team conclusion
lated calculations and support the raw data by proofs.			
Clarification Request 7: It is necessary to add more up-to-date information about similar types of project activities in the host country and discuss whether this project activity can be implemented without the JI component.	B.2.13	Up-to-date information on similar JI projects is included in Section B.2 (Common Practice), and it is shown that no similar activities are implemented without JI component.	Additional Request 3 was raised on this issue.
Clarification Request 8: Please clarify which actions are the starting date of the project activity and crediting period defined with. In doing so please refer to the Glossary of JI terms v. 1 JISC 13. PDD should be amended accordingly then.	C.1.1	The request is addressed in sections C.1 (starting date) and C.3 (crediting period).	The information has been added in the PDD. ☑
Clarification Request 9: The PDD (section D.3) provides the operational and management structure as to the proposed JI project. However this responsibility chart is rather general. Please revise the chart by including more project specific information and clearly state JI related tasks/ responsibilities shared among the AZOT and MGM members. In addition please include more detailed information on the person in charge and frequency of EF_{reg} monitoring.	D.1.10	The operational and management structure is updated in Section D.3. More detailed description of the project management structure, reporting, connections and responsibilities of the personnel and organizations involved in the project will be included in JI monitoring manual, which will be presented at the first verification of emission reductions to a verifying AIE. The information on EF_{reg} monitoring is included in table D.1.1.3., row B.24, and D.1.1.4 (Impact of regulations).	The information on EF_{reg} monitoring is included in the revised PDD. The elaborated JI monitoring manual will be checked during the first verification by AIE. Please refer to **FAR2**.
Additional Request 1:	C.3.1	The length of the crediting period in the table on	The PDD has been revised.

Clarifications and corrective action requests by the assessment team	Reference to table 1	Summary of project owner's responses	Determination team conclusion
Please correct the length of the crediting period mentioned in the table on p. 10 of the PDD as the crediting period has to be identified in years and months.		page 10 has been changed to 2 years and 2 months.	☑
Additional Request 2: The additionality tool applied requires documenting the costs associated with the project activity in case a simple cost analysis is applied. Please demonstrate the costs in the PDD in order to justify the sub step 2b.	B.2.6	At the time of determination most of the costs associated with the project activity were only preliminary. The latest data on the project costs is presented in file Cherkasy Azot project financing plan 2010-08-30.xls. However, due to confidentiality reasons, it should not be included in the PDD or published otherwise.	The project proponents submitted the excel file summarizing all the project related costs. Furthermore Annex 4 of the revised PDD demonstrates the costs associated with the project activity as required by the Additionality Tool. ☑
Additional Request 3: Please revise the PDD by providing additional information in order to demonstrate that no other plant has a N_2O abatement system installed or are already in the JI project list. Additionally the region use for the common practice has to be mentioned.	B.2.13	The references to other JI projects are included in the PDD, which show that N2O abatement technologies are installed in Ukraine only within JI framework. The region use for the common practice analysis is Ukraine (included in the text).	The PDD has been revised. ☑
Additional Request 4: The PDD states that the project meets the requirements of the clarification regarding overlapping monitoring periods of the JISC 13, Annex 13, § 4 (b). Please clearly justify that the measurement of accumulated flow does also comply with this requirement as well as the statement of JISC 13, Annex 13,	B.1.1	The clarification regarding the monitoring of stack gas flow rate at individual production lines is included in D.1.1.2 (Calculation of stack gas volume flow rate). It is demonstrated that the monitoring of gas flow rate can be performed independently for each of the production lines despite it is based on measurements at multiple points at the stack. The indexing of the measurement	The PDD has been revised including more detailed explanation on fulfillment of JISC 13 Annex 13. ☑

Clarifications and corrective action requests by the assessment team	Reference to table 1	Summary of project owner's responses	Determination team conclusion
§9 shall be considered and included in the PDD. Additionally a comment regarding how to act in case of a recalculation of baseline EF due to shorter project campaign should be included in the PDD for verification purposes.		points has been changed to avoid confusion. The requirement of JISC 13, Annex 13, §9 is considered and included in D.1.2.2 (Calculation of total emission reductions and overlapping monitoring periods). The procedure for recalculation of baseline EF due to shorter project campaign is included in D.1.1.2 (Project Campaign Length: Shorter Project Campaign).	
Additional Request 5: Due to the fact that the baseline emission factor was identified to be 4.23 kgN2O / tHNO3, the use of the IPCC default value of 4.5 kgN2O / tHNO3 is not clear and should be explained. Hence please discuss the appropriateness of the IPPC default value in the revised PDD in order to avoid that the 4.5 is used when the baseline EF is already lower.	A.4.3.2	This issue is addressed in D.1.1.2 and D.1.1.4.	The PDD has been revised by including the project specific provisions for the cases of primary gauze composition change and AMS downtime. ☑
Additional Request 6: Please replace the statement on consideration of any tertiary abatement technology presented in the sub step 3b, since the statement does not seem to be a barrier description, but is rather related to the financial analysis.		The discussion of the tertiary abatement technology is moved from sub-step 3b (barrier analysis) to sub-step 4b (simple cost analysis), where it is more appropriate.	The PDD has been revised. ☑

Table 3 Unresolved Corrective Action and Clarification Requests (in case of denials)

Clarifications and / or corrective action requests by validation team	Id. of CAR/CR	Explanation of Conclusion for Denial
-	-	-

Table 4 Forward Action Requests

Ref. to checklist topic / Objective	Concl.	Comments
Forward Action Request 1: It is required to submit Letter of Approvals from the host and investment parties before the submission of the final determination report to the JISC for registration of the particular project.	☑	The letters of approval from the host country Ukraine and from the investment country Denmark have been provided by the project proponents before the final submission of the determination to the JISC.
Forward Action Request 2: During the on-site visit the quality assurance and quality control procedure have been discussed while TÜV SÜD assessment team underlined the importance of such procedures for the future data quality. Therefore project proponents agreed to implement a so called "JI Manual" which will comprise description of the work scope as well as tasks of responsible personnel, qualification requirements and continuous training for responsible staff, procedures on the data treatment acc. to AM0034 rules and requirements (e.g. downtime of AMS), QAL 3 procedures, JI project related documentation procedures,		

troubleshooting procedures, etc. During the first periodic verification the PPs will provide the JI Manual to a verifying entity. This request will be closed by the verifying entity.		

Annex 2: Information Reference List

Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author / Editor / Issuer	Additional Information (Relevance in JI Context)
		On-site interviews conducted at February 25-26, 2010 in Cherkassy, Ukraine at OJSC “AZOT” by auditing team of TÜV SÜD.		

Determination Team:

Ms Olena Maslova	TÜV SÜD, GHG Lead Auditor, Project Manager
Mr Andrey Atyakshev	TÜV SÜD Ukraine LLC, GHG Auditor

Interviewed persons at Cherkassy:

Mr Vitaliy Sklyarov	AZOT, Technical Director
Mr Igor Chaban	AZOT, Chief of Technical Department
Mr Petr Kuksin	AZOT, Project Manager
Mr Nikolay Antonevich	AZOT, Deputy Technical Director on Technical Development
Mr. Alexander Yarmolenko	AZOT, Project Manager
Mr Yuriy Simonov	AZOT, Chief M-5 of Technical Department
Mr Ruslan Balanyak	AZOT, Principal Engineer
Mr Genadiy Rubkin	AZOT, Design Manager of Automatic Control System of Process
Ms Raisa Konyushaya	AZOT, Engineer of Environmental Protection
Ms Marina Melnichenko	AZOT, Engineer
Dr Volodymyr K. Ivashchenko	MGM, Senior Technical Expert
Mr Vladyslav Zhezherin	MGM, Director MGM Eastern Europe
Mr Ruslan Kudenko	Engineering Systems, Technical Director
Mr Alexander Bush	Engineering Systems, Project Manager
Mr Petro Vasylyev	Siemens Ukraine, Head of Group Sensors and Communication

Abbreviations:

TÜV SÜD	TÜV SÜD Industrie Service GmbH
MGM	MGM International
AZOT	OJSC “AZOT”
DONG	DONG Naturgas A/S
Engineering Systems	LLC “Engineering Systems”
OJSC	Open Joint Stock Company
LLC	Limited Liability Company
PLC	Public Limited Company

Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author / Editor / Issuer	Additional Information (Relevance in JI Context)
		PE — Public Enterprise Cherkassy Regional Centre of Standardisation — PE “Cherkassy Regional Centre of Standardisation, Metrology and Certification” Institute of Nitric Industry — State Research and Design Institute of Nitric Industry and Products of Organic Synthesis AMS — Automated Measuring System MEP — Ministry of Environmental Protection of Ukraine DEA — Danish Energy Agency Siemens — Siemens AG Siemens Ukraine — DP “Siemens Ukraine” Johnson Matthey — Johnson Matthey PLC Umicore — Umicore AG & Co. KG CGT — CGT Chemical General Trading Ltd. BASF — BASF SE ABB — ABB Automation GmbH TNO — TNO Certification B.V. Moody — Moody International Certification Ltd. AIRTEC — AIRTEC Gesellschaft für Umweltmessungen mbH AFRISO — AFRISO-EURO-INDEX GmbH AOR — Ammonia Oxidation Reactor ITBK — ITBK Ingenieurgesellschaft für Umweltschutz mbH Committee for Technical Regulation and Consumer Policy — State Committee of Ukraine for Technical Regulation and Consumer Policy NEIA — National Environmental Investment Agency of Ukraine EF — Emission Factor		
0.		UNFCCC homepage http://www.unfccc.int including the Joint Implementation section http://ji.unfccc.int (DVM, Clarification regarding overlapping monitoring periods under the verification procedure under the Joint Implementation Supervisory Committee, Guidance on criteria for baseline setting and monitoring, Glossary of JI terms etc.)		
1.	25/05/2009	Published Project Design Document of JI project “Reduction of N2O Emissions from Nitric Acid		Published PDD

Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author / Editor / Issuer	Additional Information (Relevance in JI Context)
		Production at OJSC “AZOT”, Cherkasy, Ukraine”, version 1.		
2.	15/06/2010	Final Project Design Document of JI project “Reduction of N2O Emissions from Nitric Acid Production at OJSC “AZOT”, Cherkasy, Ukraine”, version 4.		Final PDD
3.	16/10/2009	Approved baseline and monitoring methodology AM0034 “Catalytic reduction of N2O inside the ammonia burner of nitric acid plants”, version 03.4	UNFCCC	
4.	02/08/2008	Approved baseline methodology AM0028 “Catalytic N2O destruction in the tail gas of Nitric Acid or Caprolactam Production Plants”, version 04.2	UNFCCC	
5.	26/08/2008	Tool for the demonstration and assessment of additionality, version 05.2.	UNFCCC	
6.		Guidelines for Users of the Joint Implementation Project Design Document Form, version 3.	UNFCCC	
7.	25-26/02/2010	Participant list of on-site interviews.	TÜV SÜD	
8.	21/08/2006 26/11/2010 22.12.2010	LoE No. 7064/09-10, Letter of Endorsement from Ukraine (host party). Letter of Approval File No. 1602/1102-0059, issued by the Danish Energy Agency Letter of Approval No. 2218/23/7, issued by the National Environmental Investment Agency of Ukraine	MEP DEA NEIA	Approval by the parties involved
9.	20/06/2008	Agreement No. 628M-231 between MGM and AZOT on the development of JI project.	MGM, AZOT	Starting date of the project activity
10.	16/12/2009	Minutes of tender committee meeting No. 23. Engineering Systems was approved as a developer and supplier of AMS at shop M-5 (non-concentrated nitric acid production).	AZOT	
11.	25/02/2010	Explanatory note to the techno-commercial proposal for developing and implementation of AMS at shop M-5.	Engineering Systems	AMS description
12.	25/02/2010	List of AMS instruments and equipment with specification.	Engineering Systems	
13.	15/01/2008	Technical regulations of non-concentrated nitric acid production No. 42/03-059, version 3.	AZOT	Valid until April 04,

Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author / Editor / Issuer	Additional Information (Relevance in JI Context)
				2015
14.	1969	Design statement for non-concentrated nitric acid production with information about planned design capacity 120000 t100% HNO_3 per year for each AOR.	AZOT	
15.	23/12/2005	License No. 202410 on the ammonia production issued for AZOT.	Ministry of Industrial Policy of Ukraine	License valid until December 23, 2010
16.	25/02/2010	JI project implementation plan.	AZOT, MGM	
17.	14/07/1994	AZOT’s state registration certificate No. 151003, registration No. 1 026 120 0000 000004.	Cherkassy Town Council Executive Committee	
18.	1987	Handbook of nitric acid industry worker. Chapter 3.	Karavaev M. et al.	
19.	25/02/2010	Drawings of tail gas pipelines with connection points to the stacks of each line.	AZOT	
20.	23/04/2009	AZOT’s Articles of Association, last revision.	AZOT	AZOT’s field of activity
21.	25/02/2010	Elementary diagram of non-concentrated nitric acid production in the shop M-5.	AZOT	
22.	31/07/2008	Production plan of AZOT from 2009-2015 including plan of non-concentrated nitric acid production.	AZOT	
23.	2008-2009	Annual report of hazardous substances emissions for the shop M-5 in 2008 and 2009.	AZOT	
24.	10/02/2009	Contract No. 189M-430, delivery contract on the precious metal catalyst gauzes between Johnson Matthey and AZOT.	Johnson Matthey, AZOT	New contract with metal composition information
25.	02/03/2007	Contract No. JM-180M-430, delivery contract on the precious metal catalyst gauzes between Johnson Matthey and AZOT.	Johnson Matthey, AZOT	Old contract with metal composition information

Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author / Editor / Issuer	Additional Information (Relevance in JI Context)
26.	15/01/2008	Contract No. 29M-430, delivery contract on the precious metal catalyst gauzes between Umicore and AZOT.	Umicore, AZOT.	New contract with metal composition information
27.	12/04/2005	Contract No. 335M-430, delivery contract on the precious metal catalyst gauzes between Umicore and AZOT.	Umicore, AZOT.	Old contract with metal composition information
28.	1990-2008	Non-concentrated nitric acid production data from 1990-2008.	AZOT	
29.	2006-2010	Acts of installation of the precious metal catalyst gauzes for each line during historic campaigns.	AZOT	
30.	28/03/2006	Methodology No. AK-M-238-2006/04-515 for measuring of nitric acid and nitric oxides mass fraction and the mass concentration of chlorides in nitric acid.	AZOT	
31.	2006-2010	Schedule of historic and baseline campaigns at each line and information about supplier of the precious metal catalyst gauze for each campaign.	MGM	
32.	18/02/2010	Excel sheets with ERs calculations, version 01.	MGM	
33.	19/12/2008	Material safety data sheet for secondary catalyst O3-88 Honeycomb with triangular pitch.	BASF	
34.	02/02/2009	Techno-commercial proposal for supplying of the secondary catalyst O3-88.	BASF	
35.	25/02/2010	Technical leaflet for the secondary catalyst O3-88.	BASF	
36.	08/2009	BASF’s presentation: “N_2O Decomposition for HNO_3 plants”.	BASF	
37.	25/02/2010	Commissioning certificates of Selective Catalytic Reduction DeNOx units installed at shop M-5.	AZOT	
38.	24/05/2001	Calibration frequency of instrumentations at AZOT plant.	AZOT	Calibration frequency of ammonia flow meters, thermometers and manometers

Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author / Editor / Issuer	Additional Information (Relevance in JI Context)
39.	26/11/2007	Accreditation certificate No. РЯ 0136.07 issued for the laboratory of shop M-5.	Cherkassy Regional Centre of Standardisation	Valid until November 26, 2010
40.	18/10/1994	Construction and safety operating rules for pressure equipment No. НПАОП-0.00.1.07-94. Information concerning the requirements for third party inspection of ammonia oxidation reactors.	AZOT	
41.	25/02/2010	Passports of AORs installed in shop M-5 with manufacturing date and proofs of periodical third party inspections.	AZOT	
42.	01/07/1982	Common norms for non-concentrated nitric acid production.	Institute of Nitric Industry	Ammonia consumption for production of 1 ton 100% HNO3
43.	24/09/2009	AZOT’s norms of raw materials consumption for non-concentrated nitric acid production in the shop No. M-5.	AZOT	
44.	03/12/2004	Ground rent contract between AZOT and Cherkassy Town Council.	AZOT, Cherkassy Town Council	Valid until October 05, 2053
45.	11/01/2010	Letter No. 20/06 concerning necessity of EIA for AZOT’s JI project.	MEP Cherkassy branch	
46.	15/02/2010	Draft proposal on EIA for AZOT’s JI project.	AZOT	MGM is responsible for EIA
47.	30/12/2005	AZOT’s permission on emissions of contaminants No. 710296. NOx limits for each stack mentioned in the permission.	MEP Cherkassy branch	Valid until July 01, 2010
48.	27/06/2006	MEP’s order No. 309 about the limits of contaminants emissions.	MEP	
49.	27/06/2008	AZOT’s ISO 9001:2000 certificate.	TNO	Valid until June 27, 2011

Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author / Editor / Issuer	Additional Information (Relevance in JI Context)
50.	23/03/2007	AZOT’s ISO 14001:2004 certificate.	Moody	Valid March 22, 2010
51.	23/03/2007	AZOT’s BSI OHSAS 18001:1999 certificate.	Moody	Valid March 22, 2010
52.	25/02/2010	Organizational chart of the shop M-5.	AZOT	
53.	17/12/2004	Engineering Systems’ state registration certificate No. 023509, registration No. 1 074 105 0003 003797.	Kiev State Administration	
54.	09/09/2008	License on construction, installation and commissioning works No. 409032 issued for Engineering Systems.	State Architectural and Construction Inspection	License valid until September 09, 2013
55.	18/12/2007	Siemens’ declaration of conformity for AMS according to requirements of EN 14956 and QAL1 according to EN 14181. Declaration issued for gas analyzer, type ULTRAMAT 23.	Siemens	
56.	10/2008	TÜV SÜD’s declaration of conformity for AMS according to requirements of EN 14956 and QAL1 according to EN 14181. Declaration issued for gas analyzer, type ULTRAMAT 23.	TÜV SÜD	
57.	29/11/2001	Resolution No. 1598 concerning hazardous substances which is subject to control.	Cabinet Council of Ukraine	N2O is out of list.
58.	17/08/1998	Resolution No. 1287, the approved list of hazardous chemical products, production and selling of which required licensing.	Cabinet Council of Ukraine	
59.	25/02/2010	Ukrainian certificates of type approval for AMS instrumentation.	Committee for Technical Regulation and Consumer Policy	
60.	25/02/2010	Ukrainian certificates of conformity for AMS instrumentation.	Committee for Technical Regu-	

Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author / Editor / Issuer	Additional Information (Relevance in JI Context)
			lation and Consumer Policy	
61.	25/02/2010	Screenshots of automatic control system with production control parameters of the lines at 2nd division of the shop M-5.	AZOT	
62.	25/02/2010	Schedule of delivery of equipment as well as developing and implementation of AMS at shop M-5.	Engineering Systems	23 weeks required for commissioning AMS.
63.	02/03/2009	Report No. 1287224 of N_2O concentration measurements at shop M-5 (non-concentrated nitric acid production).	AIRTEC	
64.	30/01/2009	Calculations of baseline EF on the basis of N_2O concentration measurements at shop M-5, version 01.	MGM	
65.	10/06/2009	E-mail from AIRTEC: Comments on measurement report.	AIRTEC	
66.	19/04/2010	Excel sheets with ERs calculations, version 02.	AZOT	
67.	19/04/2010	Calculations of baseline EF on the basis of N_2O concentration measurements at shop M-5, further working versions.	MGM	
68.	06/09/2006	Order No. 615 regarding the temporary shutdown of nitric acid production at Division No. 1.	AZOT	
69.	16/08/2007	Order No. 492 resuming of operation of nitric acid production at Division No. 1.	AZOT	
70.	19/04/2010	State construction norms of Ukraine.	State Construction Committee	EIA requirements
71.	25/06/2008	Order No. 33 regarding the Approval of the Requirements to the Preparation of Joint Implementation Projects.	NEIA	
72.	19/04/2010	Ammonia oxidation catalyst gauze composition and suppliers, summary table.	MGM	
73.	23/12/2009	Minutes of the meeting with employees of nitric acid production department regarding JI project.	AZOT	

Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author / Editor / Issuer	Additional Information (Relevance in JI Context)
74.	23/03/2010	Article about the JI project in a weekly newspaper “Azot”.	AZOT	
75.	10/03/2010	The positive decision of the labour conference regarding JI project.	AZOT	
76.	26/02/2010	The positive decision of AZOT’s trade union regarding JI project.	AZOT	
77.	15/06/2010	Calculations of baseline EF on the basis of N_2O concentration measurements at shop M-5, final version.	MGM	
78.	15/06/2010	Raw data for calculations of baseline EF.	MGM	
79.	19/04/2010	Environmental Impact Assessment for the project “Reduction of N2O Emissions from Nitric Acid Production at OJSC “AZOT”	AZOT	
80.	14/06/2010	Excel sheets with ERs calculations, version 03.	AZOT	
81.	17/06/2010	Emission reduction units purchase agreement between the project participants.	AZOT, DONG	