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Determination Report

YARA AB, YARA International ASA

N.serve Environmental Services GmbH

DETERMINATION OF THE JI TRACK-2 PROJECT:

"YARA KÖPING S3 N2O ABATEMENT PROJECT IN SWEDEN"

REPORT NO. 600500439

October 27th 2011

TÜV SÜD Industrie Service GmbH

Carbon Management Service
Westendstr. 199 - 80686 Munich – GERMANY

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Subject: Determination of a JI Track-2 project			
Accredited TÜV SÜD Unit: TÜV SÜD Industrie Service GmbH Certification Body "climate and energy" Westendstr. 199 80686 Munich Germany		**TÜV SÜD Contract Partner:** TÜV SÜD Industrie Service GmbH Certification Body "climate and energy" Westendstr. 199 80686 Munich Germany	
Project Participants: YARA AB N.serve Environmental Services GmbH		Project Site(s): YARA Köping S3 plant Köping Sweden	
Project Title: YARA Köping S3 N2O abatement project in Sweden			
Applied Methodology / Version:	AM0034 / version 03.4	**Scope(s):**	5
First PDD Version: Date of issuance: Version No.: Starting Date of GSP	 11-02-2010 03 13-02-2010	**Final PDD version:** Date of issuance: Version No.:	 02-09-2011 08
Estimated Annual Emission Reduction:	282,057 tCO2e (average 2010 to 2012)		
Assessment Team Leader: Nikolaus Kröger **Further Assessment Team Members:** Olena Maslova, Martin Hammer		**Technical Reviewer:** Thomas Kleiser **Certification Body responsible:** Thomas Kleiser	

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 as well as all the requirements set by host country (Sweden) for approving projects under JI – Track 2. Hence, TÜV SÜD will recommend the project for further approval and registration by the JISC.

☐ 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 by the JISC as a JI Track-2 project and will inform the project participants and the JI Supervisory committee on this decision.

Abbreviations

AM	Approved Methodology
AOR	Ammonia Oxidation Reactor
CAR	Corrective Action Request
CR	Clarification Request
DFP	Designated Focal Point
DVM	Determination and Verification Manual
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
MP	Monitoring Plan
NDIR	Non-Dispersive Infrared Spectroscopy
NGO	Non Governmental Organisation
PDD	Project Design Document
PP	Project Participant
TÜV SÜD	TÜV SÜD Industrie Service GmbH
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual, IETA/World Bank

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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).

The assessment involves the evaluation of the project basis and design identified in the Project Design Document (PDD) using the defined criteria outlined by the registration under the Joint Implementation scheme (JI). Determination is part of the JI project cycle and results in a conclusion by the executing AIE on whether or not a project activity is valid to be submitted for registration to the Joint Implementation Supervisory Committee (JISC). The ultimate decision on the registration of a proposed project activity rests with the JISC and the Parties involved.

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

YARA Köping S3 N2O abatement project in Sweden

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 on the UNFCCC JI website and on TÜV SÜD's website. 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 latest version of Joint Implementation Determination and Verification Manual. 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 JISC.

In order to ensure transparency, assumptions must be clear and stated explicitly and background material must also be referenced. TÜV SÜD has developed a methodology-specific protocol customized for the project. The protocol demonstrates, in a transparent manner, the project criteria (requirements), discussion on each criterion by the assessment team, and the results from determining the identified criteria.

The determination protocol serves the following purposes:

- To organize the details and provision of clarifications on the requirements of which a JI project is expected to meet
- To elucidate how a particular requirement has been determined as well as to document the results of the determination and any adjustments made to the project design document.

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**	**PDD in GSP**	**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".*

If any forward action request (FAR) raised they are stated in table 3. FARs highlight issues related to project implementation that require review during the first verification

Determination Protocol Table 3: Forward action request		
Forward action request **Id. of FAR 1**	**Ref. to table 1**	**Explanation**
Request has to be substantiated within this column	*Reference to the checklist question number in Table 1 where the issue is explained.*	*If necessary this section should present a detail explanation..*

In case of a denial of the project activity more detailed information on this decision will be presented in table 4.

Determination Protocol Table 4: 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 Validator/Determiner/Verifier (GHG-A)
- 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	GHG-A	☑	☑	☑
Martin Hammer	GHG-A	☑	-	☑

Nikolaus Kröger is environmental engineer and expert for emissions monitoring and quality assurance at the department "TÜV SÜD Carbon Management Service". He is heading the TÜV SÜD Carbon Management Hamburg office and is also engaged as personally accredited verifier in the EU-ETS serving the Northern German market, Scope Manager for Industrial Gases worldwide and Regional Manager for carbon business development in the Middle East (MENA region) and Central Asia. Being ghg auditor for sectoral scopes 1, 2, 4, 5, 7, 8, 9, 10, 11, 12, 13 and assessment team leader for CDM, JI and voluntary carbon standard projects he has already been involved in several of CDM and JI activities with a special focus on industrial non-CO2 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.

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. Due to her further master degree at the university of applied science in the Federal Republic of Germany she is also familiar with Germany's current environmental legislation. Olena Maslova specializes in the assessment of CDM / JI projects in the sector of chemical industries and waste handling and disposal. In this project she functioned as lead auditor and project manager.

Martin Hammer is environmental and mechanical engineer and is working as GHG Determiner/Validator/Verifier with a special focus on the scope "Industrial Gases" at the Carbon Management Service Department of TUEV Sued Industry Service GmbH in Munich, Germany. He has more than six years experience in JI/CDM projects with special focus on industrial gases. Additionally he gained extensive experience in renewable energies working on various consulting

projects (wind, hydro, biomass, biogas, geothermal) and working as operator of a small hydro power plant in Austria.

Technical Reviewer: Thomas Kleiser.

2.2 Review of Documents

A first version of the PDD was submitted to the AIE December 2009. Editorial corrections were required therefore PDD version 03 was submitted for publishing. The PDD 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

On 16th and 17th February 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.

Name	Organisation
Mr. Gilles Raskopf	YARA AB, Plant Manager
Mr. Axel Pallin	YARA AB, Process Engineer
Mr. Pär Höök	YARA AB, Production Manager
Mr. Lars Häkan Karlsson	YARA AB, HESQ-Manager
Mr. Jozef Meglic	YARA AB, Automation Engineer
Mr. Albrecht von Ruffer	N-Serve, Managing Director
Ms. Rebecca Cardani-Strange	N-Serve, Project Manager

2.4 Cross-check

During the determination process, the team has made reference to the available information related to similar projects or technologies as the proposed JI Track-2 project activity. Project documentation has also been reviewed against the approved methodology applied 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, clarifications, and any other outstanding issues which need to be clarified for TÜV SÜD`s conclusion on the project design. The CARs and CRs raised by TÜV SÜD are 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.

The final PDD version 8, dated 2nd of September 2011, serves as the basis for the final assessment presented.

2.6 Internal Quality Control

Internal quality control is the final step of the determination process and is conducted by the CB “climate and energy” who checks the final documentation, which includes the determination report and annexes. The completion of the quality control indicates that each report submitted has been approved either by the head of the CB or the deputy (a veto person is used if necessary). In projects where either the Head of the CB or his/her deputy is part of the assessment team, the approval is given by the one not serving on the project team.

After confirmation by the PP, the determination opinion and relevant documents are submitted to the JISC through the UNFCCC web-platform.

3 SUMMARY

The assessment work and the main results are described below in accordance with the latest 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 YARA AB authorized by Sweden and N.serve Environmental Services GmbH authorized by Netherlands. The host Party Sweden meets the requirements to participate in the JI.

The DFP of the host country, issued the LoE (IRL 46) indicating its support to further development of this project activity. Subsequently the LoA (IRL46) was issued on the 15th of September 2011 by the Swedish DFP. This LoA authorizes Yara AB as project participant in this project.

Beneath the host country (Sweden), Netherlands is party involved in this project. The LoA was issued by the DFP of Netherlands on 31st of August 2011 (IRL62). This LoA authorizes N.serve Environmental Services GmbH as project participant in this project.

TÜV SÜD has received those Letters of Approval from the project participants directly and considers the provided letters as authentic.

3.2 Participation

The dedicated project participants are YARA AB authorized by Sweden and N.serve Environmental Services GmbH authorized by Netherlands. The participation of all project proponents as well as their roles in this JI project is confirmed with JI project Master Agreement (IRL 6).

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.

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 facility of YARA's nitric acid plant Syra 3 (S3) in Köping, Sweden. The plant is in operation there since September 1982. The project activity aims a 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. A secondary catalyst is employed which has an expected abatement efficiency of about 90%.

In order to implement the project, the nitric acid plant has been 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 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

CDM methodology AM0034, version 03.4 is applied. The project is in compliance with applicability condition as listed in the chosen baseline and monitoring methodology AM0034, version 3.4.

The assessment was carried out for each applicability criterion and included, among other checks, a 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 to demonstrate the compliance with applicability conditions.

The methodology-specific protocol, included in Annex 1, documents the assessment process. The results of the compliance check as well as relevant evidence are detailed in the protocol and the information reference list.

Following main issues are summarized here:

1. The applicability of the methodology applied 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.

The Syra 3 has been installed in Köping in year 1982 and has commercially produced nitric acid since that time (IRL 48, IRL 29). Thus the respective applicability criterion is fulfilled.

There is no definition about the "annual" capacity found in document like drawings, specifications or manuals. The AIE confirmed daily design production output of 418 metric tonnes of HNO3 (100% conc.) per day according to plant design specification by the end of 2005 (IRL 53) and that the daily design capacity has not changed until 2010 (IRL 54).

AIE confirmed the assumed cap of 134,000 tHNO3 which is is the maximum of the factual annual historical production of the plant, which is from the year 2006 (IRL 37) and implies considering the daily design capacity of 418 metric tonnes around 320 operating days.

2. The project activity will not result in the shutdown of any existing N2O destruction or abatement facility or equipment in the plant.

The plant had installed a trial N2O abatement catalyst at the plant since April 2007 until November 2009. As tests were finalized (IRL 3) this trial catalyst was removed on 16th November (IRL 56).

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

Emission sources, not addressed by the applied methodology and expected to contribute more than 1% of the overall expected average annual emission reductions, have not been identified.

3.5.2 Project boundary

The project boundary was assessed considering information gathered from the physical site inspection, interviews, and secondary evidence received on the design of the project.

Conforming with applicable CDM methodology AM0034, version 03.4., Yara plant industrial process covered by the project activity is nitric acid production serving by the existing AOR (s). The project boundary comprises the complete production process from the inlet to the AORs to the stack, including all compressors, SCR DeNOx unit and tail gas expander turbines installed.

The most relevant documentation assessed in order to confirm the project boundary is the following: HNO_3 production process scheme (IRL 5) collected during the on- site mission performed by the audit team, etc.

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

Therefore, TÜV SÜD confirms that the identified boundary, the selected sources, and gases as documented in the PDD are justified for the project activity and are fully in line with the requirements set by the applied methodology.

3.5.3 Baseline identification

Applicable CDM methodology refers to the procedure for identification of the base line 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. Furthermore the last version of the "Combined Tool to identify the baseline scenario and demonstrate additionality" was used, too.

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

The plant installed a trial secondary abatement catalyst in April 2007. Since its removal in November 2009 the plant is not being equipped with any N2O abatement catalyst. Considering timing of this removal the AIE received a confirmation letter (IRL3) that confirms the end of lifetime of the catalyst and that industrial testing is completed. As the plant has no requirement to limit N2O emissions until 2013 (IRL 60), the removal of this catalyst and the defined baseline scenario (continuation without any N2O abatement until 2013) is found to be reasonable. Hence in accordance with AM0028 version 04, the following baseline scenario has been defined in the PDD:

- The continuation of the current situation without installing any N2O abatement technology until 2012.

This is found to be reasonable under the current regulative framework. During time of onsite visit the plant was in process of renewal of environmental permit. In June 2010 the new permit was issued. According to the Swedish Environmental Protection Agency - Implementation and Enforcement

Department - Industry Unit – the plant has to fulfill BAT from 2013. Before 2013, there are no requirements to reduce N2O emissions (IRL 60).

The information presented in the PDD has been validated by an initial document review of all data. Further confirmation has been made based on the on-site visit and a review of information from similar projects and/or technologies. The sources referenced in the PDD have been quoted correctly. The information was verified against credible sources (IRL 03, 20, 35, 36, 47, 56, 60).

Transparent and documented evidences were provided to the assessment team within on-site visit. Based on conservative interpretation of collected audit evidences, TÜV SÜD considers that the identified baseline scenario is reasonable until the end of the first commitment period. The validity of JI project status after 2012 has to be determined according to relevant agreement under the UNFCCC and is subject to approval of the host country.

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

TÜV SÜD has assessed the calculations of project emissions, baseline emissions and leakage and emission reductions. Corresponding calculations were carried out based on calculation spreadsheets as presented via Emissions reductions calculation sheet (IRL55). 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.

The assumptions and data used to determine the emission reductions are listed in the PDD and all the sources have been checked and confirmed.

Based on the information reviewed it can be confirmed that the sources used are correctly quoted and interpreted in the PDD. The values presented in the PDD are considered reasonable based on the documentation and references reviewed, as well as, the result of the interviews. The baseline methodology has been correctly applied according to requirements. The estimate of the baseline emissions can be confirmed as the same that 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 Annex 1. The algorithms for the determination of the baseline, project, and leakage are discussed in the following sections.

3.5.4.1 Baseline Emissions

Baseline campaign, baseline emission factor and baseline emission

PPs started to measure a baseline campaign in November 2009 in order to determine a baseline emission factor according to the applied methodology. It was not completed during the time of onsite audit; therefore the baseline emission factor will has to be confirmed by the verifying entity.

In order to estimate emission reductions presented in PDD a baseline emission factor was assumed on basis on measurements taken for three campaigns prior installation of trial secondary catalyst from June 2005 to April 2007.

Permitted operating conditions

Permitted operating ranges for oxidation temperature, oxidation pressure, ammonia gas flow rate and ammonia to air rate have to be determined using historical data, if they are available. Historical plant logs were found to be available by the on site audit team. PPs will have to determine historical permitted ranges (see also FAR 01 in Annex 1) by using historical records as their availability was confirmed by the onsite audit team. The permitted operating conditions will have to be confirmed by the verifying entity.

Detailed information on the verification of the parameters used in the equations can be found in the annex 1.

3.5.4.2 Project emissions

The project scenario is the installation and operation of a secondary abatement catalyst with an estimated abatement efficiency of 90%. The project emission factor is also tentatively determined from the tentative baseline data and the assumed N2O reduction rate of the project technology for the ex-ante calculation of emission reductions. The project emission factor and the nitric acid production for the project campaign will be determined from the monitored data during the project campaigns.

3.5.4.3 Leakage

According to the AM0034 methodology, no leakage calculation is required.

3.5.4.4 Emission Reductions

Chapter E.5 of the final PDD demonstrates emission reductions ERs calculated based on

1. Assumed baseline emission factor

2. Project emission factor derived from assumed baseline emission factor and estimated destruction rate of secondary catalyst.

3. Estimated future nitric acid production derived from historical production data whereas production figure from 2006 is assumed to annual future production. Crosschecked with a roadmap (IRL 16) the figure is not found to be overestimated.

In summary, 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.

The PDD also shows emission reductions for the years beyond 2012. An extended crediting period beyond the first commitment period is subject to the host country´s approval and has to be evaluated on the regulative framework under UNFCCC existing post 2012.

3.6 Additionality

Simple cost analysis has been used for demonstrating additionality according to the "Tool for the demonstration and assessment of additionality" (Version 05.1) 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 approach used in the PDD has been assessed based on a document review and interviews on-site with plant representatives. Furthermore some documents have been reviewed on-site (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 and technical literature.

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

3.7 Monitoring plan

The monitoring plan presented in the PDD complies with the requirement of the methodology. The assessment team has checked all the parameters presented in the MP against the requirements of the methodology. The monitoring plan (MP) presented in the PDD complies with the requirements of the methodology

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.

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

Swedish DFP informed TÜV SÜD that in accordance with Swedish Law, it has to conduct a stakeholder consultation in order to gather the views of the public and relevant stakeholders on the specific project activity.

In the email from October 26, 2011 Ms. Marie Karlberg from the Swedish Energy Agency confirms that the publication of information regarding the stakeholder consultation through a local newspaper was carried out for this project along with sending out the project documents to the identified stakeholders. No comments were received during the duration of the consultation period (IRL63).

3.9 Environmental impacts

No contaminants are released during the operation of the project activity so no negative transboundary environmental impacts occur. The BREF (IRL 50) confirms this view by stating that catalytic N2O decomposition does not induce cross-media effects. 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.

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4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOs

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

The following table presents all key information on this process:

Webpage: http://www.netinform.net/KE/Wegweiser/Guide2_3.aspx?ID=6158&Ebene1_ID=26&Ebene2_ID=1988&mode=0	
Starting date of the global stakeholder consultation process: 2010-02-13	
Comment submitted by: Dr. Karsten Karschunke Federal Environment Agency German Emissions Trading Authority	**Issues raised:** ...reviewing preliminarily the PDD presented for public consultation at the TÜV-Süd-netinform Web Site under the JI Track 2 procedure, the following questions with respect to the baseline determination arise: Since Sweden is a member state of the European Union, the "Acquis Communautaire" should be reflected in the reference scenario of any proposed project activities according to Article 11b of the Emission Trading Directive (2003/87/EC). In the documents presented, we are missing an appropriate reflection of the IPPC-Directive (2008/1/EC). Nitric acid plants are listed in Annex I Nr. 4.2 b) of the IPPC-directive and nitrous oxide (N2O) is listed as an air pollutant in Annex III Nr. 2. Therefore according to article 9 of the IPPC-Directive, BAT based emission limit values should be set in the permit by the competent authority. The production of nitric acid is dealt with in detail in Chapter 3 of the BAT Reference Document "Large Volume Inorganic Chemicals - Ammonia, Acids, Fertilizers" (BREF LVIC-AAF), prepared by the European Integrated Pollution Prevention and Control Bureau (EIPPCB) of the European Commission. The technology to be used in the project is described in detail in chapter 3.4.6 of the BAT Reference document. It is classified as BAT and linked with emission level of 1.85 kg N2O / t HNO3 (100%) produced (table 3.14). As the application of BAT in existing plants is mandatory in Europe since October 2007, this should be the appropriate baseline for a JI project in the EU. Obviously, these developments have not been implemented yet in the plant's permit dated 1989. We kindly ask you to consult during your determination activities with the host country's authorities about the implementation of the IPPC directive in Sweden. An unjustified selection of a baseline may lead to a severe distortion of the market and the competition in Europe, especially with regard to member states which have implemented BAT without using JI or have opted-in voluntarily according to article 24 of the EU ETS directive (2003/87/EC) and apply an benchmark for the allocation of the EU allowances.…
Response by TÜV SÜD: TÜV SÜD has contacted Swedish host country authorities. In June 2010 the plant received its new environmental permit. Hence, according to the Swedish Environmental Protection Agency - Implementation and Enforcement Department - Industry Unit – the plant has to fulfil BAT (according to this new permit) from 2013. Before 2013, there are no requirements to reduce N2O emissions (IRL 60).	

Industrie Service

5 DETERMINATION OPINION

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

"YARA Köping S3 N2O abatement project in Sweden"

Standard auditing techniques have been used for the determination of the project. A methodology-specific protocol for the project has been prepared to conduct the audit in a transparent and comprehensive manner.

The review of the project design documentation, subsequent follow-up interviews, and further verification 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 for approving projects under JI – Track 2. Hence, TÜV SÜD can recommend the project for registration under JI Track-2.

An analysis, as provided by the applied methodology, demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are 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 TÜV SÜD, as well as the engagement conditions detailed in this report. The determination has been performed following the JI requirements. The single purpose of this report is its use during the registration process as part of the JI Track 2 project cycle. TÜV SÜD cannot be held liable by any party for decisions made, or not made, based on the validation opinion beyond this purpose.

Munich, 27-10-2011

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

Munich, 27-10-2011

Assessment Team Leader

Industrie Service

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?		The project title clearly enables the identification of the JI activity. "YARA Köping S3 N2O abatement project in Sweden" No second JI activity exists with a similar title.	☑	☑
A.1.2. Are there any indication concerning the re-vision number and the date of the revision?		The date of the issuance of is correctly indicated in PDD. The PDD for GSP is dated February 11th, 2010 the revision number is 3.	☑	☑
A.1.3. Is this consistent with the time line of the project's history?	46	Yes, it is. The project proponents submitted on 12th October 2009 a Project Idea Note (PIN), to the Swedish DFP (Swedish Energy Agency) and requested a Letter of Endorsement (LoE). The DFP issued a LoE on 11th November 2009.	☑	☑
A.2. Description of the project activity				
A.2.1. Is the description delivering a transparent overview of the project activities?		Yes, it is	☑	☑
A.2.2. What proofs are available demonstrating that the project description is in compliance with the actual situation or planning?	48, 45, 35, 36	1. Design capacity of the nitric acid plant **Clarification Request 1.** The PDD states that daily design capacity of Syra 3 nitric acid plant is 425 metric tonnes of HNO3 (100% conc.) per day. Clarification is requested as different information was gathered by the onsite audit team (e.g. the Operating Manual shows 370 tHNO3/day (24 h per day) and the mass flow chart shows a NH3 input of 4842 kg/h, resulting in approximately 410 tHNO3per day). Another, process mass flow chart (title: Aspen Plus 23.0 run: max_air_ver10 26/02/2010 15:53:5) provided by PPs shows a	**CR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		figure of 17452 kg/h HNO3. 2. Commercial production start in 1982, Commercial production started in 1982 according to the history book of the site. A major replacement at the AOR took place in June 2005. According to PPs the AOR was overhauled including boiler replacement. PPs provided evidence on boiler replacement performed. 3. Swedish requirements for the threshold emissions values of NOx for the nitric acid plant During communication with Swedish environmental authorities the audit team got informed that YARA AB is currently in a renewal process of the environmental permit. This was confirmed during onsite audit. Several existing permits for each single plant should be replaced by one permit for the whole site. The plant proposed NOx threshold values to the authority and it expects this new permit during summer 2010. **Clarification Request 2.** Clarification is requested on whether the PPs want to include the proposed NOx emission limits in PDD in order to lower the risk of a re-assessment of the baseline scenario which is requested according to the applied methodology in case of change of NOx emission regulations during crediting period. In case of inclusion the PPs are requested to modify the relevant sections in the PDD. 4. IPPC permit		

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		An IPPC report from March 2005 is available at the plant. 5. Annual reports for NOx and N2O The plant reports NOx and N2O emissions on monthly basis to the authority. The reported figures were inspected during onsite audit. 6. Estimation of the future ERs- e.g. periodically N2O measurements with analyzer- hard proofs **Clarification Request 3.** The estimation of future ERs has to be done on a conservative bias. Clarification is requested on the amount of future HNO3 production as the figure used for ER estimation in PDD is higher than the figures presented in the future production planning (road map. Furthermore, the estimated baseline emission factor is derived from monthly spot measurements taken at the plant between January and December 2006. However, information on the campaign cycle has to be included in the respect that N2O emission concentration intends to raise with the age of primary gauzes. This has to be considered for estimating a conservative future baseline emission. 7. Calculations of ERs Please refer also to Chapter A.4.3.2. 8. Investment agreement between the parties involved A JI MasterAgreement is available between the PPs.		

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		9. Project Implementation Plan A project implementation plan was presented during onsite audit and provided to the audit team. 10. Is the line operational? The nitric acid plant was operational during onsite audit. DCS print screen was collected as evidence. 11. Contract with provider of AMS The AMS supplier is Dr Födisch. As evidence PPs provided an invoice which was inspected by the onsite audit team. 12. Installation of AMS The AMS is already in place as baseline campaign was already started.		
A.2.3. Is the information provided by these proofs consistent with the information provided by the PDD?		Yes, it is.	☑	☑
A.2.4. Is all information presented consistent with details provided by further chapters of the PDD?		Yes, all information presented is consistent with details provided by further chapters of the PDD. **Corrective Action Request 1.** Editorial improvements of the PDD shall be done. (E.g. Footnote 23 on page 16, or table format in Chapter A.4.3.1. and E.6.) The PDD template shall not be altered.	**CAR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final 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?		Yes, the form is correctly applied.	☑	☑
A.3.2. Is the participation of the listed entities or Parties confirmed by each one of them?	6	Following PPs are identified in this project: YARA AB (Sweden), YARA International ASA, Oslo (Norway), N.serve Environmental Services GmbH (Germany) An agreement between N.serve Environmental Services GmbH (Germany) and YARA International ASA was provided 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)?		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?	46	Yes, it is. The project proponents submitted on 12th October 2009 a Project Idea Note (PIN), to the Swedish DFP (Swedish Energy Agency) and requested a Letter of Endorsement (LoE). The DFP issued a LoE on 11th November 2009. Letters of Approval from the host and investment parties will be applied for after the determination of the project will be finalized. **Additional Request 10:** It is required to submit Letter of Approvals from the host and investment (if applicable) parties before the submission of the final determination report to the JISC for registration of the particular project.	**CR**	**CR**

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Published PDD	Final PDD
A.3.5. Have the DFPs of all parties listed as involved in the PDD provided written project approvals?		Please refer to FAR (A.3.4.).	**FAR**	**FAR**
A.3.6. Does the PDD identify at least the host Party as a "Party involved"?		Yes, the host party- Sweden- is identified in the PDD.	☑	☑
A.3.7. Has the DFP of the host Party issued a written project approval?		Please refer to Finding (A.3.4.).	**CR**	**CR**
A.3.8. Are all the written project approvals by Parties involved unconditional?		Please refer to Finding (A.3.4.).	**CR**	**CR**
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)?		Yes, it does. The information provided on the location of th e 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.)?		The N.serve Environmental Services GmbH (Germany) and YARA International ASA have already gained experience in implementing secondary N2O abatement projects at YARA plants also in respect of JI. Efficient evidence was provided that YARA AB is the owner of the Syra 3 nitric acid plant.	☑	☑
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?		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?	50	Yes, it does. The project activity aims to reduce the amount of N2O emitted by catalytically decomposing the N2O produced in the undesired side reaction during ammonia oxidation. (catalyst system YARA 58 Y1 ®)	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		The description of the technology to be applied provides sufficient and transparent input/ information to evaluate its impact on the greenhouse gas balance. EIA is not required according to the PP. The BREF (August 2007, p. 123) confirms that secondary N2O decomposition does not have any cross- media effects. Please refer to section F. of this protocol.		
A.4.2.3. Does the implementation of the project activity require any technology transfer from annex-I-countries to the host country(s)?	6	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?	13	Yes, it is. The abatement catalyst is made of non- precious metals and does not create significant negative environmental effect directly or indirectly. Obsolete catalyst is to be recycled. PPs provide safety data sheet of 58-Y1 N2O abatement catalyst.	☑	☑
A.4.2.5. Is the information provided in compliance with actual situation or planning?		Yes it is.	☑	☑
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?		Yes, it is a state of art technology providing significant N_2O emission reduction.	☑	☑
A.4.2.7. Is the project technology likely to be		Not planned currently; however if any significantly more efficient	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
substituted by other or more efficient technologies within the project period?		secondary technology is introduced within the project period it's possible for it to be applied to the project.		
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?		Yes, it does. Every need for training and maintenance efforts will be followed. Extensive training is required in the context of monitoring.	☑	☑
A.4.2.9. Is information available on the demand and requirements for training and maintenance?	41, 42	Standards will be ensured by thorough and regularly repeated training sessions for the YARA employees involved. Training on the AMS was already conducted by AMS supplier Dr. Födisch.	☑	☑
A.4.2.10. Is a schedule available for the implementation of the project and are there any risks for delays?	7	An implementation schedule was provided by the PPs. The schedule was found to be realistic.	☑	☑
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 reduction would not occur in the absence of the proposed project, taking into account national and/or sectoral policies and circumstances?		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.	☑	☑
A.4.3.2. Is the explanation transparent, feasible and – if based on calculations – mathematical correct calculated?		Yes, it is. The explanations are transparent and feasible. **Clarification Request 4.** PPs are requested to provide calculation of ERs (Excel Sheet) to	**CR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		the audit team.		
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?		Please refer to CAR (A.2.4).	**CAR**	☑
A.4.4.2. Are the figures provided consistent with other data presented in the PDD?		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?		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		Yes, the project is based on Approved Baseline and Monitoring methodology AM0034 (Version 03.4): “Catalytic reduction of N2O inside the ammonia burner of nitric acid plants”.	☑	☑
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?	Not	applicable	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
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?	Not	applicable	☑	☑
B.1.4. Does the PDD provide a justification of the applicability of the methodological approach chosen with a clear and transparent description?		Yes, the PDD provides a justification of the applicability of the methodological approach chosen. 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?		**Corrective Action Request 2.** The baseline was identified in the PDD in section B.1. Please provide date of baseline setting (DD/MM/YYYY) in section B.4. as required by the GUIDELINES FOR USERS OF THE JOINT IMPLEMENTATION PROJECT DESIGN DOCUMENT FORM	**CAR**	☑
B.1.6. Is this consistent with the time line of the PDD history?		Not applicable. See B.1.5 above.	**CAR**	☑
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?		**Corrective Action Request 3.** Section B.4 refers only to preliminary baseline emissions factor, which has been calculated by Mrs Rebecca Cardani-Strange of N.serve Environmental Services GmbH on the 9th December 2009. Please state the name(s) of the person(s)/entity(ies) who sets the baseline scenario defined under B.1. of the PDD.	**CAR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
B.1.8. Is information provided whether this person / entity is also considered a project participant?		Yes it is. N.serve Environmental Services GmbH (Germany) is PP in this project.	☑	☑
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?		Yes, the project is based on Approved Baseline and Monitoring methodology AM0034 (Version 03.4): "Catalytic reduction of N2O inside the ammonia burner of nitric acid plants".	☑	☑
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?		The methodology is still applicable.	☑	☑
B.1.11. Does the PDD provide a description of why the approved CDM methodology is applicable to the project?		Yes the PDD describes this.	☑	☑
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";				
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.	48, 29	Applicability checklist / Yes / No Criterion discussed in the PDD? / Yes Compliance provable? / Yes Compliance verified? / Yes The operating manual is dated in 1981. PPs also presented a History book of the site which states that Syra 3 started operation in June 1982.	**CAR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		Corrective Action Request 4. The applicability of the methodology which PPs intended to apply 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. The discussion on this criterion in section B.1. of the PDD must include project specific information. The annual cap in tHNO3 has to be defined and explicitly stated in the PDD. Appropriate evidence has to be provided to the audit team.		
B.1.13. Criterion 2: The project activity will not result in the shut-down of any existing N2O destruction or abatement facility or equipment in the plant.		<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> Yara had installed a trial N2O abatement catalyst at the plant until November 2009. PPs provided a letter from Yara Norway confirming the end of industrial testing of the N2O abatement catalyst. **Clarification Request 5.** Additional evidence is requested on the work performed to remove the secondary catalyst. (e.g. work order).	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
B.1.14. Criterion 3: The project activity shall not affect the level of nitric acid production		<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> Due the catalyst installation in the AOR a pressure drop may occur. However, this will have a minor effect on the nitric acid production level.	☑	☑
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.	49 60 61	<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> The audit team contacted Swedish Environmental Protection Agency which confirmed that companies have only to report N2O emissions exceeding 10 000 kg N2O per year. In June 2010 a new environmental permit was issued hence according to swedish environmental protection agency it is stated (in summary) that Yara has to: “undertake to fulfil BAT for Syra 3, and as far as there is BAT for atmospheric plants at that time, also fulfil BAT for Syra 2, both year 2013.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		Corrective Action Request 5. A new environmental permit No M 481-09, dated 17th June 2010 was issued by the Swedish environmental authorities to the plant. According to SWEDISH ENVIRONMENTAL PROTECTION AGENCY (Email from EPA on 28.06.10) it is stated in the permit that Yara has to complete the measures which were undertaken during the permit process. Yara did undertake the measures to fulfill BAT for Syra 3 before 2013 themselves, which means that there is a requirement in the permit on N2O, although it is not stated as a "limit value". The PDD must be revised by addressing the requirements of the new environmental permit. It is requested to update the description of the legal situation and the baseline identification section and to revise the ERs estimation if necessary. An updated version of the PDD should be provided to the audit team. Additionally please provide an official English translation for all relevant parts of the new environmental permit.		
B.1.16. Criterion 5: The project activity will not increase NOx emissions.	3	<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>	☑	☑

<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.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>40</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>PPs provided evidence on the type of existing NOx abatement catalyst which is a SCR DeNOx unit.</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>38</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.</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	5	<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> Process flow chart was inspected by the audit team and it can be confirmed that continuous real-time measurements of N2O concentration and total gas volume flow can be carried out in the stack of the nitric acid plant for one campaign with and without installed abatement catalyst. Monitoring Check should be carried out by the third party in order to confirm the compliance with EN14181, mentioned in the current PDD.	☑	☑
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" .*				
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?		As mentioned above this project activity is based on 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 AM0028 v. 4. Hence following checklist's questions are also relevant for this project. Furthermore the procedure is also based on "Combined Tool to identify the baseline scenario and demonstrate additionality" (Version 02.2).	☑	☑
B.1.21. Have all technically feasible baseline sce-		Yes, all technically feasible baseline scenario alternatives bee n	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
nario 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?		identified and discussed in the PDD. The list can be considered as being complete because all options available from known methodologies have been reviewed.		
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?		Step 1b of AM0028, ver. 4.2. is discussed in PDD in Chapter B.1. under Step 1.4: According to AM0028 following options need to be discussed. • The continuation of the current situation, where either a DeNOx-unit is installed or not; • Installation of a new Selective Catalytic Reduction (SCR) DeNOx unit; • Installation of a new Non-Selective Catalytic Reduction (NSCR) DeNOx unit; • Installation of a new tertiary measure that combines NOX and N2O emission reduction. **Corrective Action Request 6.** It is requires that all possible options that are technically feasible to handle NOX emissions should be considered. Section 1.4 does not include all options listed in methodology. At least reference to other sections needs to be given, if the discussion is done in another part of the PDD.	**CAR**	☑
B.1.23. Does the project identify correctly and exclude those options not in line with regulatory or legal requirements (Step 2)?		Yes, it does. However see CAR in B.1.22 above.	**CAR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
B.1.24. Have applicable regulatory or legal requirements been identified?	35 60 61	The existing regulation in Sweden does not require implementation of any technologies for N_2O abatement until 2012. From 2013 ongoing the plant has to comply with BAT. NOX-emissions are regulated by an operational permit for the YARA Köping S3 plant. According to the relevant Environmental permit ('BESLUT nr 72/89'), the permitted level since 1992 is 100ppm, but sanctions will only be imposed if the plant exceeds 100kg/day on an annual basis. According to the new environmental permit (IRL 61) the nOx emission limit is also 100 ppm. Figures of reported NOx emissions have been provided to the audit team. Please refer to Finding stated under A.2.2.		
B.1.25. Is a complete list of barriers developed that prevent alternatives to occur (step 3a)?		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?	47	Yes, it does. The existence and significance of these barriers is discussed in the PDD in transparent manner as it is obvious that the installation of the secondary catalyst and AMS is related to significant investment costs.	☑	☑
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)?		Yes, it is. Continuation of the status quo (absence of any N2O reduction technology) is the only baseline scenario 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)?		Yes, it does. There is an appropriate discussion on this question. It can be concluded that no alternatives would generate financial or economic benefits.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
B.1.29. In case of Option I: Is the least costly alternative clearly identified?		The continu ation of of t he status q uo is clear ly 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?		The plant is expecting a new environmental permit including new or modified NOx regulations. **Corrective Action Request 7.** The PDD does not include any discussion on the sub steps 5a and b of AM0028. Please include a discussion on that issue in order to comply with methodological requirements. The procedure included in PDD in Step 5 should not deviate from methodology without any reasonable explanation.	**CAR**	☑
B.1.36. In case of a re-assessment in the course of the project's lifetime: Have new base-line sce-	- N/A		☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
narios been properly discussed reflecting the altered situation?				
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?	- N/A		☑	☑
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?		Yes it is.	☑	☑
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		The additionality of the project activity is demonstrated and assessed using the "Tool for demonstration and assessment of additionality" version 5.1.	☑	☑

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?		Yes, it does. AM0034 has been applied in this project activity which 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?		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)?		As in ch apter 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?		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)?		Not applicable as the installation of a secondary catalyst in the absence of the JI is less financially attractive than the status quo.	☑	☑
B.2.7. In case of Option III (benchmark analysis): Is the most suitable financial indicator clearly	- N/A		☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Published PDD	Final PDD
identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?				
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		☑	☑
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 ?		No similar project activity has been identified in the host country. N2O abatement technologies at atmospheric nitric acid are very rare.	☑	☑
B.2.14. If similar activities are occurring: Is it demonstrated that in spite of these similarities the		Please refer to B.2.13.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
project activity would not be implemented without the CDM component (step 4b)?				
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)?		As there is no other incentive than the JI this criterion is fulfilled.	☑	☑
B.2.16. Are sufficient additionality proofs provided?		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?		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? b) Reasonably attributable to the project? c) Significant?	N/A		☑	☑
B.3.2. If the approved CDM methodology is used: Is the project boundary defined in accordance with the approved CDM methodology?		Yes it is.	☑	☑
B.3.3. Source: Waste stream exiting the stack of the Nitric			☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
Acid plant (Burner inlet to stack) Gas(es): N2O Type: Baseline Emissions and Project Emissions		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 discussion provided by / indication included to the PDD (plant specific flow diagram)?	54	The project boundary entails all parts of the nitric acid plant in so far as they are needed for the nitric acid production process itself. With regard to the process sequence, the project boundary begins at the ammonia burner inlets and ends at the tail gas stack A project flow chart is included in the PDD.	☑	☑
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?		See B.1.7.	**CAR**	☑
B.4.2. Is the date of baseline setting available?		See B.1.5.	**CAR**	☑
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?		**Clarification Request 6.** The project's starting date is not unambiguously stated. Project starting date should be clearly identified in section C.1. Project	**CR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		starting date is defined as "… the date on which the implementation or construction or real action of the project begins…", refer to the Glossary of JI terms v. 1 JISC 13		
C.1.2. Is the starting date of the project after the beginning of 2000?		Yes, the project started after the beginning of 2000. However see CR in C.1.1 above.	**CR**	☑
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?		The lifetime of the secondary catalyst is expected to be 3 years. Replacement of the catalyst will be done if crediting period of the JI project exceeded the 2012.	☑	☑
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?		**Corrective Action Request 8.** PP´s should mention the crediting period on the basis of existing regulations in Chapter C.3. Additionally they can include the statement for applying to a crediting period of 10 years as the end of the crediting period can be after 2012 is subject of additional host country approval. The status of ERs generated by the project after the end of the fist commitment period may be then determined by any relevant agreement under the UNFCCC.	**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?		See CAR in C.3.1 above.	**CAR**	☑
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		See CAR in C.3.1 above.	**CAR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
the operational lifetime of the project?				
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?		See CAR in C.3.1 above.	**CAR**	☑
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? - JI specific approach - Approved CDM methodology approach		It is based on approved CDM methodology AM0034. **Corrective Action Request 9.** Please include version number of monitoring methodology applied in section D.1.	**CAR**	☑
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?		The PDD does not indicate any overlapping of the monitoring period.	☑	☑
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)?		N/A, see D.1.2.	☑	☑

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?		N/A, see D.1.2.	☑	☑
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?		N/A, see D.1.2.	☑	☑
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?		Uncertainty level of measurement system is stated as “low” in section D.2. in PDD.	☑	☑
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?		Yes, the monitoring plan identifies all applicable national and international monitoring standards (section D and Annex 3 of the PDD).	☑	☑
D.1.8. Are the statistical techniques used in a conservative manner?		The statistical techniques used follow the approved CDM methodologies AM0034 v.03.4.	☑	☑
D.1.9. Does the monitoring plan present the QA/QC procedures for the monitoring process (e.g. QA for AMS acc. to EN14181)?		From the shutdown and gauze change in mid-November 2009, YARA Köping S3 plant is equipped with an EN-14181 compliant state of the art AMS consisting of a Dr. Födisch MCA 04 Continu-	**CR**	**FAR**

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		ous Emissions Analyser, a sample probe, heated filter and heated sample-line connected directly to the analyzer, and a Dr. Födisch FMD 99 Stack Gas Flow meter. The new analyzer is connected to the plant's existing data collection system (Emerson DeltaV) Operation, maintenance and calibration intervals are being carried out by staff from the instrument department according to the vendor's specifications and under the guidance of internationally relevant environmental standards, in particular EN 14181 (2004) A quotation of QAL 2 was provided by the PPs. The QAL 2 report is not yet available. However, this has to be verified by the verifying entity during first verification. The PP has already CUSUM control-charts implemented which were shown to the onsite audit team. **Corrective Action Request 10.** The information given on page 28 of the PDD concerning QAL 2 test is inconsistent with the date of the PDD, as it is mentioned that QAL 2 is expected to be done in January 2010 while the PDD is dated on February 11, 2010. The PDD should contain up-to date information. **Clarification Request 7.** Please provide QAL 1 certificates for Dr, Födisch N2O analyzer and flow meter installed. **Forward Action Requests 02**: QAL1 certificate for ana lyser have to be availa ble at 1 st verifica-		

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		tion.		
D.1.10. Does the monitoring plan clearly identify the responsibilities and the authority regarding the monitoring activities?		Yes, the mo nitoring plan clearly ide ntifies the responsibilities and the authority regarding the monitoring activities	☑	☑
D.1.11. Is the inclusion of external accredited services providers for calibration and function tests foreseen in the planning of the project?		The inclusion of external accredited services providers for calibration and function tests according to the EN14181 is foreseen in the planning of the project. The monitoring equipment used to derive the N2O emissions data for this project will be made part of the ISO 9001 procedures.	☑	☑
D.1.12. Are the specific performance characteristics of the monitoring system chosen by the project listed in the PDD		The specific performance characteristics of the monitoring system chosen by the PPs are listed in the PDD.	☑	☑
D.1.13. Does the monitoring plan, on the whole, reflect good monitoring practices appropriate to the project type?		Yes, the monitoring pla n provides current good monitoring practice.	☑	☑
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?		Yes the monitoring plan provided the relevant data in tabular form (section D of the PDD). **Corrective Action Request 11.** The parameters to be monitored are listed under Chapter D.1.2. Option 2- Direct monitoring of emission reductions from the project. But the project intend to monitor project and baseline emissions which is Option1 - Monitoring of the emissions in the project scenario and the baseline scenario. The PDD has to be corrected. Furthermore, the audit team points out that instead of using the tables provided in sections D.1.1.1., D.1.1.3., D1.2.1., D.1.3.1. and D.2. an alternative format defined in the GUIDELINES FOR USERS OF THE JI PDD FORM Version 04 may be applied.	**CAR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Published PDD	Final PDD
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?		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 and reporting of project performance and the period in which they will be monitored?	N/A		☑	☑
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?	N/A		☑	☑
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?	N/A		☑	☑
D.1.19. For other default values: - Does the monitoring plan clearly indicate the		N/A	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
precise references from which these values are taken? - Is the conservativeness of the values provided justified?				
D.1.20. For all data sources, does the monitoring plan specify the procedures to be followed if expected data are unavailable?	N/A		☑	☑
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"?	N/A		☑	☑
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?	N/A		☑	☑
D.1.23. Does the monitoring plan describe the methods employed for data monitoring (incl. its	N/A		☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
frequency) and recording?				
D.1.24. Is information on the margins of errors and the cumulative error for the complete measurement system provided in the PDD?	N/A		☑	☑
D.1.25. Are the requirements on the treatment of downtime of the AMS clearly reflected in the envisioned calculation routines?	N/A		☑	☑
D.1.26. Is the monitoring plan established appropriately as a result?	N/A		☑	☑
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?	Yes.		☑	☑
D.1.28. Is it explained how the procedures provided in the methodology are applied by the proposed project activity?	Yes.		☑	☑
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?	Yes.		☑	☑
D.1.30. Is the operational and management structure clearly described and in compliance with the envisioned situation?	Yes.		☑	☑
D.1.31. Are responsibilities and institutional arrangements for data collection and archiving clearly provided?	Yes.		☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
D.1.32. Has the monitoring system installed using the European Norm 14181 (2004)?	Yes.		☑	☑
D.1.33. Will the three quality assurance levels been met by the planned Automated Measuring System (AMS) according to the EN14181?	Yes.		☑	☑
D.1.34. Are the specific performance characteristics of the monitoring system chosen by the project listed in the PDD?	Yes.		☑	☑
D.1.35. Is information on the margins of errors and the cumulative error for the complete measurement system provided in the PDD?		Uncertainty will be determined during QAL 2 and applied according methodology.	☑	☑
D.1.36. Are the requirements on the treatment of downtime of the AMS clearly reflected in the envisioned calculation routines?	Yes.		☑	☑
D.1.37. Is the monitoring plan established appropriately as a result?	Yes.		☑	☑
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). (b) If no data on historical data is available, the range stipulated in the operating manual for the existing equipment; or		**Corrective Action Request 12.** The methodology requires the determination of permitted ranges for OTh, OPh, and upper limits for ammonia flow and ammonia to air ratio. If historical data are available they have to be used as source. As the audit team inspected onsite, historical data are available. The PDD has to provide information on the availability of historical data.	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>(c) If no operating manual is available or the operating manual gives insufficient information, from an appropriate technical literature source?</td><td></td><td></td><td></td><td></td></tr>
<tr><td>D.2.2. In case option (a) is selected is has a proper statistical analysis of the historical data has been conducted as required by AM0034 v.4?</td><td></td><td><u>Forward Action Requests 01</u>:
Permitted ranges need to be defined using historical plant records. The analysis of the historical data in order to determine the permitted ranges for OT_h, OP_h, and upper limits for ammonia flow and ammonia to air ratio were not available during project determination. Therefore, the values for OT_{normal}, OP_{normal}, AFR_{max} and $AIFR_{max}$ will have to be verified by the verifying entity. Additionally CLnormal needs to be con-firmed by verification entity with historical plant production logs.</td><td>FAR</td><td>FAR</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></td><td>Please refer to the comments in D.2.2.</td><td>FAR</td><td>FAR</td></tr>
<tr><td>D.2.4. Parameter:
OT_{normal}
Normal operating temperature (of line i)</td><td></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>No</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>FAR</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>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.2.2.
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></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.2.2.
The value is to be verified later by the verifying entity.
</td><td>**FAR**</td><td>**FAR**</td></tr>
<tr><td>D.2.6. Parameter:
$AFR_{max,i}$
Maximum ammonia gas flow rate to the AOR (of line i)</td><td></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>
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</td><td>**FAR**</td><td>**FAR**</td></tr>
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<table>
<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.2.2.
The value is to be verified later by the verifying entity.
</td><td></td><td></td></tr>
<tr><td>D.2.7. Parameter:
$AIFR_{max}$
Maximum ammonia to air ratio</td><td></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>
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<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.2.2.
The value is to be verified later by the verifying entity.
</td><td>**FAR**</td><td>**FAR**</td></tr>
<tr><td>D.2.8. Parameter:
GS_{normal}
Normal gauze supplier for the operation condition campaigns (of line i)</td><td></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>
</table>
</td><td>**CAR**</td><td>☑</td></tr>
</table>

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		Appropriate description of parameter? Yes Source clearly referenced? Yes Correct value provided for estimation? N/A Has this value been verified? N/A Measurement method correctly described? N/A Correct reference to standards? N/A Indication of accuracy provided? N/A QA/QC procedures described? N/A QA/QC procedures appropriate? N/A **Corrective Action Request 13.** GS_{normal} needs to be defined in PDD and stated in Annex 2. Appropriate evidences have to be submitted. This parameter can be re-assessed during verification in case of repetition of baseline campaign.		
D.2.9. Parameter: GC_{normal} Gauze composition during the operation campaign		Monitoring Checklist / Yes / No Title in line with methodology? Yes Data unit correctly expressed? Yes Appropriate description of parameter? Yes Source clearly referenced? Yes Correct value provided for estimation? N/A Has this value been verified? N/A Measurement method correctly described? N/A Correct reference to standards? N/A Indication of accuracy provided? N/A QA/QC procedures described? N/A	**CAR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		QA/QC procedures appropriate? N/A **Corrective Action Request 14.** GC_{normal} needs to be defined in PDD and stated in Annex 2. Appropriate evidences have to be submitted. This parameter can be re-assessed during verification in case of repetition of baseline campaign.		
D.2.10. Parameter: CL_{normal} Normal campaign length (of campaign n of line i)		Monitoring Checklist / Yes / No Title in line with methodology? Yes Data unit correctly expressed? Yes Appropriate description of parameter? Yes Source clearly referenced? Yes Correct value provided for estimation? Yes Has this value been verified? Yes Measurement method correctly described? N/A Correct reference to standards? N/A Indication of accuracy provided? N/A QA/QC procedures described? N/A QA/QC procedures appropriate? N/A **Corrective Action Request 15.** CL_{normal} needs to be defined in PDD and stated in Annex 2. Appropriate evidences have to be submitted. This parameter can be re-assessed during verification in case of repetition of baseline campaign.	**CAR**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
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 Operation Manual).		See comments in A.2.2.	**CAR**	☑
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?		Yes, it is. The list of parameters considers being complete with regard to the requirements of AM0034.	☑	☑
D.3.1.2. Is the data provided in this section in consistency with data as presented in other chapters of the PDD?		Yes it is.	☑	☑
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)		<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>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>N/A</td></tr></table>	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Published PDD	Final PDD
		Correct reference to standards? Yes Indication of accuracy provided? Yes QA/QC procedures described? Yes QA/QC procedures appropriate? Yes 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)		Monitoring Checklist / Yes / No Title in line with methodology? Yes Data unit correctly expressed? Yes Appropriate description of parameter? Yes Source clearly referenced? Yes Correct value provided for estimation? N/A Has this value been verified? N/A Measurement method correctly described? N/A Correct reference to standards? Yes Indication of accuracy provided? Yes QA/QC procedures described? Yes QA/QC procedures appropriate? Yes The value is to be verified later by the verifying entity.	☑	☑

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?		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.	**CAR**	
D.3.1.6. Parameter Title: $OH_{PC, i}$ Operating hours in project campaign (of line i)		<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>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>N/A</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> The value is to be verified later by the verifying entity.	☑	☑
D.3.1.7. Parameter Title: NAP_{PC} Nitric acid (100% concentrated) over the project campaign (of line i)		<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>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></table>	☑	☑

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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>
</table>

<u>Clarification Request 8.</u>
PPs intend to use NH3 input data for determination of HNO3 out-put. This approach shall be better described in the PDD including crosscheck possibilities.

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></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>
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<tr><td>QA/QC procedures described?</td><td>Yes</td></tr>
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<tr><td>D.3.1.9. Parameter Title:
PSG
Pressure of stack gas
(of line i)</td><td></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>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>N/A</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>
The value is to be verified later by the verifying entity.</td><td>☑</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></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>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr></table></td><td>☑</td><td>☑</td></tr>
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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		Correct value provided for estimation? N/A Has this value been verified? N/A Measurement method correctly described? N/A Correct reference to standards? Yes Indication of accuracy provided? Yes QA/QC procedures described? Yes QA/QC procedures appropriate? Yes The value is to be verified later by the verifying entity. **Clarification Request 9.** Clarification is required on the statement given in PDD Chapter D.2. that the parameters are "only monitored for internal use and plausibility checks if necessary" while the parameters are listed as parameters to be monitored in the applied methodology.		
D.3.1.11. Parameter Title: AIFR Ammonia to Air ratio (of line i)		Monitoring Checklist / Yes / No Title in line with methodology? Yes Data unit correctly expressed? Yes Appropriate description of parameter? Yes Source clearly referenced? Yes Correct value provided for estimation? N/A Has this value been verified? N/A Measurement method correctly described? N/A Correct reference to standards? Yes Indication of accuracy provided? Yes QA/QC procedures described? Yes	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		QA/QC procedures appropriate? — Yes The value is to be verified later by the verifying entity.		
D.3.1.12. Parameter Title: OT_h Oxidation temperature for each hour (of line i)		Monitoring Checklist / Yes / No: Title in line with methodology? — Yes Data unit correctly expressed? — Yes Appropriate description of parameter? — Yes Source clearly referenced? — Yes Correct value provided for estimation? — N/A Has this value been verified? — N/A Measurement method correctly described? — N/A Correct reference to standards? — Yes Indication of accuracy provided? — Yes QA/QC procedures described? — Yes QA/QC procedures appropriate? — Yes The value is to be verified later by the verifying entity. **Clarification Request 10.** The onsite audit team observed that more than one thermocouple is installed at the AOR. Please clarify which value is used for monitoring OT_h and determination of OT_{normal}. Please include details in PDD appropriately.	☑	☑

<table>
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<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>D.3.1.13. Parameter Title:
OP_h
Oxidation Pressure for each hour
(of line i)</td><td></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>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>N/A</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>
The value is to be verified later by the verifying entity.</td><td>☑</td><td>☑</td></tr>
<tr><td>D.3.1.14. Parameter Title:
$GS_{Project}$
Gauze supplier for project campaign
(of line i)</td><td></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>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>N/A</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr></table></td><td>☑</td><td>☑</td></tr>
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Industrie Service

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The value is to be verified later by the verifying entity.</td><td></td><td></td></tr>
<tr><td>D.3.1.15. Parameter Title:
$GC_{Project}$,
Gauze composition during project campaign
(of campaign n of of line i)</td><td></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>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>N/A</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>
The value is to be verified later by the verifying entity.</td><td>☑</td><td>☑</td></tr>
<tr><td>D.3.1.16. Parameter Title
EF_{reg}
Emissions level set by incoming policies or regulations</td><td></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>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr></table></td><td>☑</td><td>☑</td></tr>
</table>

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		Correct value provided for estimation? Yes Has this value been verified? Yes Measurement method correctly described? N/A Correct reference to standards? N/A Indication of accuracy provided? N/A QA/QC procedures described? N/A QA/QC procedures appropriate? N/A The value is to be verified later by the verifying entity.		
D.3.2. **Description of formulae used to estimate project 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?	N/A		☑	☑
D.3.2.2. Is the underlying rationale for the algorithms/formulae explained?	N/A		☑	☑
D.3.2.3. For the equations presented: - Are consistent variables, equation formats, subscripts etc. used? - Are all equations numbered? - Are all variables, with units indicated defined?	N/A		☑	☑
D.3.2.4. Is the conservativeness of the algorithms/procedures justified?	N/A		☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Published PDD	Final PDD
D.3.2.5. To the extent possible, are methods to quantitatively account for uncertainty in key parameters included?	N/A		☑	☑
D.3.2.6. Is it justified that the procedure is consistent with standard technical procedures in the sector?	N/A		☑	☑
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?	N/A		☑	☑
D.3.2.8. Are implicit and explicit key assumptions explained in a transparent manner?	N/A		☑	☑
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?	N/A		☑	☑
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?		Yes, it is.	☑	☑
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?		Yes, it is.	☑	☑

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
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:**				
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?		Yes, it is. The list of parameters considers being complete with regard to the requirements of AM0034 version 3.04.	☑	☑
D.3.3.2. Is the data provided in this section in consistency with data as presented in other chapters of the PDD?		The data provided in this section are in consistency with data as presented in other chapters of the PDD.	☑	☑
Integrate the required amount of sub-checklists for monitoring parameter and comment on any line answered with “No”				
D.3.3.3. Parameter Title: $NCSG_{BC,\,i}$ N2O concentration in the stack gas in baseline campaign (of line i)		Monitoring Checklist / Yes / No Title in line with methodology? Yes Data unit correctly expressed? Yes Appropriate description of parameter? Yes Source clearly referenced? Yes Correct value provided for estimation? N/A Has this value been verified? N/A Measurement method correctly described? N/A Correct reference to standards? Yes Indication of accuracy provided? Yes QA/QC procedures described? Yes QA/QC procedures appropriate? Yes	☑	☑
D.3.3.4. Parameter Title: $VSG_{BC,\,i}$		Monitoring Checklist / Yes / No	☑	☑

<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>Volume flow rate of the stack gas in baseline campaign (of line i)</td><td></td><td><table>
<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>Yes</td></tr>
<tr><td>Source clearly referenced?</td><td>Yes</td></tr>
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<tr><td>Indication of accuracy provided?</td><td>Yes</td></tr>
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<tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr>
</table></td><td></td><td></td></tr>
<tr><td>D.3.3.5. Parameter Title:
$CL_{BC, i}$
Baseline campaign length (of line i)</td><td></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>
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<tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr>
</table>
This parameter will have to be verified by the verifying entity.</td><td>☑</td><td>☑</td></tr>
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<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></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></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>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>N/A</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>
This parameter will have to be verified by the verifying entity.</td><td>☑</td><td>☑</td></tr>
<tr><td>D.3.3.8. Parameter Title:
$NAP_{BC, i}$
Nitric Acid production (100% concentrated) over</td><td></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></table></td><td>CR</td><td>☑</td></tr>
</table>

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
baseline campaign (of line i)		<table><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>N/A</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 CR under D.1.3.7. The value is to be verified later by the verifying entity.		
D.3.3.9. Parameter Title: TSG_i Temperature of stack gas (of line i)	1, 2, 3	<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>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>N/A</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> The value is to be verified later by the verifying entity.	☑	☑

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<tr><td>Parameter Title:
PSG_i
Pressure of stack gas
(of line i)</td><td></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>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>N/A</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>
The value is to be verified later by the verifying entity.</td><td>☑</td><td>☑</td></tr>
<tr><td>D.3.3.10. Parameter Title:
$GS_{BC, i}$
Gauze supplier for the baseline campaign
(of line i)</td><td></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>N/A</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>N/A</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>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table></td><td>CR</td><td>☑</td></tr>
</table>

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		The value is to be verified later by the verifying entity. **Clarification Request 11.** Please provide evidence on the supplier and composition of gauzes installed for baseline campaign in November 2009. Furthermore, please correct the PDD as it states that "*the same gauze supplier and composition have been used for the historic operating campaigns and will continue to be used for the baseline campaign*." The statement is inconsistent as baseline campaign has already been started and gauzes are already installed.		
D.3.3.11. Parameter Title: $GC_{BC, i}$ Gauze composition during baseline campaign (of line i)		<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>N/A</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>N/A</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>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>	**CR**	☑

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<tr><td></td><td></td><td>The PDD states that the same gauze supplier and composition have been used for the historic operating campaigns and will continue to be used for the baseline campaign.
This has to be verified by the verifying entity.
See finding in Chapter D.3.3.11</td><td></td><td></td></tr>
<tr><td>D.3.3.12. Parameter Title:
$OP_{h, i}$
Oxidation Pressure for each hour
(of line i)</td><td></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>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>N/A</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>
The value is to be verified later by the verifying entity.</td><td>☑</td><td>☑</td></tr>
<tr><td>D.3.3.13. Parameter Title:
$OT_{h, i}$
Oxidation Temperature for each hour
(of line i)</td><td></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></table></td><td>CR</td><td>☑</td></tr>
</table>

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		Appropriate description of parameter? Yes Source clearly referenced? Yes Correct value provided for estimation? N/A Has this value been verified? N/A Measurement method correctly described? N/A Correct reference to standards? Yes Indication of accuracy provided? Yes QA/QC procedures described? Yes QA/QC procedures appropriate? Yes Please refer to CR under D.3.1.12. The value is to be verified later by the verifying entity.		
D.3.3.14. Parameter Title: AFR_i Ammonia gas flow rate (of line i)		Monitoring Checklist / Yes / No Title in line with methodology? Yes Data unit correctly expressed? Yes Appropriate description of parameter? Yes Source clearly referenced? Yes Correct value provided for estimation? N/A Has this value been verified? N/A Measurement method correctly described? N/A Correct reference to standards? Yes Indication of accuracy provided? Yes QA/QC procedures described? Yes QA/QC procedures appropriate? Yes Please refer to CR under D.3.1.10.	**CR**	☑

<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>The value is to be verified later by the verifying entity.</td><td></td><td></td></tr>
<tr><td>D.3.3.15. Parameter Title:
$AIFR_i$
Ammonia to Air Flow Ratio
(of line i)</td><td></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>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>N/A</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>
The value is to be verified later by the verifying entity.</td><td>☑</td><td>☑</td></tr>
<tr><td>D.3.3.16. Parameter Title:
EF_{reg}
Emissions level set by incoming policies or regulations</td><td></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>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>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</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>N/A</td></tr></table></td><td>☑</td><td>☑</td></tr>
</table>

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		QA/QC procedures appropriate? N/A The value is to be verified later by the verifying entity.		
D.3.3.17. Parameter Title: UNC_i Overall measurement uncertainty of the monitoring system (of line i)		Monitoring Checklist / Yes / No Title in line with methodology? Yes Data unit correctly expressed? Yes Appropriate description of parameter? N/A Source clearly referenced? Yes Correct value provided for estimation? N/A Has this value been verified? N/A Measurement method correctly described? N/A Correct reference to standards? N/A Indication of accuracy provided? N/A QA/QC procedures described? Yes QA/QC procedures appropriate? Yes The value is to be verified later by the verifying entity.	☑	☑
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)**				
JI specific approach				
D.3.4.1. Does the monitoring plan elaborate all algorithms and formulae used for the estimation/calculation of baseline emissions?		N/A	☑	☑
D.3.4.2. Is the underlying rationale for the algorithms/formulae explained?		N/A	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
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?		N/A	☑	☑
D.3.4.4. Is the conservativeness of the algorithms/procedures justified?		N/A	☑	☑
D.3.4.5. To the extent possible, are methods to quantitatively account for uncertainty in key parameters included?		N/A	☑	☑
D.3.4.6. Is it justified that the procedure is consistent with standard technical procedures in the sector?		N/A	☑	☑
D.3.4.7. Are implicit and explicit key assumptions explained in a transparent manner?		N/A	☑	☑
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?		N/A	☑	☑
D.3.4.9. Is consistency between the elaboration of the baseline scenario and the procedure for calculating the ERs of the baseline ensured?		N/A	☑	☑
Approved CDM methodology approach				
D.3.4.10. Is consistency between the elaboration of the baseline scenario and the procedure for calculating the ERs of the baseline ensured?		Yes it is.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Published PDD	Final PDD
D.3.4.11. Are the formulae required for the determination of baseline emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?		The formulae required for the determination of baseline emissions are correctly presented enabling a complete identification of parameter to be used and monitored: The formula given in the methodology: $BE_{BC} = VSG_{BC} \times NCSG_{BC} \times OH_{BC} \times 10^{-9}$ (t N_2O) The formula in the PDD: $BE_{BC} = VSG_{BC} \times NCSG_{BC} \times OH_{BC} \times 10^{-9}$ (t N_2O)	☑	☑
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?		No leakage calculation is required.	☑	☑
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		Yes it does.	☑	☑
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		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.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
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 and the emissions as well as risks associated with the project taken into account, as appropriate?		Yes key factors and risks are taken into account, as appropriate.	☑	☑
E.1.4. Are data sources used for calculating the estimates clearly identified, reliable and transparent?		Yes, data sources used for calculating the estimates are clearly identified, reliable and transparent?	☑	☑
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?		Yes, they are. In doing so project developers applying AM0034 v.03.4.	☑	☑
E.1.6. Is the estimation based on conservative assumptions and the most plausible scenarios in a transparent manner?		Yes it is.	☑	☑
E.1.7. Are the estimates of project emissions, baseline emissions and leakage consistent throughout the PDD?		Yes, the data provided in this section is consistent with data as presented in other chapters of the PDD.	☑	☑
E.1.8. Are the estimates of project emissions, baseline emissions and leakage transparent, feasible and mathematical correct calculated?		Yes they are.	☑	☑
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?		Yes, the baseline emissions are calculated ex-ante by the PPs in order to estimate ERs.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
E.1.10. Is the projection of estimated project emissions, baseline emissions and leakage based on the same procedures as used for future monitoring?	In	principle yes.	☑	☑
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 which can be neglected?		No leakage exists in this project acc. to the methodology applied.	☑	☑
E.1.12. If approved CDM methodology approach is used, is the estimation of ERs made in accordance with the approved CDM methodology?		Yes, it is correctly presented in the PDD.	☑	☑
E.1.13. Are the formulae required for the determination of emission reductions correctly presented?		According to the methodology the formula for determination of the emission reduction is: $ER = (EF_{BL} – Ef_p) \times NAP \times GWP_{N2O}$ (tCO_2e) The formula in the PDD: $ERU = (EF_{BL} - EF_n)/1000 \times NAP \times GWP_{N2O}$ (tCO_2e) **Corrective Action Request 16.** The formula provided in the PDD on calculation of emissions reductions is inconsistent with the methodology. Please improve in order to comply with the applied methodology. **Corrective Action Request 17.**	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
		The list of parameters to be monitored provided in the PDD includes the parameter EFBL. However, the unit of this parameter differs from the methodology. The monitoring parameters shall be in compliance with the applied methodology.		
E.1.14. Will the project result in fewer GHG emissions than the baseline scenario?		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?		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?		Yes it is.	☑	☑
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?		The project involves the installation of a N_2O catalyst. No contaminants are released during the operation of the project activity so no negative transboundary environmental impacts occur. The BREF confirms this view by stating that catalytic N_2O decomposition does not induce cross-media effects.	☑	☑
F.1.2. Are the respective host Party requirements for an Environmental Impact Assessment (EIA) clearly referenced in the PDD?		No requirement identified. The plant had already been equipped with a secondary N2O abatement catalyst for industrial trial testing. The Swedish authorities have not requested any EIA for his installation.	☑	☑
F.1.3. Has the EIA conducted been approved by the host Party?		N/A. Please refer to F.1.2.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
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?		/A. Please refer to F.1.2.	☑	☑
G. Stakeholders' comments				
G.1. Brief description how comments by <u>local</u> stakeholders have been invited and compiled				
G.1.1. Have relevant stakeholders been consulted?		As the project activity is an invisible technical installation at the production site without any negative environmental or social impact, no stakeholders can be identified. A stakeholder consultation at the local level has not been carried out by the PPs. However, the Swedish DFP needs to conduct a public consultation before issuing a LoA. **<u>Corrective Action Request 18.</u>** A statement on the requirement on stakeholder consultation of the Swedish DFP should be provided in the Chapter G.1. of the PDD.	☑	☑
G.1.2. Have appropriate media been used to invite comments by local stakeholders?	See	G.1.1.	☑	☑
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?	See	G.1.1.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
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?	See	G.1.1.	☑	☑
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?	See	G.1.1.	☑	☑
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 comments?		One comment was received. Please refer to the Verification Report where it is described in detail.	☑	☑
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?		Yes, it is.	☑	☑
H.1.2. Is the information on all private participants and directly involved Parties presented?		Yes, it is.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	Pub-lished PDD	Final PDD
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?		Yes, it does.	☑	☑
H.3.2. If additional background information on monitoring is provided: Is this information consistent with data presented in other sections of the PDD?		Yes, it is.	☑	☑
H.3.3. Is the information provided verifiable? Has sufficient evidence been provided to the validation team?		Yes enough information has been provided and it is verifiable.	☑	☑
H.3.4. Do the additional information and / or documented procedures substantiate / support statements given in other sections of the PDD?		Yes, it does.	☑	☑

Table 2 Resolution of Corrective Action and Clarification Requests

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
Clarification Request 1. The PDD states that daily design capacity of Syra 3 nitric acid plant is 425 metric tonnes of HNO3 (100% conc.) per day. Clarification is requested as different information was gathered by the onsite audit team (e.g. the Operating Manual shows 370 tHNO3/day (24 h per day) and the mass flow chart shows a NH3 input of 4842 kg/h, resulting in approximately 410 tHNO3per day). Another, process mass flow chart (title: Aspen Plus 23.0 run: max_air_ver10 26/02/2010 15:53:5) provided by PPs shows a figure of 17452 kg/h HNO3.	A.2.2.	The daily design capacity of the plant has now been revised downwards to 418t/day in section A.2 of the PDD. This is based on an updated plant process flow sheet that uses the revised plant specifications listed by Steinmuller engineering in their plant design specification sheet, issued in April 2005 following the replacement of the waste-heat boiler. Please see the attached documents for details: - Steinmuller plant design specifications (2005) (2 sheets) - Original design gas volume flow from 1982 operating manual - Updated plant process flow sheet - Close-up of relevant process flow sheet section Please also see section E.5 of the PDD for the additional paragraph regarding the cap on HNO3 production that will be eligible to receive ERUs.	The provided evidence is found to be reliable. The PDD has been revised accordingly to a daily design production output of 418 metric tonnes of HNO3 (100% conc.) per day. This finding is closed IRL 53, IRL 54 ☑
Clarification Request 2. Clarification is requested on whether the PPs want to include the proposed NOx emission limits in PDD in order to lower the risk of a reassessment of the baseline scenario which is requested ac-cording to the applied methodology in case of change of NOx emission regulations during crediting period. In case of	A.2.2.	A paragraph has been added to the PDD concerning the possible new environmental permit: see point 1.4 under Step 1a of 'identification of the baseline scenario' in section B.1.	PPS expect a new environmental permit in summer 2010, with no change on Nox emission limit. This has been clearly stated in the PDD. This finding is closed. ☑

inclusion the PPs are requested to modify the relevant sections in the PDD			
Clarification Request 3. The estimation of future ERs has to be done on a conservative bias. Clarification is requested on the amount of future HNO3 production as the figure used for ER estimation in PDD is higher than the figures presented in the future production planning (road map. Furthermore, the estimated baseline emission factor is derived from monthly spot measurements taken at the plant between January and December 2006. However, information on the campaign cycle has to be included in the respect that N2O emission concentration intends to raise with the age of primary gauzes. This has to be considered for estimating a conservative future baseline emission.	A.2.2.	In order that the future production is not over-estimated in the PDD, the historical maximum annual production factually achieved by the plant shall be used instead of the 'budgeted' figure. The relevant historical maximum production figure was achieved by the plant in 2006, long before any possibility of participation in the JI existed. In order to take into account the fact that N2O emissions increase towards the end of a campaign, the project participants agree that past N2O data should be taken from periods that cover at least one full production campaign. The plant has provided spot measurements that cover three full production campaigns (from June 2005 to April 2007). Please see the attached data sheet. The average N2O emissions factor derived from this data should therefore be realistic. The preliminary baseline emissions factor has been adjusted accordingly in sections A.2, A.4.3.1, B.4 and E.4.	The estimation of future emission reduction has been revised. The estimated nitric acid production is found to conservative in relation to the budgeted figures. The estimated N2O concentration is derived spot values measured for three full campaigns. The information has been included in the PDD transparently. This finding is closed. IRL 58 ☑
Clarification Request 4. PPs are requested to provide calculation of ERs (Excel Sheet) to the audit team.	A.4.3.2.	The ERU calculation sheets have been sent by email to the Tuev Sued audit team on the 23rd March.	PPs provided calculation of ERs (Excel Sheet) to the audit team. This finding is closed. IRL 55 ☑
Yara had installed a trial N2O abatement catalyst at the plant since November 2009. PPs provided a letter from Yara Norway con-	B.1.13.	The letter from Yara management instructing the plant to remove the catalyst was considered to be the 'work order'. However, the plant herewith provides to the	PPs provide a photo from catalyst removal work. The photo is considered to be

firming the end of industrial testing of the N2O abatement catalyst. **Clarification Request 5.** Additional evidence is requested on the work performed to remove the secondary catalyst. (e.g. work order).		Tuev Sued audit team photographic evidence showing the catalyst being removed on the 16th November 2009 (the date is displayed on the photograph).	authentic. This finding is closed. IRL 56 ☑
Clarification Request 6. The project's starting date is not unambiguously stated. Project starting date should be clearly identified in section C.1. Project starting date is defined as "… the date on which the implementation or construction or real action of the project begins…", refer to the Glossary of JI terms v. 1 JISC 13	C.1.1	The starting date of the project has now been clearly stated in section C.1.	The starting date of the project has been revised. It is now unambiguously stated. Hence the starting date of the project was the submission of the PIN to Finish DFP on October 12, 2010. This finding is closed. ☑
Clarification Request 7. Please provide QAL 1 certificates for Dr, Födisch N2O analyzer and flow meter installed.	D.1.9.	The QAL1 certificate for the Dr Foedsich N2O analyser is not yet available. It will be provided to the Tuev Sued audit team as soon as it becomes available. The QAL1 certificate for the FMD99 flow meter has been emailed to the Tuev Sued team on 23rd March.	The QAL 1 certificate for the FMD99 flow meter has been provided to the audit team. Refer to FAR. This finding is closed. ☑
Clarification Request 8. PPs intend to use NH3 input data for determination of HNO3 output. This approach shall be better described in the PDD including crosscheck possibilities.	D.3.1.7.	The approach to determining HNO3 output has been described in more detail in section D.1.2.2 under "calculation of HNO3 production (NAP)". An additional sentence has now been added to section	The PDD include more details on the approach on NAP determination via NH3 input. Therefore following parameters will be used:

		D.1.2.2 under 'Project' to address this issue.	(1) NH3 flow to the reactor in Nm3/h (Flow meter F-801) (2) Ammonia density 0.771kg/Nm3 (3) Constant of ammonia production (0.287kg NH3/kg HNO3 This approach is used because of the existing nitric acids flow meter is not reliable. During next shut down a new nitric acid measurement device will be installed according to PPs. Thus, baseline campaign will be measured using above mentioned parameters to determine produced nitric acid, while a new nitric acid instrument will be used during project campaigns. It should be ensured that baseline HNO3 measurement was done conservatively. The approach for determination of nitric acid production during baseline campaign should be re-assessd after first campaign with installed new nitric acid flow meter and baseline emission factor adjusted if it

			was overestimated. Please include an appropriate statement in the PDD. According to the revised PDD the baseline NAP measurement results achieved with the Mass Balance Calculation shall be reassessed during the first verification, in comparison with the measurements recorded with the new HNO3 flow meter during the first project campaign This finding is closed. ☑
Clarification Request 9. Clarification is required on the statement given in PDD Chapter D.2. that the parameters are "only monitored for internal use and plausibility checks if necessary" while the parameters are listed as parameters to be monitored in the applied methodology.	D.3.1.10.	The statement that some parameters are "only monitored for internal use and plausibility checks if necessary" is incorrect and has been removed from section D.2. A short paragraph regarding the checking procedures of NH3/air input measurements has been added to the section entitled 'measurement during plant operation' in section D.1.2.2.	The PDD has been corrected in section D.2. Moreover, checking procedures of NH3/air input measurements has been added. This finding is closed. ☑
Clarification Request 10. The onsite audit team observed that more than one thermocouple is installed at the AOR. Please clarify which value is used for monitoring OT_h and determination of OT_{normal}.	D.3.1.12.	The thermocouple tag number that will be used for monitoring OTh has now been included in the PDD in table D.1.1.1 under parameter P.10. A short paragraph regarding the checking procedure of	As clarified in PDD thermocouple with tag number '48TICA-807' inside the AOR will be used.

Please include details in PDD appropriately.		oxidation temperature measurement has been added to the section entitled 'measurement during plant operation' in section D.1.2.2.	This finding is closed. ☑
Clarification Request 11. Please provide evidence on the supplier and composition of gauzes installed for baseline campaign in November 2009. Furthermore, please correct the PDD as it states that "*the same gauze supplier and composition have been used for the historic operating campaigns and will continue to be used for the baseline campaign*." The statement is inconsistent as baseline campaign has already been started and gauzes are already installed.	D.3.3.10	Please see the attached document from the gauze supplier confirming the composition of the primary gauzes delivered to the plant in October 2009 and installed in the shutdown in November. The section regarding 'composition of the ammonia catalyst' in section D.1.2.2 has been changed to reflect the approach taken. Information regarding the gauze supplier and composition has also been added in annex 2 (P.6 & P.7).	The PPs provided a letter from K.A. Rasmussen stating the composition of gauzes delivered to the plant in October 2009. According to PPs this information shall be confidential. See also CAR 14.. IRL 57 This finding is closed ☑

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
Corrective Action Request 1. Editorial improvements of the PDD shall be done. (e.g. Footnote 23 on page 16, or table format in Chapter A.4.3.1. and E.6.) The PDD template shall not be altered.	A.2.4.	The footnotes have now all been corrected. The tables 2 & 3 in section A.4.3.1, tables 4 & 5 in section E.1, tables 6 & 7 in section E.4, tables 8 & 9 in section E.5 and tables 10 & 11 in section E.6 have all been changed to adhere to the tabular format specified in the UNFCCC JI PDD guidelines. An explanation has been added at the end of section B.1 explaining why the PPs have not included the table mentioned in chapter B.1 of the PDD guide.	Editorial improvements have been done in the final version. This finding is closed. ☑
Corrective Action Request 2. The baseline was identified in the PDD in section B.1. Please provide date of baseline setting (DD/MM/YYYY) in section B.4. as required by the GUIDELINES FOR USERS OF THE JOINT IMPLEMENTATION PROJECT DESIGN DOCUMENT FORM	B.1.5.	The date of baseline setting has now been included in the PDD in section B.4.	Section B.4. has been modified. The date of baseline setting has been included. This finding is closed. ☑
Corrective Action Request 3. Section B.4 refers only to preliminary baseline emissions factor, which has been calculated by Mrs Rebecca Cardani-Strange of N.serve Environmental Services GmbH on the 9th December 2009. Please state the name(s) of the person(s)/entity(ies) who sets the baseline scenario defined under B.1. of the PDD.	B.1.7.	The names of the people setting the baseline have now been defined in section B.4.	Section B.4. has been modified. The names of persons who set the baseline have been included. This finding is closed. ☑
Corrective Action Request 4.	B.1.12.	An additional sentence stating the specific circum-	Project specific information

The applicability of the methodology which PPs intended to apply 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. The discussion on this criterion in section B.1. of the PDD must include project specific information. The annual cap in tHNO3 has to be defined and explicitly stated in the PDD. Appropriate evidence has to be provided to the audit team.		stances of S3 with regard to the replacement of the waste heat boiler within the ammonia oxidation reactor has been included in point 1 under 'applicability of AM0034' in section B.1 Information on the annual cap in tonnes of HNO3 has been added to section E.5.	has been included. The annual cap has been defined in section E.5. Hence, ERUs are capped by 138,800 tHNO3. This figure is the maximum of the factual annual historical production of the plant, which is from the year 2006. The cap is found to be conservative. This finding is closed IRL 37 ☑
Corrective Action Request 1. A new environmental permit No M 481-09, dated 17th June 2010 was issued by the Swedish environmental authorities to the plant. According to SWEDISH ENVIRONMENTAL PROTECTION AGENCY (Email from EPA on 28.06.10) it is stated in the permit that Yara has to complete the measures which were undertaken during the permit process. Yara did undertake some improvements for Syra 2, which means that there is a requirement in the permit on N2O, although it is not stated as a "limit value".		The new environmental permit issued on the 17th June 2010 does not set any limits on N2O and gives neither an obligation nor an incentive for the plant to reduce its emissions before the end of 2012. However, in discussions between the environmental authorities and the plant prior to the issuance of the permit, the plant agreed to undertake to achieve the IPPC BAT reference value in the year 2013 (in so far as there is a BAT value applicable for atmospheric plants at that time). This understanding was confirmed in an email from Emma Hakansson from the Swedish Environmental Protection Agency on the 14th July 2010: *"In the so called 'general condition' in the permit from the Court, it is stated (in summary) that Yara has to: "under-*	The revised PDD was reviewed by the audit team. An official letter from EPA confirmed the statement regarding BAT fulfillment from 2013 onwards. This finding is closed. IRL 60, IRL 61 ☑

The PDD must be revised by addressing the requirements of the new permit. It is requested to update the description of the legal situation and the baseline identification section and to revise the ERs estimation if necessary.		*take to fulfil BAT for Syra 3, and as far as there is BAT for atmospheric plants at that time, also fulfil BAT for Syra 2,* ***both year 2013****".* In her email, she also goes on to state, for the purposes of clarification : "*I can also repeat what I have mentioned earlier: As a consequence of Yara's future participation in the European Union Emissions Trading Scheme year 2013, there are no conditions with limit values on N2O in the permit".* The baseline scenario would therefore be not to install any N2O abatement catalyst in the S2 plant before the end of 2012 and thereafter to install enough catalyst to meet any applicable IPPC BAT reference value for atmospheric plants, should there be one in place at that time. The following sections of the PDD have been modified to reflect the above points: Section A.4.3 Section B.1, step 2, 3rd paragraph Section E.4 The following sections of the PDD have been modified to reflect the new NOx emissions limit applicable at the plant since 17th June 2010: Section B.1, Step 1a, 1.4 Section B.1, Step 2, 4th paragraph Footnotes 20 & 23	

Step 1b of AM0028, ver. 4.2. is discussed in PDD in Chapter B.1. under Step 1.4: According to AM0028 following options need to be discussed. • The continuation of the current situation, where either a DeNOx-unit is installed or not; • Installation of a new Selective Catalytic Reduction (SCR) DeNOx unit; • Installation of a new Non-Selective Catalytic Reduction (NSCR) DeNOx unit; • Installation of a new tertiary measure that combines NOX and N2O emission reduction. **Corrective Action Request 5.** It is requires that all possible options that are technically feasible to handle NOX emissions should be considered. Section 1.4 does not include all options listed in methodology. At least reference to other sections needs to be given, if the discussion is done in another part of the PDD.	B.1.22.	Step 1b under 'identification of the baseline scenario' in section B.1 of the PDD now addresses all possible options that are technically feasible to handle NOx emissions. In order not to repeat the same points more than once, reference is made in this section to above sections of the PDD where these points have already been addressed.	The final PDD includes all options as required in Step 1b of AM0028, ver. 4.2. This finding is closed. ☑
The plant is expecting a new environmental permit including new or modified NOx regulations. **Corrective Action Request 6.** The PDD does not include any discussion on the sub steps 5a and b of AM0028. Please include a discussion on that issue in order to	B.1.35.	The PDD now includes sub steps 5a and 5b of the methodology AM0028 regarding the re-assessment of the baseline scenario in the case of new or modified NOx or N2O regulations. Furthermore, the whole of section B.1 has been modified to accurately reflect the approach taken in AM0028 to the assessment of the baseline scenario.	The final PDD is in compliance with the requirements of AM0028. This finding is closed. ☑

comply with methodological requirements. The procedure included in PDD in Step 5 should not deviate from methodology without any reasonable explanation.			
Corrective Action Request 7. PP´s should mention the crediting period on the basis of existing regulations in Chapter C.3. Additionally they can include the statement for applying to a crediting period of 10 years as the end of the crediting period can be after 2012 is subject of additional host country approval. The status of ERs generated by the project after the end of the fist commitment period may be then determined by any relevant agreement under the UNFCCC.	C.3.1.	The approach to the crediting period is now stated in more detail in section C.3.	The crediting period is transparently mentioned. An additional statement has been included that if the a relevant regulation under UNFCCC or EUETS is introduced the PPs would like to extend the crediting period. This finding is closed. ☑
Corrective Action Request 8. Please include version number of monitoring methodology applied in section D.1.	D.1.1.	The version number of the applied methodology has now been included throughout the whole PDD.	The version number has been included in section D.1. This finding is closed. ☑
Corrective Action Request 9. The information given on page 28 of the PDD concerning QAL 2 test is inconsistent with the date of the PDD, as it is mentioned that QAL 2 is expected to be done in January 2010 while the PDD is dated on February 11, 2010. The PDD should contain up-to date information.	D.1.9.	The PDD has now been corrected to state that the QAL2 test WAS carried out in January 2010.	The revised PDD is consistent on this issue. This finding is closed. ☑
Corrective Action Request 10.	D.1.14.	Section D.1.1 has now been adjusted to separate the	

The parameters to be monitored are listed under Chapter D.1.2. Option 2- Direct monitoring of emission reductions from the project. But the project intend to monitor project and baseline emissions which is Option1 - Monitoring of the emissions in the project scenario and the baseline scenario. The PDD has to be corrected. Furthermore, the audit team points out that instead of using the tables provided in sections D.1.1.1., D.1.1.3., D1.2.1., D.1.3.1. and D.2. an alternative format defined in the GUIDELINES FOR USERS OF THE JI PDD FORM Version 04 may be applied.		monitoring data into two sections: - Table D.1.1.1 lists the parameters that are to be monitored during the project. - Table D.1.1.3 lists the parameters that are to be monitored during the baseline. Table D.1.2 has consequently been removed.	The PDD has been revised. This finding is closed. ☑
Corrective Action Request 11. The methodology requires the determination of permitted ranges for OTh, OPh, and upper limits for ammonia flow and ammonia to air ratio. If historical data are available they have to be used as source. As the audit team inspected onsite, historical data are available. The PDD has to provide information on the availability of historical data.	D.2.1.	Information regarding the five campaigns to be used for determining the historical operating ranges for OT, OP, AFR, AIFR, CLnormal, GSnormal and GCnormal is now included in section D.1.2.2 and annex 2.	The source of permitted ranges has been defined in the PDD. Refer to FAR. This finding is closed. ☑
Corrective Action Request 12. CS_{normal} needs to be defined in PDD and stated in Annex 2. Appropriate evidences have to be submitted. This parameter can be re-assessed during verification in case of repetition of baseline campaign.	D.2.8.	GSnormal has now been defined in the PDD in annex 2 (P.7). Please find attached confirmation from the gauze supplier of the compositions of the gauzes used for the campaigns chosen to define GCnormal.	GSnormal is included in Annex 2 of PDD. PPs provided a letter from gauze supplier confirming gauzes delivered to the plant. IRL 59

			This finding is closed. ☑
Corrective Action Request 13. CC_{normal} needs to be defined in PDD and stated in Annex 2. Appropriate evidences have to be submitted. This parameter can be re-assessed during verification in case of repetition of baseline campaign.	D.2.9.	This information is highly confidential and cannot be stated in the PDD, which will subsequently be published by the Swedish DFP and the UNFCCC. The information regarding GCnormal will be made available to the Tuev Sued audit team for checking, but it is important that this information remains strictly confidential. Please see the attached sheet with information on GCnormal. Please find attached the GCnormal composition file, marked as 'confidential' in the file name.	During verification the information to be published needs to be in compliance with "CLARIFICATION REGARDING THE PUBLIC AVAILABILITY OF DOCUMENTS UNDER THE VERIFICATION PROCE-DURE UNDER THE JOINT IMPLEMENTATION SU-PERVISORY COMMITTEE". However, relevant information that should not be published need to be submitted to JISC as confidential. Please provide such information in a separate file marked as _confidential in the file names. PPs provided informarmation on GCnormal in a separate document marked as 'confidential' in the file name which will be submitted to JISC as confidential information IRL52. Additionally PPs provided a letter from gauze supplier

			confirming composition of gauzes delivered to the plant IRL 59 This finding is closed. ☑
Corrective Action Request 14. CL_{normal} needs to be defined in PDD and stated in Annex 2. Appropriate evidences have to be submitted. This parameter can be re-assessed during verification in case of repetition of baseline campaign.	D.2.10.	CLnormal is now defined in annex 2 of the PDD (P.3). The attached plant data spreadsheet *"CLnormal production data S3"* provides evidence of how this figure was calculated.	CLnormal has been derived from five campaigns between 05.11.2003 and 18.01.2006. CLnormal is stated in annex 2 of the PDD. This finding is closed. ☑
Corrective Action Request 15. The formula provided in the PDD on calculation of emissions reductions is inconsistent with the methodology. Please improve in order to comply with the applied methodology.	E.1.13	The equation number 11 in section D.1.2.2 regarding the calculation of emissions reductions is now consistent with the methodology.	The formula has been corrected in the revised PDD. This finding is closed. ☑
Corrective Action Request 16. The list of parameters to be monitored provided in the PDD includes the parameter EFBL. However, the unit of this parameter differs from the methodology. The monitoring parameters shall be in compliance with the applied methodology.	E.1.13	The unit of the EFBL parameter has now been corrected in table D.1.1.3 to comply with the methodology.	The unit has been corrected in the revised PDD. This finding is closed. ☑

Corrective Action Request 17. A statement on the requirement on stakeholder consultation of the Swedish DFP should be provided in the Chapter G.1. of the PDD	G.1.1.	A statement regarding the public consultation to be undertaken by the DFP has now been included in section G.1.	A statement on the stakeholder consultation of the DFP has been included in the revised PDD. Furthermore a confirmation was provided by the Swedish DFP that no comments were received during the public consultation process conducted (IRL63) This finding is closed. ☑

Additional 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. Please amend the chapter A.5 of the PDD by including the information on the project approval by all parties involved as required by the §31 of JI Guidelines.		Section A.5 has been amended to state that an investor LoA will be applied for following receipt of the host LoA and both LoAs will subsequently be made available to Tüv Süd. Once the investor LoA has been received, the PDD will be amended to include more specific information on the investor country/ies. Thereafter, all documentation will be submitted to the JISC for final registration of the project.	The respective Letters of Approval have been provided to the assessment team (IRL46, 62). ☑

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
A.3.4.		
Forward Action Requests 01: Permitted ranges need to be defined using historical plant records. The analysis of the historical data in order to determine the permitted ranges for OT_h, OP_h, and upper limits for ammonia flow and ammonia to air ratio were not available during project determination. Therefore, the values for OT_{normal}, OP_{normal}, AFR_{max} and $AIFR_{max}$ will have to be verified by the verifying entity. Additionally CLnormal needs to be con-firmed by verification entity with historical plant production logs.	D.2.2.	
Forward Action Requests 02: QAL1 certificate for Dr. Födisch MCA 04 Continuous Emissions analyser have to be available at 1st verification.	D.1.9.	

Industrie Service

Annex 2: Information Reference List

Ref. No.	Author/Editor/ Issuer	Title/Type of Document. Publication place	Issuance and/or submission date(dd/mm/yyyy)	Additional Information (Relevance in JI Context)
		Onsite interview (16.02.2010 - 17.02.2010) carried out by TÜV SÜD: Onsite Validation Team: Mr. Olena Maslova GHG Auditor TÜV SÜD Mr. Martin Hammer GHG Auditor-(T) TÜV SÜD Interviewed Persons: Mr. Gilles Raskopf Plant Manager YARA AB Mr. Axel Pallin Process Engineer YARA AB Mr. Pär Höök Production Manager YARA AB Mr. Lars Häkan Karlsson HESQ-Manager YARA AB Mr. Jozef Meglic Automation Engineer YARA AB Albrecht von Ruffer Managing Director N-Serve Mr. Rebecca Cardani-Strange Project Manager N-Serve		
0.	UNFCCC Webpage	Project Design Document for JI track 2 project “YARA Köping S3 N2O abatement project in Sweden”, dated February 11, 2010 version 3 as available at http://ji.unfccc.int/UserManagement/FileStorage/730PMV5CRIUEONW18SLTKHAZ92GBQX	15/02/2010 Published	PDD
1.	UNFCCC Webpage	CDM Methodology AM0034 version 3.4 and AM0028 version 4.2	15/02/2010	
2. N-serve		FINAL Project Design Document for JI track2 project “YARA Köping S3 N2O abatement project in Sweden”, dated September 02, 2011 version 8	19/09/2011 Final	PDD
3. YARA SA		Letter from Jan Duerloo, Head of Production Yara SA, confirming end of industrial	17/02/2010	

Ref. No.	Author/Editor/ Issuer	Title/Type of Document. Publication place	Issuance and/or submission date(dd/mm/yyyy)	Additional Information (Relevance in JI Context)
		testing of the N2O abatement catalyst		
4.	YARA SA	Letter from Knut Bjørgo, Yara Catalyst department, concerning abatement efficiency of 58-Y1 catalyst, dated on February 02, 2010	27/02/2010	
5.	YARA AB	Process flow chart of Syra 3 nitric acid flow chart Nr. A0-22157 0 dated on 2004-03-25	17/02/2010	
6.	YARA SA, N-Serve	JI project master agreement between Yara and N.serve Environmental Services GmbH dated on April 2008	17/02/2010	
7.	YARA AB	Project Schedule from Yara Process Engineer	17/02/2010	
8.	Det Norske Veritas	Det Norske Veritas – Management System Certificate for Yara AB ISO 9001:2008 dated on October 20, 2009	17/02/2010	
9.	Det Norske Veritas	Det Norske Veritas – Management System Certificate for Yara AB ISO 14001:2004 dated on March 04, 2008	17/02/2010	
10.	YARA SA	Presentation “Yara N2O decomposition catalyst – Preparation for installation in Syra 3 Koping May 2007”dated on May 02, 2007	17/02/2010	
11.	YARA AB	Procedure for N2O catalyst installation with Document ID: AGRI-26595 (S3 and S2)	17/02/2010	
12.	YARA AB	Report to Environmental Authority Year 2006 dated on March 15, 2007 including notification on catalyst installation to reduce N2O emissions (page 29)	17/02/2010	
13.	YARA SA	Safety data sheet for N2O Abatement Sheet 58-Y1, 58-Y1-S dated on May 15, 2009	17/02/2010	
14.	YARA AB	Print screen of control monitor for S3 printed in control room	17/02/2010	
15.	YARA AB	Connection diagram ofHNO3 and NH3 measurement instruments	17/02/2010	

Ref. No.	Author/Editor/ Issuer	Title/Type of Document. Publication place	Issuance and/or submission date(dd/mm/yyyy)	Additional Information (Relevance in JI Context)
16.	YARA AB	Print out “Koping plant business model analysis – Production Planning” with roadmap of HNO3 production until 2012 (S3 and S2)	17/02/2010	
17.	YARA AB	Delta V chart with N2O measurement graph for period July 2009 to February 2010	17/02/2010	
18.	YARA AB	Print out of automatic notification list from SAP (S3 and S2) with notifications from 15.02.2010 to 18.02.2010	17/02/2010	
19.	YARA AB	Maintenance schedule for N2O analyzer including span and zero gas measurement values dated on February 15, 2010	17/02/2010	
20.	County Administrative Board of Västmanland	Email from Martin Wänerholm, County Administrative Board of Västmanland	12. Februar 2010	
21.	YARA AB	Procedure for HNO3 calculation via NH3 input Document ID: AGRI-26594	17/02/2010	
22.	YARA AB	Daily data (S3 and S2) for October and November 2009 from HNO3 measurement and HNO3 calculation via NH3 input for crosscheck	17/02/2010	
23.	YARA AB	Procedure for HNO3 density measurement for laboratory Koping with Document ID: AGRI-25565	17/02/2010	
24.	Swedac Ackreditering	Accreditation certificate for laboratory Koping Organisation Number 556042-6792	17/02/2010	
25.	YARA AB	Production shift report - Koping with Reference ID 2010-02-16-D (S3 and S2)	17/02/2010	
26.	Steinmüller engineering; Balcke Marley	Cover page of Operating Manual with title “Ammonia Burner / Boiler Package Replacement ITEM NO.A-801 dated on May 2005	17/02/2010	

Ref. No.	Author/Editor/ Issuer	Title/Type of Document. Publication place	Issuance and/or submission date(dd/mm/yyyy)	Additional Information (Relevance in JI Context)
27.	YARA AB	SAP Print Out with information on boiler replacement in AOR in June 2005	17/02/2010	
28.	YARA AB	Print out of hourly data for the day February 16, 2010 from of data set which is sent to n-serve	17/02/2010	
29.	YARA AB	History book of the site inspected onsite	17/02/2010	
30.	YARA AB	Procedure on data extraction from DCS and transfer to n.serve, Document ID AGRI-26597	17/02/2010	
31.	YARA AB	Print out with formulae used for calculation of N2O emissions for reporting requirement to authority (S3 and S2)	17/02/2010	
32.				
33.	YARA AB	Page 12 to 20 of latest IPPC Report dated on March 10, 2005 (S3 and S2)	17/02/2010	
34.	YARA AB	Reporting tables showing NOx emissions for the years 2006 to 2009 (S3 and S2)	17/02/2010	
35.	Koncessions-nämnden för Miljöskydd	Permit BESLUT Nr 72/89 1 (91) with NOx emission limits (S3 and S2)	17/02/2010	
36.	Koncessions-nämnden för Miljöskydd	Permit BESLUT Nr 80/93 1 (24) with HNO3 production capacity (S3 and S2)	17/02/2010	
37.	YARA AB	Page 33 and 34 of Memo Report dated on August 2008 with HNO3 production figures for 2006 and 2007 (S3 and S2)	17/02/2010	
38.	YARA AB	Yara Production Reports with monthly data for the years 2008 and 2009 (S3 and S2)	17/02/2010	
39.	YARA AB	Figures on annual days in operation for the years 2005 to 2009 (S3 and S2)	17/02/2010	

Ref. No.	Author/Editor/ Issuer	Title/Type of Document. Publication place	Issuance and/or submission date(dd/mm/yyyy)	Additional Information (Relevance in JI Context)
40.	UHDE	Page 1-11 and 2-11 of UHDE Document 02-0718-602 notifying SCR DeNOx	17/02/2010	
41.	Dr. Födisch Umweltmess-technik AG	Dr Födisch Site acceptance protocol CEMS notifying operator´s training on CEMS dates on November 19, 2009	17/02/2010	
42.	YARA AB	Yara AB list of persons attended Dr. Födisch training on MCA04	17/02/2010	
43.	Dr. Födisch Umweltmess-technik AG	Quotation for QAL 2 dated on October 29, 2009	17/02/2010	
44.	TÜV Rheinland	Letter from TÜV Rheinland concerning MCA04 QAL 1 examination	17/02/2010	
45.	YARA AB	DCS print out of trip limits (S3 and S2)	17/02/2010	
46.	Swedish Energy Agency	Letter of endorsement issued by Swedish Energy Agency dated on November 11, 2009 Letter of Approval issued by Swedish Energy Agency dated on August 16, 2011 Letter of Approval issued by Swedish Energy Agency dated on September 15, 2011 (due to minor changes in the PDD)	04/02/2010 01/09/2011 19/09/2011	Host country approval
47.	Dr. Födisch Umweltmess-technik AG	Invoice from Dr Födisch (Nr. 1228 2 /2009) regarding AMS delivery and commissioning	17/02/2010	
48.	UHDE	Copy from Operating Manual (Chapter 1.3) from UHDE dated on September 7, 1981	17/02/2010	
49.	Swedish Environmental Protection Agency	Email from Emma Håkansson, SWEDISH ENVIRONMENTAL PROTECTION AGENCY, dated on February 10, 2010	10/02/2010	

Ref. No.	Author/Editor/ Issuer	Title/Type of Document. Publication place	Issuance and/or submission date(dd/mm/yyyy)	Additional Information (Relevance in JI Context)
50.	European Commission	Integrated Pollution Prevention and Control Reference Document on Best Available Techniques for the Manufacture of Large Volume Inorganic Chemicals - Ammonia, Acids and Fertilisers dated on August 2007	17/02/2010	
51.	YARA AB	Delta V Service Agreeement from Emerson for period 2008 to 2013 Nr. 46038400	17/02/2010	
52.	YARA AB	Excel file GCnormal data S3_confidential	14/04/2010	
53.	Steinmüller engineering;	Steinmuller plant design specifications (2005) (2 sheets)	23/03/2010	
54.	YARA AB	Updated Process flow chart of Syra 3 nitric acid flow chart Aspen Plus 23.0 Run:max_air_ver10 17/03/2010 09:39:03	23/03/2010	
55.	N-serve	ERU calculation sheet “ERU tables S3.xls”	23/03/2010	
56.	N-serve	Photo from catalyst removal dated on 16/11/2009	23/03/2010	
57.	K.A. Rasmussen	Letter from K.A. Rasmussen confirming gauze composition of gauzes delivered in October 2009 signed by Logistics Manager Leif Ivar Nomerstad dated on March 18, 2010.	23/03/2010	
58.	YARA AB N-serve	Excel File with historical spot values of N2O measurement taken with Fisher Rosemount gasloq 800 NGA 2000	23/03/2010	
59.	K.A. Rasmussen	Letter from K.A. Rasmussen confirming gauze composition of gauzes delivered to Yara AB Syra 3 plant in the period November 2003 to June 2005 signed by Logistics Manager Leif Ivar Nomerstad dated on April 14, 2010.	14/04/2010	
60.	SWEDISH ENVIRONMENTAL PROTECTION AGENCY	Email from Emma.Hakansson@Naturvardsverket.se Letter from Emma Hakannsson - Confirmation N2O regulation in the plant permit.	28/06/2010 13/08/2010	

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	PROTECTION AGENCY Implementation and Enforcement Department Industry Unit			
61.	NACKA TINGSRÄTT Miljödomstolen	Environmental Permit M 481-09 dated on 17th of June 2010		
62. NL	Agency	Letter of Approval issued by Netherlands' Ministry of Economic Affairs, Agriculture and Innovation, dated August 31, 2011	31/08/2011	Investor country approval
63.	Swedish Energy Agency	Email from Ms. Marie Karlberg [mailto:dna-dfp.sweden@energimyndigheten.se], dated October 26, 2011 confirming that no comments were received during the stakeholders' consultation process conducted by the Swedish Energy Agency.	27/10/2011	