



FINAL JI DETERMINATION REPORT

YARA TERTRE SA/NV

YARA TERTRE UHDE 2 ABATEMENT PROJECT
IN BELGIUM

Report No: 8000388922 – 10/478

Date: 2011-12-07

TÜV NORD CERT GmbH
JI/CDM Certification Program
Langemarckstraße, 20
45141 Essen, Germany
Phone: +49-201-825-3335
Fax: +49-201-825-3290
www.tuev-nord.de
www.global-warming.de



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| Client: Yara Tertre SA/NV | Client ref.: Rémi Lemetter |
| Summary: | <input checked="" type="checkbox"/> positive determination opinion <input type="checkbox"/> negative determination opinion |

Yara Tertre SA/NV has commissioned the TÜV NORD JI/CDM Certification Program (CP) as a Third Party to determinate the project: "YARA Tertre Uhde 2 abatement project in Belgium" with regard to the relevant requirements of the host country Belgium, Wallonia and of the UNFCCC for JI project activities, as well as criteria for consistent project operations, monitoring and reporting. UNFCCC criteria refer to the Kyoto Protocol Article 6 criteria and the Guidelines for the implementation of Article 6 of the Kyoto Protocol as agreed in the Marrakech Accords.

The project applies to the CDM baseline & monitoring methodology AM0034, version 5, "Catalytic reduction of N2O inside the ammonia burner of nitric acid plants.

The review of the project design documentation and additional documents related to baseline and monitoring methodology have provided TÜV NORD JI/CDM CP with sufficient evidence to determinate the fulfilment of the stated criteria.

In detail the conclusions can be summarised as follows:

- The project is in line with all relevant host country criteria (Belgium, Wallonia) and all relevant UNFCCC requirements for JI.
- The project additionality is sufficiently justified in the PDD, the monitoring plan is transparent and adequate.
- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 240,337 tCO₂e (between 2010 and 2012) are most likely to be achieved within the crediting period.

The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the determination PDD.

Since the LoA will be issued after registration of the project at the DFP, CAR A1 will automatically be closed if the host country issues the LoA.

| | |
|--|---|
| Report No.: 8000388922 – 10/478 | Subject Group: Climate Protection |
| Report title: YARA Tertre Uhde 2 abatement project in Belgium | |
| Work carried out by: Mrs. Alex Nebel Mr. Ulrich Walter Mrs. Sabine Meyer | |
| Technical review by: Mr. Rainer Winter Mr. Dirk Speyer | Final approval by: Mr. Eric Krupp |
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Indexing terms

**JI – Track 1
Determination PDD
AM0034**

- No distribution without permission from the client or responsible organisational unit
- Limited distribution
- Unrestricted distribution

Abbreviations

| | |
|------------------------|---|
| AOR | Ammonia Oxidation Reactor |
| AMS | Automated Monitoring System |
| BAT | Best available technology |
| BAU | Business as usual |
| CA | Corrective Action |
| CAR | Corrective Action Request |
| CDM | Clean Development Mechanism |
| CH₄ | Methane |
| CL | Clarification Request |
| CO₂ | Carbon dioxide |
| CO_{2e} | Carbon dioxide equivalent |
| CP | Certification Program |
| DFP | Designated Focal Point |
| DVM | Determination and Verification Manual /Draft) |
| EB | CDM Executive Board |
| EIA | Environmental Impact Assessment |
| ERU | Emission Reduction Unit |
| EU ETS | European Union Emissions Trading Scheme |
| FAR | Forward Action Request |
| GHG | Greenhouse gas(es) |
| IPCC | Intergovernmental Panel on Climate Change |
| JI | Joint Implementation |
| JISC | Joint Implementation Supervisory Committee |
| N₂O | Nitrous Oxide |
| NCV | Net Calorific Value of Fuel |
| PDD | Project Design Document |
| QC/QA | Quality control/Quality assurance |
| UNFCCC | United Nations Framework Convention on Climate Change |
| VVM | Validation and Verification Manual |

| Table of Contents | Page |
|--|-------------|
| 1 OBJECTIVE / SCOPE | 5 |
| 2 GHG PROJECT DESCRIPTION..... | 5 |
| 2.1 Project Characteristics | 5 |
| 2.2 Involved Parties and Project Participants | 6 |
| 2.3 Project Location | 6 |
| 2.4 Technical Project Description | 7 |
| 3 METHODOLOGY AND DETERMINATION PDD SEQUENCE..... | 8 |
| 3.1 Determination PDD Steps | 8 |
| 3.2 Contract review | 9 |
| 3.3 Appointment of team members and technical reviewers | 9 |
| 3.4 Consideration of Public Stakeholder Comments | 10 |
| 3.5 Determination PDD Protocol | 10 |
| 3.6 Review of Documents | 11 |
| 3.7 Follow-up Interviews | 11 |
| 3.8 Project comparison | 12 |
| 3.9 Resolution of Clarification and Corrective Action Requests | 12 |
| 3.10 Technical review | 13 |
| 3.11 Final approval | 14 |
| 4 DETERMINATION FINDINGS | 15 |
| 5 DETERMINATION ASSESSMENT SUMMARY..... | 26 |
| 5.1 General Description of the Project Activity | 26 |
| 5.2 Project Baseline, Additionality and Monitoring Plan | 27 |
| 6 DETERMINATION OPINION | 36 |
| 7 REFERENCES | 37 |
| ANNEX 1: DETERMINATION PROTOCOL..... | 44 |
| ANNEX 2: ASSESSMENT OF BASELINE IDENTIFICATION..... | 90 |
| ANNEX 3: ASSESSMENT OF FINANCIAL PARAMETERS..... | 92 |
| ANNEX 4: ASSESSMENT OF BARRIER ANALYSIS | 93 |
| ANNEX 5: OUTCOME OF THE GSCP..... | 96 |
| ANNEX 6: APPLICATION OF NON APPROVED METHODOLOGIES REQUIREMENTS CHECKLIST | 97 |



1 OBJECTIVE / SCOPE

Yara Tertre SA/NV has commissioned the TÜV NORD JI/CDM Certification Program (CP) to carry out a determination of the:

"YARA Tertre Uhde 2 abatement project in Belgium"

with regard to the relevant requirements for JI project activities.

The purpose of a determination is to have an independent third party assess of the project design. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant host country and UNFCCC criteria are determined in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Determination is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emission reduction units (ERUs).

UNFCCC criteria refer to the Kyoto Protocol Article 6 criteria and the Guidelines for the implementation of Article 6 of the Kyoto Protocol as agreed in the Marrakech Accords with regard to Track 1 JI project activities.

2 GHG PROJECT DESCRIPTION

2.1 Project Characteristics

Essential data of the project is presented in the following Table 2-1.

Table 2-1: Project Characteristics

| Item | Data | | |
|--|---|--------------------------------------|--|
| Project title | "YARA Tertre Uhde 2 abatement project in Belgium" | | |
| Project size | <input checked="" type="checkbox"/> Large Scale | <input type="checkbox"/> Small Scale | |
| Project Scope (according to UNFCCC sectoral scope numbers for JI) | <input type="checkbox"/> | 1 | Energy Industries (renewable- /non-renewable sources) |
| | <input type="checkbox"/> | 2 | Energy distribution |
| | <input type="checkbox"/> | 3 | Energy demand |
| | <input type="checkbox"/> | 4 | Manufacturing industries |
| | <input checked="" type="checkbox"/> | 5 | Chemical industry |
| | <input type="checkbox"/> | 6 | Construction |
| | <input type="checkbox"/> | 7 | Transport |
| | <input type="checkbox"/> | 8 | Mining/Mineral production |
| | <input type="checkbox"/> | 9 | Metal production |
| | <input type="checkbox"/> | 10 | Fugitive emissions from fuels (solid, oil and gas) |
| | <input type="checkbox"/> | 11 | Fugitive emissions from production and consumption of halocarbons and hexafluoride |



| Item | Data |
|--|--|
| | <input type="checkbox"/> 12 Solvents use |
| | <input type="checkbox"/> 13 Waste handling and disposal |
| | <input type="checkbox"/> 14 Afforestation and Reforestation |
| | <input type="checkbox"/> 15 Agriculture |
| Applied Methodology | <i>Approved baseline and monitoring methodology AM0034 "Catalytic reduction of N₂O inside the ammonia burner of nitric acid plants"</i> |
| Track | 1 |
| Crediting period | <input type="checkbox"/> Renewable Crediting Period (7 y) <input checked="" type="checkbox"/> Fixed Crediting Period (10 y) 2010-12-08 – 2012-12-31 (If N ₂ O is not included in the ETS after 2012, the period will extend to regular 10 Years until 2020.) |
| Start of crediting period ¹ | Expected at 2010-12-08 |

2.2 Involved Parties and Project Participants

The following parties to the Kyoto Protocol and project participants are involved in this project activity (Table 2-2).

Table 2-2: Project Parties and project participants

| Characteristic | Party | Project Participant |
|--------------------------|-----------------------|-------------------------------------|
| Host party | Belgium (Wallonia) | YARA Tertre SA/NV |
| Other involved party/ies | France | N.serve Environmental Services GmbH |

2.3 Project Location

The details of the project location are given in table 2-3:

Table 2-3: Project Location

| No. | Project Location |
|--------------------------|--|
| Host Country | Belgium (Walloon Region) |
| Region | Hainaut |
| Project location address | Yara Tertre SA/NV Rue de la Carbo 10 B-7333 Tertre, Belgium |
| Plant coordinates | Stack: 50°28'53.02"N and 3°48'00.20"E AOR: 50°28'51.60"N and 3°48'00.03"E |

¹ As per the published PDD

2.4 Technical Project Description

The project involves the installation of a secondary N₂O reduction catalyst of the nitric acid production plant of YARA Tertre. The emission reductions are a result of the catalytic decomposition of nitrous oxide. Nitrous oxide, which is formed as by-product of the nitric acid production, will be removed by the catalyst installed below the ammonia oxidation gauze pack in the ammonia burner. The nitrous oxide would otherwise be emitted through the gas stack into the atmosphere.

The key parameters of the project are given in table 2-4:

Table 2-4: Technical data of the project

| Parameter | Unit | Value |
|--|-------------|-----------------------|
| Ammonia Oxidation Reactor | | |
| Manufacturer | - | Steinmüller |
| Diameter | Mm | 3820 |
| Start of commercial production | - | 1976 |
| Operating conditions as per specifications (trip point values) | | |
| - Temperature (min/max): | °C | 780 / 930 |
| - Pressure | Bar | 5.5 (security value) |
| - Ammonia to Air ratio (max) | Vol.-% | 12,2 |
| Ammonia Oxidation Catalyst | | |
| Manufacturer | - | K. Rasmussen |
| Composition: | - | 95% Pt / 5% Rh |
| Absorber | | |
| Design capacity per day | t/d (100 %) | 750 |
| Maximum capacity per day | t/d (100 %) | 770 |
| Campaign length (design) | Days | 318 |
| Annual operation (average) | Days | 355 |
| Secondary Catalyst | | |
| Manufacturer | - | Yara |
| Type | - | Y8_51 |
| Design efficiency N ₂ O reduction | % | 90 |
| Future N₂O Analyzer (stack) | | |
| Manufacturer | - | Dr. Foedisch |
| Type | - | MCA04 |
| Measurement Principle | - | NDIR |
| Current N₂O Analyzer (stack) | | |
| Manufacturer | - | ABB |
| Type | - | Uras |
| Measurement Principle | - | FTIR |
| Stack volume flow rate measurement | | |
| Manufacturer | - | Dr. Foedisch |
| Type | - | FMD99 |
| Measurement Principle | - | Differential Pressure |

3 METHODOLOGY AND DETERMINATION PDD SEQUENCE

3.1 Determination PDD Steps

The determination of the project consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers
- Publication of the project design document (PDD)
- A desk review of the PDD^{/PDD/} submitted by the client and additional supporting documents
- Determination planning
- On-Site assessment
- Background investigation and follow-up interviews with personnel of the project developer and its contractors,
- Draft determination reporting
- Resolution of corrective actions (if any)
- Final determination reporting
- Technical review
- Final approval of the determination.

The sequence of the determination is given in the table 3.1 below:

Table 3.1: Determination PDD sequence

| Topic | Time |
|---|-----------------------------|
| Assignment of determination | 2010-10-19 |
| Submission of PDD for global stakeholder commenting process | 2010-11-14 |
| On-site visit | 2010-11-08 to 2010-11-10 |
| Draft reporting finalised | 2011-03-04 |
| Final reporting finalised | 2011-04-06 |
| Technical review on final reporting finalised | 2011-03-15 |
| Revision of final report | 2011-12-07 |



3.2 Contract review

To assure that

- the project falls within the scopes for which accreditation is held,
- the necessary competences to carry out the verification can be provided,
- Impartiality issues are clear and in line with the JI accreditation requirements

a contract review was carried out before the contract was signed.

3.3 Appointment of team members and technical reviewers

On the basis of a competence analysis and individual availabilities a determination team, consistent of one team leader and two additional team members, were appointed. Furthermore also the personnel for the technical review and the final approval were determined.

The list of involved personnel, the tasks assigned and the qualification status are summarized in the table 3-2 below.

Table 3-2: Involved Personnel

| | Name | Company | Function ¹⁾ | Qualification Status ²⁾ | Scheme competence | Technical competence ⁴⁾ | Host country Competence | Team leading competence |
|---|-------------|---------|------------------------|------------------------------------|-------------------------------------|------------------------------------|-------------------------------------|-------------------------------------|
| <input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms. | A. Nebel | TN Cert | TL | LA | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms. | S. Meyer | TN Cert | TM | A | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms. | U. Walter | TN Cert | TM | A | <input type="checkbox"/> | Q | <input type="checkbox"/> | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms. | Dirk Speyer | TN Cert | OR ³⁾ | - | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms. | R. Winter | TN Cert | TR ³⁾ | SA | <input checked="" type="checkbox"/> | Q | <input type="checkbox"/> | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms. | E. Krupp | TN Cert | FA | SA | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> |

¹⁾ TL: Team Leader; TM: Team Member, TR: Technical review; OR: Observer-TR; FA: Final approval

²⁾ GHG Auditor Status: A: Assessor; LA: Lead Assessor; SA: Senior Assessor; T: Trainee; TE: Technical Expert

³⁾ No team member

⁴⁾ As per S01-MU03 or S01-VA070 A2 (such as A, B, C.....)

3.4 Consideration of Public Stakeholder Comments

The draft PDD, as received from the project participants, has been made publicly available on TÜV NORD Website www.global-warming.de during a 30 days period from 2010-11-15 to 2010-12-15 (<http://www.global-warming.de/e/1985/>).

In case comments were received, they are taken into account during the determination process. The comments and the discussion of the same are documented in annex 5 of this report.

3.5 Determination PDD Protocol

In order to ensure consideration of all relevant assessment criteria, a determination protocol is used. The protocol shows, in a transparent manner, criteria and requirements, means of determination and the results from pre-determination of the identified criteria. The determination protocol reflects the generic JI – Track 1 requirements projects have to meet as well as project specific issues as applicable. The determination protocol serves the following purposes:

- It organises, details and clarifies the requirements that a JI project is expected to meet;
- It ensures a transparent determination PDD process where the independent entity will document how a particular requirement has been validated and the result of the determination.

The determination protocol as described in Figure 1.



| Determination Protocol Table A-1: Requirement checklist | | | | |
|---|--|--|---|---|
| Checklist Item | Determination PDD Team Comment | Reference | Draft Conclusion | Final Conclusion |
| <i>The checklist items in Table A-1 are linked to the various requirements the project should meet. The checklist is organised in various sections. Each section is then further subdivided as per the requirements of the topic and the individual project activity.</i> | <i>The section is used to elaborate and discuss the checklist item in detail. It includes the assessment of the determination team and how the assessment was carried out.</i> | <i>Gives reference to the information source on which the assessment is based on</i> | <i>Assessment based on evidence provided if the criterion is fulfilled (OK), or a CAR, CL or FAR (see below) is raised. The assessment refers to the draft determination stage.</i> | <i>In case a corrective action or a clarification the final assessment at the final determination stage is given.</i> |

Figure 1: Determination protocol tables

The completed determination protocol is enclosed in Annex 1 to this report.

3.6 Review of Documents

The published PDD and supporting background documents related to the project design and baseline were reviewed.

Furthermore, the determination team used additional documentation by third parties like host party legislation, technical reports referring to the project design or to the basic conditions and technical data.

3.7 Follow-up Interviews

The determination team has carried out interviews in order to assess the information included in the project documentation and to gain additional information regarding the compliance of the project with the relevant criteria applicable for JI.

During determination the determination team has performed interviews to confirm the provided information and to resolve issues identified in the document review. The main topics of the interviews are summarized in table 3-3.

Table 3-3: Interviewed persons and interview topics

| Interviewed Persons / Entities | Interview topics |
|---|---|
| Project proponent representatives (Yara Tertre) Project consultant (N.serve) | - Chronological description of the project activity with documents of key steps of the implementation. - Implementation status |



| Interviewed Persons / Entities | Interview topics |
|--------------------------------|---|
| | <ul style="list-style-type: none"> - Technical details of the project realization, project feasibility, designing, operational life time, monitoring of the project - Host Government Approval - Approval procedures and status - Monitoring and measurement equipment and system. - Financial aspects - Crediting period - Project activity starting date - ERU allocation / ownership - Baseline assumptions - Additionality - Monitoring - Roles & responsibilities of the project participants w.r.t. project management, monitoring and reporting - National Legislation - Editorial issues of the PDD |

A comprehensive list of all interviewed persons is part of section 7 'References'.

3.8 Project comparison

The determination team has compared the proposed JI project activity with similar projects or technology that have similar or comparable characteristics and with similar projects in the host country in order to achieve additional information esp. regarding:

- Project technology
- Additionality issues
- Reasons for reviews, requests for reviews and rejections within the JI registration process.

3.9 Resolution of Clarification and Corrective Action Requests

3.9.1 Definition

A **Corrective Action Request (CAR)** will be established where:

- mistakes have been made in assumptions, application of the methodology or the project documentation which will have a direct influence the project results,

-
- the requirements deemed relevant for determination of the project with certain characteristics have not been met or
 - there is a risk that the project would not be registered by the UNFCCC or that emission reductions would not be able to be verified and certified.

A **Clarification Request (CL)** will be issued where information is insufficient, unclear or not transparent enough to establish whether a requirement is met.

A **Forward Action Request (FAR)** will be issued when certain issues related to project implementation should be reviewed during the first determination ERU.

3.9.2 Draft Determination PDD

After reviewing all relevant documents and taken all other relevant information into account, the determination team issues all findings in the course of a draft determination report and hands this report over to the project proponent in order to respond on the issues raised and to revise the project documentation accordingly.

3.9.3 Final Determination PDD

The final determination starts after issuance of the proposed corrective action (CA) of the CARs CLs and FARs by the project proponent. The project proponent has to reply on those and the requests are "closed out" by the determination team in case the response is assessed as sufficient. In case of raised FARs, in which action from the project personnel is requested, the project proponent has to respond on this, identifying the necessary actions to ensure that the topics raised in this finding are likely to be resolved at the latest during the first verification. The determination team has to assess whether the proposed action is adequate or not.

In case the findings from CARs and CLs cannot be resolved by the project proponent or the proposed action related to the FARs raised cannot be assessed as adequate, no positive determination opinion can be issued by the determination team.

The CAR(s) / CL(s) / FAR(s) are documented in chapter 4.

3.10 Technical review

Before submission of the final determination report a technical review of the whole determination procedure is carried out. The technical reviewer is a competent GHG auditor being appointed for the scope this project falls under. The technical reviewer is not considered to be part of the verification team and thus not involved in the decision making process up to the technical review.

As a result of the technical review process the determination opinion and the topic specific assessments as prepared by the determination team leader may be confirmed or revised. Furthermore reporting improvements might be achieved.

3.11 Final approval

After successful technical review of the final report an overall (esp. procedural) assessment of the complete determination will be carried out by a senior assessor located in the accredited premises of TÜV NORD.

Only after this step the request for registration can be started (in case of a positive determination opinion).

4 DETERMINATION FINDINGS

In the following table the findings from the desk review of the published PDD, visits, interviews and supporting documents are summarised:

Table 4-1: Summary of CARs, CLs and FARs issued

| Determination topic ¹⁾ | No. of CAR | No. of CL | No. of FAR |
|--|------------|-----------|------------|
| General description of project activity (A) - Project boundaries - Participation requirements - Technology to be employed - Contribution to sustainable development | 4 | - | - |
| Project baseline (B) - Baseline Methodology - Baseline scenario determination - Additionality determination - Calculation of GHG emission reductions Project emissions Baseline emissions - Leakage | 4 | 1 | - |
| Duration of the Project / Crediting Period (C) | | | |
| Monitoring Methodology (D) - Monitoring of Project emissions Baseline emissions Leakage Sustainable development indicators / environmental impacts Project management planning | 1 | | 2 |
| Estimation of greenhouse gas emission reductions (E) | | | |
| Environmental impacts (F) | | 1 | |
| Stakeholder Comments (G) | | | |
| SUM | 9 | 2 | 2 |



The following tables include all raised CARs, CLs and FARs. For an in depth evaluation of all determination items it should be referred to the determination protocols (see Annex 1).

| Finding: | | A1 | | |
|---|---|-----------------------------|------------------------------|--|
| Classification | <input checked="" type="checkbox"/> CAR | <input type="checkbox"/> CL | <input type="checkbox"/> FAR | |
| Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i> | No letters of approval have been provided so far. | | | |
| Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i> | The Letter of Approval cannot be issued by the DFP until receipt of the full application, which includes the preliminary determination report. The LoA will be provided to TUEV Nord as soon as it becomes available. | | | |
| AIE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and AIE assessments (#2, #3, etc.) shall be added.</i> | The pending letter of approval will be provided only on the basis of the successful conclusion of this determination. Thus this CAR will automatically be closed if the host country issues the LoA. A corresponding update of this report is considered to be not required. | | | |
| Conclusion <i>Tick the appropriate checkbox</i> | <input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements | | | |

| Finding: | | A2 | | |
|---|--|-----------------------------|------------------------------|--|
| Classification | <input checked="" type="checkbox"/> CAR | <input type="checkbox"/> CL | <input type="checkbox"/> FAR | |
| Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i> | PDD of plant 2: Editorial issues <ul style="list-style-type: none"> • The description of boundary in section B.3. should include the "Table 1: Overview of emission sources included or excluded from the project boundary" figured in the methodology with project specific explanations/justification if necessary. • The statement "No project emissions factor after the 10th project campaign may be higher than the lowest recorded during these campaigns" shall be corrected according to the methodology. • YARA Tertre Uhde 2 is a 5.5/10 bar dual pressure plant not medium as stated • Table A.3. AIEs not fully match with name of project participants listed in Annex 1, please correct. • Section A.4.1.4. should include longitude/latitude of the burner and stack. • France should be listed as investor country instead of Germany • The PDD should reference to the actual version of AM0034 (Ver. 5) and AM0028 (Ver. 5) • Trip points of Uhde 2 should be mentioned according to the | | | |



| Finding: | A2 |
|---|---|
| | <p>values applied in the DCS</p> <ul style="list-style-type: none"> • Crosschecks of nitric acid mass flow (laboratory/tank level) are not properly implemented at the moment. • The reference to "best practice monitoring standards" in section D.1.2.2. needs to be specified. • The PDD should clearly state the 2nd September (plant 3) or 8th December (plant 2) as starting date. • Section D.1., point 6: "The data acquisition system". This section should clearly describe the generation and logging of the status signal of the plant. • Emission data in Table 1 until 2008 should be revised according to the documentation provided during the on-site visit. • The Arrete regarding the application of the IPPC regulation ^{/IPPC/} stating the reduction of N₂O-emission from 2013 on (page 8 first sentence of the doc): "Considérant que cette valeur sera à considérer par l'exploitant dans son projet de modification des installations Uhde 2 et Uhde 3 visant à réduire les émissions de N₂O dans un délai de trois ans" should be included in section B.2. |
| <p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p> | <ol style="list-style-type: none"> 1) Tables showing the emissions sources excluded and included in the project boundary have been added to both PDDs in section B.3. 2) The statement regarding the minimum project emissions factor after 10 campaigns has now been corrected in both PDDs, in the table in section B.1, to comply with the methodology. 3) Section A.2 of the U2 PDD has now been corrected to state that it is a 5.5/10 bar dual pressure plant. 4) The exact plant name in Annex 1 of both PDDs has now been corrected in accordance with the names stated in the tables of section B.3 5) Map coordinates of the burner and stack for both plants have been added to section A.4.1.4 of the PDDs. 6) France has now been listed as the investor country in both PDDs in the table in section A.3. 7) Both PDDs now refer to the latest versions of AM0034 and AM0028 (ver. 05). 8) The PPs do not understand this finding, since the U2 PDD already correctly states the trip values as 780 °C - 930 °C. These were the values shown by the DCS. 9) The vague reference to 'best practice monitoring standards' in section D.1.2.2 of both PDDs has now removed. The section has been re-written to explain the exact approach taken. 10) The starting date of the U2 project has now been clearly stated as the 8th December. The U3 project starting date was already clearly stated in the PDD as the 2nd September. 11) The approach with regard to the status signals of the plants has been more accurately described in section 6 of D.1. 12) The emissions data in table 1 of section A.4.3.1 in both |



| Finding: | A2 |
|--|--|
| | <p><i>PDDs have now been updated to reflect the correct figures.</i></p> <p>13) Step 2 of section B.2 in both PDDs now makes reference to the statement in the environmental permit that N2O emissions must be reduced in 3 years' time to comply with the rules of the EU ETS.</p> |
| <p>AIE Assessment #1</p> <p><i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and AIE assessments (#2, #3, etc.) shall be added.</i></p> | <p>OK.</p> <ol style="list-style-type: none"> 1) Emissions sources are included in Table 1. 2) The statement regarding the minimum project emissions factor after 10 campaigns now complies with the methodology. 3) The plant is now correctly described. 4) The plant name in Annex 1 of both PDDs has been corrected. 5) Map coordinates of the burner and stack are included in section A.4.1.4 of the PDDs. 6) France is listed as the investor country in both PDDs in the table in section A.3. 7) The PDD now refers to Ver. 5 of AM0034 and AM0028. 8) The finding was related to CAR A3, which was closed in the course of determination. 9) Section D.1.2.2 has been re-written to explain the exact approach taken. 10) The 8th December is now clearly mentioned as starting date. 11) The status signals are correctly and sufficiently described in section 6 of D.1. 12) The emissions data in table 1 of section A.4.3.1 in both PDDs were updated to reflect the correct figures. 13) Step 2 of section B.2 in both PDDs now makes reference to the statement in the environmental permit that N2O emissions must be reduced in 3 years' time to comply with the rules of the EU ETS |
| <p>Conclusion</p> <p><i>Tick the appropriate checkbox</i></p> | <p><input type="checkbox"/> To be checked during the first periodic verification</p> <p><input checked="" type="checkbox"/> Appropriate action was taken</p> <p><input checked="" type="checkbox"/> Project documentation was corrected correspondingly</p> <p><input type="checkbox"/> Additional action should be taken</p> <p><input checked="" type="checkbox"/> The project complies with the requirements</p> |

| Finding: | A3 | | |
|-----------------------|---|-----------------------------|------------------------------|
| Classification | <input checked="" type="checkbox"/> CAR | <input type="checkbox"/> CL | <input type="checkbox"/> FAR |



| Finding: | A3 |
|---|--|
| Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i> | The trip points of the document /MO2/ of the plant 2 (Manuel operatoire TET-010920-systems de securite) need to be revised according to the plant control system settings. |
| Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i> | The maximum ammonia to air ratio of the plant U2 is specified in the document 'Manuel Operatoire TET-010920- systèmes de sécurité', as being 12.2%. This is the same as the value programmed in the plant's process control system. Please find attached a screen shot from the control system, which shows that the trip point value for the maximum ammonia to air ratio is indeed 12.2% ('Seuil declt proportion haute' in the middle on the left hand side of the page). |
| AIE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and AIE assessments (#2, #3, etc.) shall be added.</i> | Screen shots from the control system show the trip point value for the maximum ratio (12.2%). |
| Conclusion <i>Tick the appropriate checkbox</i> | <input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements |

| Finding: | A4 | | |
|---|--|-----------------------------|------------------------------|
| Classification | <input checked="" type="checkbox"/> CAR | <input type="checkbox"/> CL | <input type="checkbox"/> FAR |
| Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i> | <ul style="list-style-type: none"> The PP envisaged to include Norway as investor party. Since Norway does not provide national procedures for approving JI projects until date of registration by the Belgian designated focal point, Norway cannot be considered as involved Party. The PP is requested to revise the list of project participants in chapter A.3. | | |
| Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i> | <ul style="list-style-type: none"> Norway has been removed from the list of involved parties | | |
| AIE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and AIE assessments (#2, #3, etc.) shall be added.</i> | <ul style="list-style-type: none"> Norway is not envisaged as involved party | | |
| Conclusion <i>Tick the appropriate checkbox</i> | <input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements | | |



| Finding: | B1 | | |
|---|--|--|------------------------------|
| Classification | <input type="checkbox"/> CAR | <input checked="" type="checkbox"/> CL | <input type="checkbox"/> FAR |
| Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i> | Section B.1.: Explanation and Justification of deviations from AM0034 <ul style="list-style-type: none"> • Applicability criteria: <ul style="list-style-type: none"> • The Explanation should follow the relevant list of conditions in the methodology • Criterion (b) of the PDD: "no effect on HNO₃-production" should not be eliminated but assessed according to the actual situation of the plant • Criterion (e) of the PDD: "continuous N₂O-measurement" : This criterion is fulfilled • Statistical analysis: <ul style="list-style-type: none"> • The statement: "Project emissions are calculated based on Verification Periods and not on standard production campaigns" should be discussed as a separate aspect. • The PP should clearly state that statistical analysis according to the methodology will be carried out for the project emissions data. • Recording frequency: <ul style="list-style-type: none"> • The 2 minutes interval of the existing ABB analyser should be included. | | |
| Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i> | <ul style="list-style-type: none"> • <i>Applicability criteria: this section of the table in B.1 in both PDDs has now been changed. Most of this section was previously irrelevant, since the projects comply with the majority of the conditions. The PDD now only takes into account the applicability criterion that cannot be complied with.</i> • <i>Statistical analysis:</i> <ul style="list-style-type: none"> - <i>The statement "Project emissions are calculated based on Verification Periods and not on standard production campaigns" has now been completely removed. This is already discussed as a separate issue under 'Monitoring Periods based on campaigns' further down the same table.</i> - <i>It has now been made clear that project emissions data will still be subject to statistical analysis</i> • <i>Recording frequency: the 2-minute recording frequency of the ABB analyser has now been taken into account in both PDDs.</i> | | |
| AIE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and AIE assessments (#2, #3, etc.) shall be added.</i> | The corresponding information has been included; the justification is assessed to be sufficient. | | |



| Finding: | B1 |
|---|---|
| Conclusion <i>Tick the appropriate checkbox</i> | <input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements |

| Finding: | B2 |
|---|--|
| Classification | <input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR |
| Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i> | Section B.2.: Point 1.2 "Most realistic scenario in the absence of JI revenues for N ₂ O reductions achieved". The discussion of realistically feasible scenario alternatives should strictly follow the procedure to identify the baseline scenario described in AM0028 and include all alternatives listed in this document. |
| Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i> | <i>The whole of section B.2 of both PDDs has been re-written to strictly follow the exact format shown in AM0028.</i> |
| AIE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and AIE assessments (#2, #3, etc.) shall be added.</i> | OK. The section B.2.: Point 1.2 "Most realistic scenario in the absence of JI revenues for N ₂ O reductions achieved" now follows the procedure of the methodology. |
| Conclusion <i>Tick the appropriate checkbox</i> | <input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements |

| Finding: | B3 |
|---|--|
| Classification | <input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR |
| Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i> | The calculation should take into account two lines of nitric acid output (60 and 69 %). Both plants: <ul style="list-style-type: none"> The description of the application of instrument correction factors / elimination of implausible values in section D.1.2.2. should be described as implemented in the project activity. The statistical analysis acc. to the methodology should be included in section D.1.2.2. |



| Finding: | B3 |
|---|--|
| <p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p> | <p>- <i>The U2 PDD now takes account of the fact that nitric acid is produced at both 60% and 69% concentrations. Section A.2 and parameter 5 of table D.1.1.1 have now been adjusted.</i></p> <ul style="list-style-type: none"> • <i>The description of the application of instrument correction factors / elimination of implausible values has now been added to section D.1.2.2 of the PDD</i> • <i>The statistical analysis step has been added in section D.1.2.2</i> |
| <p>AIE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and AIE assessments (#2, #3, etc.) shall be added.</i></p> | <p>The corresponding information has been included</p> |
| <p>Conclusion <i>Tick the appropriate checkbox</i></p> | <p><input type="checkbox"/> To be checked during the first periodic verification</p> <p><input type="checkbox"/> Appropriate action was taken</p> <p><input checked="" type="checkbox"/> Project documentation was corrected correspondingly</p> <p><input type="checkbox"/> Additional action should be taken</p> <p><input checked="" type="checkbox"/> The project complies with the requirements</p> |

| Finding: | B4 |
|---|--|
| <p>Classification</p> | <p><input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR</p> |
| <p>Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p> | <p>Calculation of emission reduction in section E.5. of plant 2: The max. estimated HNO₃ production used for ER calculation should not exceed the nameplate (design) capacity) of plant 2, which is 750 t/d or 273,750 t/a.</p> |
| <p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p> | <p><i>The emission reduction calculations throughout the whole U2 PDD have now been adjusted to take into account the maximum cap on eligible HNO₃ production.</i></p> |
| <p>AIE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and AIE assessments (#2, #3, etc.) shall be added.</i></p> | <p>Table 9 and 10 (PDD U2) are revised.</p> |
| <p>Conclusion <i>Tick the appropriate checkbox</i></p> | <p><input type="checkbox"/> To be checked during the first periodic verification</p> <p><input type="checkbox"/> Appropriate action was taken</p> <p><input checked="" type="checkbox"/> Project documentation was corrected correspondingly</p> <p><input type="checkbox"/> Additional action should be taken</p> <p><input checked="" type="checkbox"/> The project complies with the requirements</p> |

| Finding: | B5 |
|------------------------------|---|
| <p>Classification</p> | <p><input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR</p> |



| Finding: | B5 |
|---|---|
| Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i> | The starting date of the crediting period at Uhde 2 will be the 8 th and not 1 st December according to the plants schedule. Revision of ER calculation is requested. |
| Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i> | <i>All references to the start of the project-crediting period, as well as the dependent ER calculations, have been revised to reflect the new date of the 8th December.</i> |
| AIE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and AIE assessments (#2, #3, etc.) shall be added.</i> | The starting date of the crediting period at Uhde 2 (8 th December 2010) as well as the dependent ER calculations have been revised. |
| Conclusion <i>Tick the appropriate checkbox</i> | <input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements |

| Finding: | D1 | | |
|---|---|-----------------------------|------------------------------|
| Classification | <input checked="" type="checkbox"/> CAR | <input type="checkbox"/> CL | <input type="checkbox"/> FAR |
| Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i> | The use of the ABB analysers for the first time of project periods should included in the monitoring plan. | | |
| Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i> | <i>The use of the ABB analysers for the first months of the project period has been included in section D.1 of both PDDs.</i> | | |
| AIE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and AIE assessments (#2, #3, etc.) shall be added.</i> | OK. The ABB Analyser will be used for the first month of the project period. This equipment will be replaced mid January 2011 by a state-of-the-art-AMS. This is described in the PDD. | | |
| Conclusion <i>Tick the appropriate checkbox</i> | <input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements | | |

| Finding: | D2 | | |
|-----------------------|------------------------------|-----------------------------|---|
| Classification | <input type="checkbox"/> CAR | <input type="checkbox"/> CL | <input checked="" type="checkbox"/> FAR |



| Finding: | D2 |
|---|---|
| <p>Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p> | <p>Since the PP will use the already installed ABB analysers for measuring the N₂O emissions during first time of the project, the verifier should check the</p> <ul style="list-style-type: none"> • suitability of the analysers, sampling points and sampling pipes proved in a corresponding QAL 2 test. • consideration of longer measurement frequency in the monitoring report. |
| <p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p> | |
| <p>AIE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and AIE assessments (#2, #3, etc.) shall be added.</i></p> | |
| <p>Conclusion <i>Tick the appropriate checkbox</i></p> | <p><input checked="" type="checkbox"/> To be checked during the first periodic verification</p> <p><input type="checkbox"/> Appropriate action was taken</p> <p><input type="checkbox"/> Project documentation was corrected correspondingly</p> <p><input type="checkbox"/> Additional action should be taken</p> <p><input type="checkbox"/> The project complies with the requirements</p> |

| Finding: | D3 | | |
|--|---|-----------------------------|---|
| Classification | <input type="checkbox"/> CAR | <input type="checkbox"/> CL | <input checked="" type="checkbox"/> FAR |
| <p>Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p> | <p>The PP should</p> <ul style="list-style-type: none"> • provide calibration and maintenance records of all monitoring and measuring devices of the project. Each record should include: <ul style="list-style-type: none"> • Tracking Number. This tracking number is also on the equipment. • Equipment Description, type, Manufacturer and Model Location - Calibration requirements • Calibration interval with justification for the interval • Calibration Procedure • Calibration History • Calibration Due. • develop an ISO document showing relevant responsibilities/procedures/demands/documents of the project (project book). • implement a procedure for calibration/maintenance of the Dr. Foedisch AMS including measures for the case that the error exceeds the allowed limits. • develop an ISO procedure for the cross check of the HNO₃ mass flow meter. | | |
| <p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p> | | | |



| Finding: | D3 |
|--|--|
| <p>AIE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and AIE assessments (#2, #3, etc.) shall be added.</i></p> | |
| <p>Conclusion <i>Tick the appropriate checkbox</i></p> | <input checked="" type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements |

| Finding: | F1 | | |
|--|---|--|------------------------------|
| Classification | <input type="checkbox"/> CAR | <input checked="" type="checkbox"/> CL | <input type="checkbox"/> FAR |
| <p>Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p> | The PP should clarify the necessity of an EIA. | | |
| <p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p> | It has been confirmed by Mme. Dominique Defrise of the Wallonian government that an environmental impact assessment is not necessary for the YARA projects. Her email confirming this has been forwarded to the Tuv Nord auditing team on 28/12/2010. | | |
| <p>AIE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and AIE assessments (#2, #3, etc.) shall be added.</i></p> | OK. The Walloon Government states that the proposed project is not subject to environmental permit under section 10 of the Decree of 11 March 1999. The problematic for a study of environmental impact should not be considered. | | |
| <p>Conclusion <i>Tick the appropriate checkbox</i></p> | <input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements | | |

5 DETERMINATION ASSESSMENT SUMMARY

The following paragraphs include the summary of the final determination assessments after all CARs and CRs are closed out. For details of the assessments pl. refer to the discussion of the validation findings in chapter 4 and the determination protocol (Annex 1).

5.1 General Description of the Project Activity

5.1.1 Participation

LOA

No Letter of Approval (LoA) has been provided from the Belgian DFP so far². A corresponding CAR A1 has been raised. As the LoA will be issued upon a positive determination opinion, this CAR will automatically be closed after issuance the of host country approval.

Legal situation in Belgium

In Belgium the approval of JI projects on its own territory is a regional competence.

As the project is located in the Walloon Region, the Walloon climate administration is involved in the approval process and in charge for setting rules for the project implementation^{/MAIL/}.

General information about the division of competences and approval procedures with regard to JI/CDM projects in Belgium can be found on

<http://klimaatplan.vito.be/KLIMAATPLAN/EN/Home/Focalpoint/> .

Wallonian eligibility criteria and approval procedures for projects implemented under the Kyoto Protocol's flexible mechanisms can be found under:

<http://wallex.wallonie.be/index.php?mod=voirdoc&script=wallex2&PAGEDYN=indexBelgiqueLex.html&MBID=2010027187>

Project Participants

The project participants are listed in section A.3 of the PDD and this information is consistent with the contact details provided in annex 1 of the PDD.

Project participant involved in the project activity are the YARA Tertre SA/NV Belgium and N.serve Environmental Services GmbH, France.

² In the course of the determination process the PP provided a host country LoA with different title. The CAR is still open.

No entities other than those intended to be approved or authorised to be project participants are indicated in these sections of the PDD.

For an in depth evaluation of these topics, please refer to section A.1 of the table A-1 of annex 1.

5.1.2 PDD Editorial Aspects

The PDD is in line with the guidelines for users of the JI PDD form (version 04), issued on the UNFCCC JI website. The latest JI PDD form (version 01) was used.

For an in depth evaluation of these topics, please refer to section A.2 of the table A-1 of the annex 1.

5.1.3 Technology to be Employed

Within the project, N₂O emissions from the production of nitric acid at Tertre nitric acid plant will be reduced by installation of a secondary YARA N₂O abatement technology.

The description of the project as contained in the PDD is complete and accurate and it provides the reader with a clear understanding of the nature of the project activity.

The technology and know-how used in the project activity is assessed to be environmentally safe and sound.

For an in depth evaluation of these topics, please refer to section A.4 of the table A-1 of the annex 1 and chapter 2 of this validation report.

5.1.4 Type of Project

The project qualifies as a Large Scale JI Track 1 Project, scope 5: "Chemical Industry". The host country Belgium fulfils the requirements for Track 1 participation.

5.2 Project Baseline, Additionality and Monitoring Plan

5.2.1 Application of the Methodology

The project applies in principle the approved baseline and monitoring methodology AM0034 methodology: "Catalytic reduction of N₂O inside the ammonia burner of nitric acid plants", version 5.^{/B-1/}. Since the methodology is applied in the context of a JI Track 1 projects, some eligible deviations were made and properly described in the PDD.

Main deviations:

The Baseline Emission factor will not be determined by assessment of historical baseline campaigns because the DFP sets a benchmark factor^{BENCH/}, which will be applied for the calculation of the emission reduction. This leads to an adjustment of the abovementioned methodology due to these specific project conditions.

The project activity meets all applicability conditions of the applied methodology. Beyond this, the proposed project activity meets all the other possible requirements or stipulations mentioned in all sections of the selected methodology.

Furthermore the project activity is not expected to result in significant emissions, related both to project and leakage other than those listed in the methodology.

Summarised it is assessed that the project applies a valid version of an approved methodology and the methodology is applicable to the project.

For an in depth evaluation of these topics, please refer to section B.1 of the table A-1 of the annex 1.

5.2.2 Project Boundary

The PDD correctly describes the project boundary including the physical delineation of the project activity (all parts of the Nitric Acid Plant Tertre 2).

All equipment used within the project activity has been indicated in the PDD including the information about its purpose and the technical specification. Project boundary is clearly described in words and a visualisation of the physical project boundary as well as a table defining all significant GHG gases in compliance with the methodology has been included in the PDD.

No emission sources, which are impacted by the project activity but not addressed by the approved methodology, have been identified during validation.

In the course of determination the determination team has inspected the whole process of HNO₃-production. The project boundary begins at the inlets to the ammonia burners and ends at the tail gas stack. It could be verified that all equipment mentioned has been physically installed and is in a good working condition. Furthermore the technical specification of the installed equipment is in line with provided documentation and is in line with the indication in the PDD.

For an in depth evaluation of these topics, please refer to section B.2 of the table A-1 of the annex 1.

5.2.3 Baseline Identification

The PDD provides a transparent and verifiable description of the identified most plausible baseline scenario, including a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed project activity.

The procedure to identify the most plausible reference scenario derived from the methodology AM0028^{B-6/} has been applied correctly and is transparently and sufficiently documented in the PDD.

The identification of possible alternatives of the project activity was carried out appropriately. Furthermore the PP has shown that all relevant policies and circumstances have been identified and correctly considered in the PDD in accordance with the guidance by the DFP.

In summary it can be assessed that the identified baseline scenario reasonably represents what would occur in the absence of the proposed project activity and the approved methodology used is applicable to the identified baseline scenario.

For an in depth evaluation of these topics, please refer to the section B.3 of the Annex 1 as well as table A-2 of the Annex 2.

5.2.4 Calculation of GHG Emission Reductions

The PDD applies steps and equations to calculate project emissions, baseline emissions, leakage and emission reductions as per the requirements of the methodology.

For the calculation of the GHG emission reductions, the correct equations have been used reflecting the methodological choices. Furthermore all equations are applied correctly. The Calculations take into account the period 2010-12-08 – 2012-12-31.

Baseline Emissions:

The baseline takes into account benchmarks set by the Walloon government.

The local authorities have not passed any N₂O limits that might have an impact on the project in the crediting period, so these benchmark values will be eligible for determination of the baseline.

These values/years are:

| | | | | |
|--------|------|------|------|---|
| Year: | 2010 | 2011 | 2012 | |
| Value: | 2.5 | 2.5 | 1.85 | [kg N ₂ O/t HNO ₃ (100%)] |

Baseline emissions as per final PDD/ERU-calculation are: 381.177 tCO₂e until 2012-12-31.

Project Emissions:

Taking into account a 90 % efficiency of the secondary N₂O abatement catalyst and an Emission Factor of 8.07 kg N₂O/tHNO₃ (N₂O concentration in the stack measured over a period of 12 months from December 2007 to December 2008), the resulting Project Emission Factor was calculated to 0.807 kg N₂O/tHNO₃.

Project emissions as per final PDD/ERU-calculation are: 140,840 tCO₂e until 2012-12-31.

For an in depth evaluation of these topics, please refer to sections B5-B6 of the table A-1 of the annex 1.

Leakage:

The considering of leakage is discussed in the methodology. In accordance with the methodology, no leakage calculation is required, because the technology used is a secondary catalyst.

5.2.5 Calculation of GHG Emission Reductions

The calculation has been done as per applied project specific methodology. All data not to be monitored have been assessed as correct. The values for the monitoring parameters within the calculation are plausible. It could be concluded that the estimated emission reductions are plausible and conservative.

Emission emissions as per final PDD/ERU-calculation are: 240,337 tCO₂e until 2012-12-31.

5.2.6 Additionality Determination

Prior consideration of JI

The starting date of the project is conducted with the installation of the catalyst during a regular shut down of the plant and is scheduled on 8th of December. This date is after the determination of the project.

Hence, the determination team can confirm that the project complies with the requirements regarding prior consideration of JI.

Application of Methodology / Methodological Tools

The discussion of additionality in the PDD was justified and conducted according to the step-by-step-approach of the Methodological CDM Tool "Combined Tool to identify the baseline scenario and demonstrate additionality" (Version 05.2)".

Alternatives

The PDD contains a complete list of all realistic alternatives to the project scenario.

- The project activity not undertaken as a JI project activity and
- the continuation of the current practice

have been identified as plausible and realistic alternatives.

Project activities that apply this tool in context of approved consolidated methodology ACM00034 only need to identify that there is at least one credible and feasible alternative that would be more attractive than the proposed project activity. This is the case in the Tertre project

Investment Analysis

According to the "Methodological Tool "Tool for the demonstration and assessment of additionality" (Version 05.2), the PP can choose between investment analysis (step 2) and barrier analysis (step 3). Since the PP applied the barrier analysis, no financial assessment was carried out.

Barrier Analysis

The PP has justified the additionality on the basis of

- a) Investment barriers
- b) Technological barriers
- c) Other barriers (Common practice)

Though all barriers are justified to a certain extent, none of the barriers was assessed by the validation team to be a decisive barrier, which would have prevented the project from realization.

Investment barriers

None of the N₂O destruction technology options are expected to generate any financial or economic benefits other than JI related income. Their operation AIEs not create any marketable products or by-products. However, any operator willing to install and thereafter operate such technology faces significant investment and additional operating costs.

Technological barriers

The installation of a secondary abatement technology causes

- significant changes in plant structure (installation of a catalyst basket, modifications in the ammonia burner)
- high risks in the operation of the modified plant through malfunction/shortage in the abatement catalyst (destruction of primary catalyst, shut downs, synthesis of ammonium nitrate in the plant)

These barriers will prevent the plant operator to involve the installation of the abatement catalyst without incentives generated from an emission-trading project.

Common practice analysis

Common practice in the relevant regions/industrial scopes is the inclusion of N₂O abatement projects in emission trading projects. There is no incentive to invest in the technology without revenues through tradable emission reduction units.

Summary of assessment of barrier analysis

The procedure to justify the additionality of the project activity derived from the methodology or required methodological tools has been applied correctly and is transparently documented in the PDD.

The validation team is convinced that the JI was seriously considered during the Management Decision for the project.

Considering all statements above, the validation team arrived at the conclusion that the project activity is **additional** because the project is not financially viable without JI revenues, whereas none of the other presented barriers could be considered as a decisive barrier for the project implementation.

For an in depth evaluation of these topics, please refer to sections B5-B6 of the table A-1 of the annex 1.

5.2.7 Monitoring Methodology

The project activity applies the approved baseline and monitoring methodology AM0034: "Catalytic reduction of N₂O inside the ammonia burner of nitric acid plants", AM0034, Version 05, Sectoral Scope: 05, EB 55^{/B-1/}. This methodology covers project activities involving the installation of a dedicated N₂O abatement catalyst inside the ammonia burner of a nitric acid plant that catalytically reduces N₂O, once it has been formed in the Ammonia Oxidation Reactor.

The baseline scenario was identified using procedure for identification of the baseline scenario described in the approved methodology AM0028: "Catalytic N₂O destruction in the tail gas of nitric acid plants"^{/B-6/} as required by the AM0034.

The determination team can confirm that the applicability criteria set in the methodology were met by the project activity. Project specific deviations were made, since the Walloon government applicates benchmark values for the determination of the baseline and related criteria cannot be fulfilled (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).

AM0034 requires following the procedure for identification of the baseline scenario described in the approved methodology AM0028: "Catalytic N₂O destruction in the tail gas of nitric acid plants"^{/B-6/}.

For an in depth evaluation of these topics, please refer to section B6 of the table A-1 (annex 1).

5.2.8 Monitoring Plan

The PP made amendments to the monitoring methodology of the applied methodology AM0034. The amendments derive from the fact, that no baseline campaigns were applied and there is no necessity to compare baseline operational parameters with operational parameters of the project period. The provided monitoring plan can be implemented and the determination team arrived at the conclusion that all monitoring arrangements are feasible within the project design.

For an in depth evaluation of these topics, please refer to section B6 of the table A-1 (annex 1).

5.2.9 Project Management Planning

The project management planning is appropriate for the purpose of the projects monitoring. The project will be included in the existing quality management system of the Terte plant, referring to the standards: ISO 9001:2008, ISO 14001:2004 and OHSAS 18001:2007.

The data processing will be carried out by N.serve GmbH as PP, which is involved in various N₂O emission reduction projects.

For an in depth evaluation of these topics, please refer to section B.7 of the table A-1 of the annex 1.

5.2.10 Crediting Period

The project starting date is 2010-12-08, which is also the start of the crediting period.

It should be mentioned, that the Walloon government has not given an official statement, that they are willing to accept retro crediting (start of crediting period at the beginning of the project activity and not with the registration date).

Since the PP explained, that

- the DFP stated the acceptance of retro crediting in discussions in the course of the project preparation^{/MAIL2/} and
- due to the fact, that Belgium and France also accept the retro crediting approach, the determination team will carry out the determination of the project and the estimated emission reductions on the basis of the early starting date.

The Project Participants applies for a crediting period of 10 years. It is expected that the project will run for only 2 years and 1 month (until the end of 2012-12-31), since it is almost certain that N₂O emissions from HNO₃ plants will be covered by the EU ETS from 2013 onwards.

Hence the emission calculation considers a crediting period extending from 2010-12-08 to 2012-12-31, which is deemed realistic and appropriate.

If N₂O is not included in the ETS after 2012, the period will extend to regular 10 Years until 2020.

For an in depth evaluation of these topics, please refer to section C of the table A-1 (annex 1).

5.2.11 Environmental Impacts

The Host Country Belgium AIEs not require an Environmental Impact Assessment (EIA) for the project. This could be proved by the PP with a respective e-mail from the DFP^{EIA}. Furthermore on the basis of document review and the on-site visit the validation team is convinced that negative environmental impacts due to the project are unlikely to occur.

For an in depth evaluation of these topics, please refer to section D of the table A-1 of the annex 1.

5.2.12 Comments by Stakeholders

Global

The global stakeholder consultation for the project was carried out on the TÜV NORD website (<http://www.global-warming.de/e/1985/>)^{gw/}, in line with the applicable requirements.

Lokal

As the JI project AIEs not have any relevance for local air, water or soil emissions, a local stakeholder consultation is not considered necessary.

For an in depth evaluation of these topics, please refer to section E of the table A-1 of the annex 1.

5.2.13 Issues for verification

FAR D2:

Since the PP will use the already installed ABB analysers for measuring the N₂O emissions during first time of the project, the verifier should

- Check the suitability of the analysers, sampling points and sampling pipes proved in a corresponding QAL 2 test.
- Check the consideration of longer measurement frequency in the monitoring report.

FAR D3:

The PP should

- provide calibration and maintenance records of all monitoring and measuring devices of the project. Each record should include:
 - Tracking Number. This tracking number is also on the equipment.
 - Equipment Description, type, Manufacturer and Model Location – Calibration requirements
 - Calibration interval with justification for the interval
 - Calibration Procedure
 - Calibration History
 - Calibration Due
- develop an ISO document showing relevant responsibilities/procedures/demands/documents of the project (project book).
- implement a procedure for calibration/maintenance of the Dr. Foedisch AMS including measures for the case that the error exceeds the allowed limits.

Develop an ISO procedure for the cross check of the HNO₃ mass flow meter.

6 DETERMINATION OPINION

Yara Tertre SA/NV has commissioned the TÜV NORD JI/CDM Certification Program (CP) as a Third Party to determinate the project: "YARA Tertre Uhde 2 abatement project in Belgium" with regard to the relevant requirements of the host country Belgium and of the UNFCCC for JI project activities, as well as criteria for consistent project operations, monitoring and reporting. UNFCCC criteria refer to the Kyoto Protocol Article 6 criteria and the Guidelines for the implementation of Article 6 of the Kyoto Protocol as agreed in the Marrakech Accords.

The project applies to the CDM baseline & monitoring methodology AM0034, version 5, "Catalytic reduction of N₂O inside the ammonia burner of nitric acid plants .

The review of the project design documentation and additional documents related to baseline and monitoring methodology have provided TÜV NORD JI/CDM CP with sufficient evidence to determinate the fulfilment of the stated criteria.

In detail the conclusions can be summarised as follows:

- The project is in line with all relevant host country criteria (Belgium, Wallonia) and all relevant UNFCCC requirements for JI.
- The project additionality is sufficiently justified in the PDD, the monitoring plan is transparent and adequate.
- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 240,337 tCO₂e (between 2010 and 2012) are most likely to be achieved within the crediting period.

The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the determination PDD.

Since the LoA will be issued after registration of the project at the DFP, CAR A1 will automatically be closed if the host country issues the LoA.

Essen, 2011-12-07



Mrs Alexandra Nebel,
TÜV NORD JI/CDM CP
Determination Team Leader

Essen, 2011-12-07



Mr. Eric Krupp
TÜV NORD JI/CDM CP
Final Approval

7 REFERENCES

Table 7-1: Documents provided by the project participant

| | Document |
|-----------------|--|
| /2370/ | Province de Hainaut – Deputation Permanente: Permit from the local government stating the maximum capacity of the site for HNO ₃ -production of 2,370 t/a, dated 2001-09-10. |
| /6502/ | Permission from local government stating a capacity of 650 t HNO ₃ /d |
| /750S2/ | Study of Uhde stating 750 t HNO ₃ per day as present production capacity of plant 2 |
| /BASKET/ | Technical drawing of the catalyst basket |
| /CERT/ | <ul style="list-style-type: none"> • ISO 9001:2008 certificate, issued by Det Norske Veritas, valid until 2012-03-15 • ISO 14001:2004 certificate, issued by Det Norske Veritas, valid until 2012-03-15 • OHSAS 18001:2007 certificate, issued by Det Norske Veritas, valid until 2012-03-15 |
| /EIA/ | Email from the Walloon government, Dominique Defrise, Conseillère au Cabinet de Philippe Henry, dated on 2010-12-22, stating that no environmental impact assessment is mandatory for this type of project. |
| /EFMA/ | Position paper of the European Fertilizer Manufacturers Association (EFMA) on N ₂ O emissions from nitric acid plants, agreed by EFMA's Steering Committee on 2005-03-30. |
| /EMSITE/ | Partie Air – Registre de Rejets-Enquete 2010 Données 2009 No.: 20706, (Publication from the Walloon government with emission values of industrial gases, including 3,427 kg N ₂ O from Tertre site) -Including the declaration from Tertre to the government: Plant mass of N ₂ O/a Uhde 2 1,897 kg |
| /FILL/ | Detailed procedure for filling the abatement catalyst in the provided basket, incl. safety sheet, technical drawings, photos of recent actions and improvement suggestions, dated 2008-10-13 |
| /GAS/ | Certificates d'analyse (Certificate of the testing gas for N ₂ O-analyser Uhde 2: Expiry date is 2012-11-28 |
| /HIST23/ | External report from Vincotte sa No. 60140674_10(2005_8).doc, confirming |

| | Document |
|-------------------|---|
| | the historical N ₂ O emissions from 2005 to 2008 for Uhde 2 and 2 plants. |
| /MAIL1/ | Mail from Bart Naessens Flemish government Environment, Nature and Energy Department, explaining the legal situation in Belgian/Wallonia regarding competences of DFPs and approval rules dated 2008-04-09 |
| /MAIL2/ | Summarised protocol with Stéphane COOLS, responsible for tradable permits in the Région Wallonne, Belgium regarding different issues of the proposed project implementation. |
| /INV3/ | Invoice from YARA International ASA regarding 2700 kg of N ₂ O abatement catalyst YST 58-Y, No.: HKA-100018, dated 2010-08-10 |
| /IPCC/ | Projet arrêté inodificatif des autorisations de YARA S.A.-mise en oeuvre de la Directive IPPC, dated March 2010 (Arrete regarding the application of the IPPC regulation |
| /BENCH// | Project confirmation letter, issued by the Walloon government (Cabinet du Ministre de l'Environnement, de l'Aménagement du territoire et de la Mobilité) on 2010-10-22, stating following benchmark emission factors: <ul style="list-style-type: none"> • 2.5 kg N₂O/t HNO₃ for 2010 and 2011 • 1.85 kg N₂O/t HNO₃ for 2012. |
| /MASS2/ | Unités d'acide nitrique. Calcul du débit d'air á la turbine de détente (Mass balance calculating volume flow as burner Uhde 2 output |
| /MO2/ | Manuel operatoire TET-010920 (operation manual for plant Uhde 2) stating the trip point of the plants (needs to be revised according to PCS data) |
| /O/ | Organigramme (Organisational Chart) |
| /OFFER2/ | Offer from Steinmüller GmbH regarding boosting the La-Monte (Uhde 2) plant to 750 t HNO ₃ /a, dated 1980-03-07. |
| /ORG/ | Organigramme de YARA (Organisational sheet) for the plant 2 and 3 |
| /P&I2/ | Pipe and Installation sheet of Uhde 2 plant <ul style="list-style-type: none"> • 1 of 3 • 2 of 3 • 3 of 3 |
| /PDD/ | JOINT IMPLEMENTATION PROJECT DESIGN DOCUMENT FORM: <ul style="list-style-type: none"> • YARA Tertre Uhde 2 abatement project in Belgium, Version: 2010-10-26 (Version 1) • YARA Tertre Uhde 2 abatement project in Belgium, Version: 2011-12-06 |

| | Document | | | | | | | | | | | | |
|------------------|--|---------|----------------------|------|--|---------|---------|---------|----------------------|---------|---------|---------|----------------------|
| | (Version 4) | | | | | | | | | | | | |
| /PERM2/ | Plant permission from local government (Deputation permanente), dated 1976-12-02 | | | | | | | | | | | | |
| /PERM23/ | Site permission from local government (Deputation permanente), dated 1990-12-28 | | | | | | | | | | | | |
| /PERM23N/ | Renewed site permission from local government (Deputation permanente), dated 1998-03-26 | | | | | | | | | | | | |
| /PRES/ | Tertre site presentation (.ppt) | | | | | | | | | | | | |
| /PROC/ | Comptabilisation des emissions (NO _x , N ₂ O) des Unites UH2, UH3 DUPON (TE/PO-ACD-06), (Quality procedure regarding the measurement of NO _x and N ₂ O emissions, TET-010417 | | | | | | | | | | | | |
| /PROC1/ | Manual operatoire laboratoire –Utilisation du chromatographie en phase gazeuse (TET-011545), (Quality procedure regarding utilisation of existing analysers) | | | | | | | | | | | | |
| /PROC2/ | Analyses acide nitrique – Protocol of laboratory values of output of HNO ₃ -plants, including titration printout | | | | | | | | | | | | |
| /PROC2/ | Calibration protocol of the Uhde 2 gas analyser | | | | | | | | | | | | |
| /PROC4/ | Manual operatoire laboratoire –determination N ₂ O ‘dans les cheminees des installations acide nitrique par chromatographie en phase gazeuse (TET-011662), (Quality procedure regarding N ₂ O measurements in gas phase utilisation of existing analysers) | | | | | | | | | | | | |
| /PROC52/ | PT-technical procedure –etalonnage de l’analysateur de N ₂ O, O ₂ , NO et NO ₂ de queue de Uhde 2 (TET-011517), (Technical procedure regarding calibration of Uhde 2 gas analyser | | | | | | | | | | | | |
| /PUR/ | Purchase order No.: 4501078852, regarding 1,440 tonnes of abatement catalyst 58-Y1, dated 2010-10-15 | | | | | | | | | | | | |
| /RESP/ | Overview of responsibilities for the project activity <ul style="list-style-type: none"> • General responsibilities • Local responsibilities | | | | | | | | | | | | |
| /ROAD/ | Road map 2011 to 2015 stating the planned outputs of Uhde 2 and 3 plant: <table border="1" style="margin-left: 20px;"> <thead> <tr> <th></th> <th>2011</th> <th>2012</th> <th></th> </tr> </thead> <tbody> <tr> <td>Uhde 2:</td> <td>272,314</td> <td>273,597</td> <td>tHNO₃/a</td> </tr> <tr> <td>Uhde 3:</td> <td>190,233</td> <td>196,779</td> <td>tHNO₃/a</td> </tr> </tbody> </table> | | 2011 | 2012 | | Uhde 2: | 272,314 | 273,597 | tHNO ₃ /a | Uhde 3: | 190,233 | 196,779 | tHNO ₃ /a |
| | 2011 | 2012 | | | | | | | | | | | |
| Uhde 2: | 272,314 | 273,597 | tHNO ₃ /a | | | | | | | | | | |
| Uhde 3: | 190,233 | 196,779 | tHNO ₃ /a | | | | | | | | | | |

| | Document |
|-----------------|---|
| /SCREEN/ | Screenshot of PSC of plant 2 |
| /STUDY2/ | Studie zur Leistungssteigerung der La-Monte Abhitzeanlage... auf eine Nominallast von 750 tato HNO ₃ (Study regarding performance-boosting of Uhde plant 2, former Lam-Monte). |
| /TRAIN/ | List of trained persons of the plant for maintenance of the analyser |
| /TRIP2/ | Trip points of plant 2 from PCS |

Table 7-2: Background investigation and assessment documents

| Reference | Document |
|--------------|---|
| /B-1/ | Approved baseline and monitoring methodology AM0034: "Catalytic reduction of N ₂ O inside the ammonia burner of nitric acid plants", version 5. |
| /B-2/ | European Standard DIN EN 14181: "Stationary source emissions – Quality assurance of automated measuring systems |
| /B-3/ | Joint Implementation Supervisory Committee: Guidelines for users of the Joint Implementation Project Design Document Form, Version 04 |
| /B-4/ | Background paper: "N ₂ O emissions from adipic acid and nitric acid production", Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories issued by the NGGIP |
| /B-5/ | European IPPC Bureau publication „Integrated Pollution Prevention and Control; Reference Document on Best Available Techniques for the Manufacture of Large Volume Inorganic Chemicals – Ammonia, Acids and Fertilizers (August 2007) |
| /B-6/ | Approved baseline and monitoring methodology AM0028: "Catalytic N ₂ O destruction in the tail gas of Nitric Acid or Caprolactam Production Plants", Ver. 5 |
| /B-7/ | Methodological Tool: "Tool for the demonstration and assessment of additionality" (Version 05.2), EB 39, Annex 10 |

Table 7-3: Websites used

| Reference | Link | Organisation |
|-----------|---|---|
| /bref/ | http://eippcb.jrc.ec.europa.eu/reference/ | Website of the European Commission, Joint Research Centre, Institute for Prospective Technological Studies (Provision of BAT-Reference documents) |
| /dfp/ | http://klimaatplan.vito.be | Belgian DFP |
| /walloon/ | http://environnement.wallonie.be/ | Wallonian air and climate agency |
| /cwedd/ | http://www.cwedd.be/ | Walloon Environmental Council for Sustainable Development (CWEDD) |
| /gw/ | http://www.global-warming.de/ | TÜV Nord platform hosting projects open for comments at the determination stage |
| /ipcc/ | www.ipcc-nggip.iges.or.jp | IPCC publications |
| /jir/ | http://www.jirulebook.org/track1 | JI-Rulebook, Practice and Procedures |
| /unfccc/ | http://ji.unfccc.int | UNFCCC |

Table 7-4: List of interviewed persons

| Reference | Mol ¹ | | Name | Organisation / Function |
|-----------|------------------|--|--------------------|---|
| /IM01/ | V | <input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms | Rémi Lemetter | Plant Manager of YARA Tertre plant |
| /IM01/ | V | <input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms | Sandrine Allaert | Process and project engineer of YARA Tertre plant |
| /IM01/ | V | <input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms | Philippe Stevenart | Production Manager of YARA Tertre plant |
| /IM01/ | V | <input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms | André Guillet | Safety Adviser of YARA Tertre plant |
| /IM01/ | V | <input checked="" type="checkbox"/> Mr. | Ubaldo Michelon | Instrumentation Engineer of YARA |



| Reference | Mol ¹ | | Name | Organisation / Function |
|-----------|------------------|--|------------------------|---|
| | | <input type="checkbox"/> Ms | | Tertre plant |
| /IM01/ | V | <input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms | Rebecca Cardani-Stange | Project manager from N.serve |
| /IM01/ | V | <input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms | J. De Schrijver | Analytic Technical at laboratory of YARA Tertre plant |

¹⁾ Means of Interview: (Telephone, E-Mail, Visit)

ANNEX

| | |
|------------|---|
| A1: | Determination Protocol |
| A2: | Assessment of Baseline Information |
| A3: | Assessment of Financial Parameters |
| A4: | Assessment of Barrier Analysis |
| A5: | Outcome of the GSCP |
| A6: | Application of non approved Methodologies Requirement Checklist |
| A7: | Appointment / Authorisation statements |

ANNEX 1: DETERMINATION PROTOCOL

Table A-1: Requirements Checklist

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|--|---|---------|------------------------|-----------------|
| A. General Description of Project Activity | | | | |
| A.1. Approval <i>The written approval of the parties involved is a mandatory requirement</i> | | | | |
| A.1.1. Which Parties and project Participants are involved in the project? | Parties involved are Belgium (as a Host Party) and France. The Project Participant of the Host Country is Yara Tertre SA/NV. Germany as party involved will be replaced by France as stated by the PP during on-site-visit. The Project Participant of France is N.serve Environmental Services GmbH CAR A2: France should be listed as investor country instead of Germany | /PDD/ | CAR A2 CAR A4 | OK |
| A.1.2. Are the parties involved eligible for JI Track 1? | By means of checking the UNFCCC website, it was confirmed that Belgium and France are eligible under JI track | /dehst/ | | OK |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|---|---|----------|-----------------|-----------------|
| | 1. CAR A4: <ul style="list-style-type: none"> The PP envisaged to include Norway as investor party. Since Norway does not provide national procedures for approving JI projects until date of registration by the Belgian designated focal point, Norway cannot be considered as involved Party. The PP is requested to revise the list of project participants in chapter A.3. | /unfccc/ | | |
| A.1.3. Has the project provided written approvals of all parties involved? | The pending letters of approval from the host country will be provided only on the basis of the successful conclusion of this determination. Thus this CAR will be automatically closed if the host country issues their LoA. Nevertheless, a corresponding CAR was raised. | /PDD/ | CAR A1 | |
| A.1.4. Are the approvals issued from organisations listed as DFPs on the UNFCCC JI website? | Please refer to the comment under A.1.3. | | CAR A1 | |
| A.1.5. Do the written approvals confirm that the corresponding party is a Party to the Kyoto Protocol? | Please refer to the comment under A.1.3. | | CAR A1 | |
| A.1.6. Do the written approvals refer to the precise project title in the PDD submitted for registration? | Please refer to the comment under A.1.3. | | CAR A1 | |
| A.1.7. Is the information regarding the project participants listed in section A3 and in Annex 1 | Yes, the information regarding project participants is consistent in both sections. | | | OK |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|---|--|----------------|-----------------|-----------------|
| of the PDD internally consistent to each other? | | | | |
| A.1.8. Are all project participants listed in the PDD approved at least by one Party involved? | Please refer to the comment under A.1.3. | | CAR A1 | |
| A.1.9. Are any other project participants approved but not listed in the PDD? | Please refer to the comment under A.1.3. | | CAR A1 | |
| A.2. PDD editorial aspects <i>The PDD used as a basis for determination shall be prepared in accordance with the latest template and guidance from the JISC available on the UNFCCC JI website.</i> | | | | |
| A.2.1. Has the latest version of the PDD form been applied? | <p>Since this is a JI Track 1 project activity, there are no mandatory forms that have to be used.</p> <p>A latest version of a Project Design Document (Joint Implementation Project Design Document Form, Version 01 - in effect as of: 15 June 2006) in accordance with Decision 10/CMP.1 was used.</p> | /PDD/ /B-3/ | | OK |
| A.2.2. Has the PDD been duly filled in accordance with the latest guidance(s)? | <p>The PDD is in line with the Guidelines for users of the Joint Implementation Project Design Document Form, Version 4.</p> <p>CAR A2: Section A.4.1.4. should include longitude/latitude of the burner and stack. Table A.3. AIEs not fully match with name of project participants listed in Annex 1, please correct.</p> | /PDD/ /B-3/ | CAR A2 | OK |



| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|---|--|----------------------------|--|---------------------|
| <p>A.3. Technology to be employed</p> <p><i>Determination of project technology focuses on the project engineering, choice of technology and competence/ maintenance needs. The AIE should ensure that environmentally safe and sound technology and know-how is used.</i></p> | | | | |
| <p>A.3.1. AIEs the PDD contain a clear, accurate and complete project description?</p> | <p>Within the project, N₂O emissions from the production of nitric acid at YARA Tertre nitric acid plant will be reduced by installation of a secondary N₂O abatement catalyst.</p> <p>The project description was provided in various parts of the PDD, esp. in the chapters A.2, A.4.2 and A.4.3. The description of the project activity is assessed as clear, accurate, complete and sufficient; the PDD is mostly in line with provided evidences and physical implementation (regarding N₂O-plant) of the project activity.</p> <p>The details including the technical specification of the state of the art catalyst technology for the abatement of N₂O have been provided in the PDD in a detailed and appropriate manner.</p> <p>The applicability of the type of installed abatement catalyst (YARA58 Y 1 ®) under appropriate plant conditions is suitable to decompose N₂O.</p> <p>CAR A2: Section A.4.1.4. should include longitude/latitude of the</p> | <p>/PDD/ /P&I/</p> | <p>CAR A2 CAR A3 CAR B3</p> | <p>OK</p> |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|--|---|------------------------|-----------------|-----------------|
| | <p>burner and stack.</p> <p>YARA Tertre Uhde 2 is a 5.5/10 bar dual pressure plant not medium as stated.</p> <p>The Arrete regarding the application of the IPPC regulation^{/IPPC/} stating the reduction of N₂O-emission from 2013 on (page 8 first sentence of the doc): "<i>Considérant que cette valeur sera à considérer par l'exploitant dans son projet de modification des installations Uhde 2 et Uhde 3 visant à réduire les émissions de N₂O dans un délai de trois ans</i>" should be included in section B.2.</p> <p>CAR A3:</p> <p>The trip points of the document /MO2/ of the plant 2 (Manuel operatoire TET-010920-systems de securite) need to be revised according to the plant control system settings.</p> <p>CAR B3:</p> <p>The output consists of 60% and 69% concentration HNO₃. This fact needs to be described in the PDD and also included in the ERU calculation.</p> | | | |
| A.3.2. Is this description in accordance with the real situation or (in case of greenfield projects) is it most likely that the project will be implemented acc. to the project description? | <p>The situation on site was inspected by the determination team and is as described in the PDD and other project documentation documents.</p> <p>During the on-site visit the determination team has inspected the facilities of the HNO₃-production site and it could be verified that physical implementation of the project activity is</p> | PDD /P&I/ /FILL/ | CAR B3 | OK |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|---|--|----------------|-----------------|-----------------|
| | <p>in line with the information provided in the PDD.</p> <p>CAR B3 was raised since the HNO₃-output is separated in two lines (60 and 69% HNO₃), which has to be taken into account in the NAP-calculations.</p> | | | |
| A.3.3. In case the project involves alteration of the existing installation or process, is a clear description available regarding the differences between the project and the pre-project situation? | Within the project, N ₂ O emissions from the production of nitric acid at Tertre nitric acid plant will be reduced by installation of a secondary N ₂ O abatement catalyst. The N ₂ O catalyst will be installed in the ammonia burner. Prior to the project activity, no N ₂ O abatement-technology was used so that the pre-project situation AIEs not envisage any N ₂ O abatement measures. | /PDD/ | | OK |
| A.3.4. AIEs the project design engineering reflect current good practices? | Yes. The project involves the installation of a secondary catalyst in the ammonia burner to abate nitrous oxide. Since this or similar type of catalyst is installed in several nitric acid plants which are involved in CDM and JI-projects, this project reflects current good practices. | /PDD/ | | OK |
| A.3.5. AIEs the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country? | The employed technology is defined as best available technology acc. to the BREF-Documents of the IPCC. | /PDD/ /B-5/ | | OK |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|--|---|----------------|-----------------|-----------------|
| A.4. Small scale project activity <i>It is assessed whether the project qualifies as small-scale JI project activity</i> | | | | |
| A.4.1. AIEs the project qualify as a small scale project activity as defined by the JISC | Not applicable, because the project activity is a large scale project since the estimated mean value of emission reduction of 116,449 tCO ₂ e/year (240,337 tCO ₂ e between 2010 and 2012) stated in the initial PDD exceeds the limit of 60,000 tCO ₂ e annually. | /PDD/ | | OK |
| A.4.2. AIEs the project apply one of the approved small scale categories and any methodology and tool referred therein? | See A.4.1. | | | |
| A.4.3. Is the small scale project activity not a debundled component of a larger project activity? | See A.4.1. | | | |
| B. Project Baseline, Additionality and Monitoring Plan | | | | |
| B.1. Application of the Methodology | | | | |
| B.1.1. What kind of methodology has been used? | The PDD references the "Approved baseline and monitoring methodology AM0034: "Catalytic reduction of N ₂ O inside the ammonia burner of nitric acid plants", version 5". | /PDD/ /B-1/ | | OK |



| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|--|---|-------------------------|------------------------|---------------------|
| | Type: <input checked="" type="checkbox"/> I: CDM Approved Methodology – latest version with project specific amendments <input type="checkbox"/> II: CDM Approved Methodology – older version <input type="checkbox"/> III: National Methodology <input type="checkbox"/> IV: Combination of Approved Methodologies <input type="checkbox"/> V: Project specific Methodology | | | |
| B.1.2. In case of methodology types I and II: Is the applied CDM methodology identical with the version available on UNFCCC website or -in case of a country or project-specific methodology- is the methodology approved by the Host Country? In case of methodology types III – V: Annex 6 has to be filled | The proposed project activity applies the latest version of AM0034 available on the UNFCCC web-base (http://cdm.unfccc.int/methodologies/DB/993RRDBB2WJI9TA D2XCKPK5YATQXY6). <u>Note:</u> According to the JI rulebook : "Under the Track 1 process, the determination of the eligibility of the project and the monitoring and verification of emission reductions is subject to national rules and procedures only". A 100% compliance of the project methodology to an approved UNFCCC-methodology is -the approval of the national DFP presumed- not mandatory. | /PDD/ /B-1/ /jir/ | CAR B1 CAR A2 | OK |



| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
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| | <p>The PP includes some deviations from the methodology, which is eligible in the context of the track 1 modalities.</p> <p>Aspect: Baseline campaign, Baseline emissions</p> <p><u>Requirement of the methodology:</u> Baseline emissions established based on distinct baseline campaign.</p> <p><u>Adjustment in JI project specific context:</u> Benchmark factors are used for determining reference case emissions.</p> <p><u>Assessment of the determination team:</u> A benchmark-value of 2.5 kgN₂O/tHNO₃ was set by the Walloon government for the year 2010 and 2011 and of 1.85 kgN₂O/tHNO₃ in 2012.</p> <p>The determination team follows the reasoning of the PP.</p> <p>Aspect: Permitted range of operational parameters</p> <p><u>Requirement of the methodology:</u> Establishing a permitted range of operational parameters to avoid manipulation of baseline emissions.</p> | | | |



| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
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| | <p><u>Adjustment in JI project specific context:</u> No permitted range of operational parameters is established</p> <p><u>Assessment of the determination team:</u> Since a benchmark for baseline emissions will be implemented, there is no chance for increasing the emission reductions by manipulating the operation conditions. The determination team follows the reasoning of the PP.</p> <p>Aspect: Statistical Analysis of baseline and project emissions data</p> <p><u>Requirement of the methodology:</u> Collected baseline and project campaign data are subject to statistical analysis in order to eliminate values, which are not representative for standard plant operation.</p> <p><u>Adjustment in JI project specific context:</u> No such step is undertaken.</p> <p>As no baseline campaign is undertaken, there is no baseline campaign data that could be subject to statistical analysis.</p> <p>Project emissions are calculated based on Verification Periods and not on standard production campaigns</p> <p><u>Assessment of the determination team:</u> Since no baseline campaign was carried out, statistical analysis of baseline data could not be carried out.</p> | | | |



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| | <p>The determination team follows this reasoning of the PP regarding statistical assessment of baseline campaign, but raised a CAR regarding following issue:</p> <p>CAR B1:</p> <p>The statement: "Project emissions are calculated based on Verification Periods and not on standard production campaigns" should be discussed as a separate aspect.</p> <p>The PP should clearly state that statistical analysis according to the methodology will carried out for the project emissions data.</p> <p>Aspect:</p> <p>Deduction of AMS combined uncertainty from baseline emission factor</p> <p><u>Requirement of the methodology:</u></p> <p>Combined uncertainty for all parts of the AMS is deducted from EF_{BL}.</p> <p><u>Adjustment in JI project specific context:</u></p> <p>Uncertainty is not taken into account</p> <p><u>Assessment of the determination team:</u></p> <p>Since a benchmark for baseline emissions will be implemented, not uncertainty factor has to be applied on the benchmark value.</p> <p>The determination team follows the reasoning of the PP.</p> | | | |



| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
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| | <p>Aspect: Recalculation of EF_{BL}-value in case of shorter project campaign.</p> <p><u>Requirement of the methodology:</u> In case a project campaign is shorter than the baseline campaign, EF_{BL} is re-calculated for that campaign</p> <p><u>Adjustment in JI project specific context:</u> EF_{BL} is not being applied..</p> <p><u>Assessment of the determination team:</u> Because emission reductions are not assessed based on factual emissions, this measure is not needed. The determination team follows the reasoning of the PP.</p> <p>Aspect: Monitoring Periods basing on campaigns.</p> <p><u>Requirement of the methodology:</u> Verifications can only be undertaken for full campaigns, not merely for parts of campaigns.</p> <p><u>Adjustment in JI project specific context:</u> This restriction AIEs not apply.</p> <p><u>Assessment of the determination team:</u> Project campaigns are not be related to baseline campaigns.</p> | | | |



| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
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| | <p>Because of that, emission reductions can also be determined for parts of campaigns. The determination team follows the reasoning of the PP.</p> <p>Aspect: Moving Average Emissions Factor ($EF_{ma,n}$).</p> <p><u>Requirement of the methodology:</u> Project emissions are compared to the average emission factor of all previous project campaigns (of the first 10 campaigns only).</p> <p><u>Adjustment in JI project specific context:</u> This step is not being applied.</p> <p><u>Assessment of the determination team:</u> Since a benchmark for baseline emissions will be implemented, no moving average for monitoring of catalyst efficiency is necessary.</p> <p>The determination team follows the reasoning of the PP.</p> <p>Aspect: Minimum project emissions factor after 10th campaign (EF_{min})</p> <p><u>Requirement of the methodology:</u> No project emissions factor after the 10th project campaign may be lower than the lowest recorded during these campaigns.</p> | | | |



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| | <p><u>Adjustment in JI project specific context:</u> This restriction AIEs not apply.</p> <p><u>Assessment of the determination team:</u> Since a benchmark for baseline emissions will be implemented, the project emission factor should not be capped taking into account a loss of efficiency of the N₂O abatement catalyst.</p> <p>The determination team follows the reasoning of the PP, but CAR A2 was raised, since the requirement of methodology was misquoted as: "no PE may be <i>higher</i> than the lowest recorded...".</p> <p>Aspect: Downtime of the AMS</p> <p><u>Requirement of the methodology:</u> In the event that the monitoring system is down, the lowest between the conservative 4.5 kgN₂O/tHNO₃ IPPC default factor and the last measured value will be valid and applied for the downtime period for the baseline emission factor, and the highest measured value in the campaign will be applied for the downtime period for the campaign emission factor.</p> <p><u>Adjustment in JI project specific context:</u> In the case of a period of AMS downtime that constitutes a malfunction of the AMS, the missing data from the relevant hour should be replaced with the highest value measured</p> | | | |



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| | <p>during the whole of the relevant verification period. The assessment should be based on values measured during periods of standard AMS operation and recording after elimination of mavericks. This replacement of missing data will be done on the basis of hourly average values.</p> <p>In the case of equipment downtime due to a routine calibration for any part of one hour, the hourly average value will be calculated pro-rata from the remaining available data from the hour in question. If the remaining available data from that hour constitutes less than 2/3 of the hour (less than 40 minutes), that hour should be considered missing. Each time it is impossible to calculate one hour of valid data, substitute values should be used instead of the missing hour for the further calculations of emissions reductions. As a substitute value, the last valid hourly average value before the calibration will be used for the calculation of emissions reductions.</p> <p><u>Assessment of the determination team:</u></p> <p>No distinction between downtime during the baseline and AMS-downtime can be made in the context of the project since no baseline is being measured.</p> <p>The default factor contained in AM0034 is not appropriate in the project-case in the case that the applied benchmark factor corresponds to or decreases the default value.</p> <p>In addition, AM0034 AIEs not distinguish between times when the AMS was in the status of malfunction and periods</p> | | | |



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| | <p>of standard calibration. The PPs approach differentiates between these two scenarios.</p> <p>The determination team follows the reasoning of the PP, since the conservative approach of the measurement of project emissions is not affected.</p> <p>Aspect:</p> <p>Recording and storage interval for the parameters NCSG, VSG, TSG and PSG.</p> <p><u>Requirement of the methodology:</u></p> <p>AM0034 requires a recording frequency of 2 seconds for these parameters.</p> <p><u>Adjustment in JI project specific context:</u></p> <p>A recording frequency of 5 seconds will be applied.</p> <p><u>Assessment of the determination team:</u></p> <p>Due to the stable operating conditions in the plant and very low variations of N₂O emission values, an interval of 5 seconds is sufficient in order to establish high-quality hourly mean values. A higher frequency of recorded values is not necessary.</p> <p>The determination team follows the reasoning of the PP, but CAR B1 was raised, since the 2 minutes interval of the existing ABB analyser should be included in this statement.</p> <p>Nevertheless, since an older version of the methodology was</p> | | | |



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| | referenced in some parts of the PDD, CAR B1 was raised: "The PDD should reference to the actual version of AM0034 (Ver. 5) and AM0028 (Ver. 5)" | | | |
| B.1.3. Are all applicability criteria in the methodology, the applied tools or any other methodology component referred to therein fulfilled? | The PP includes following discussion of applicability criteria in the PDD: <ul style="list-style-type: none"> a. exclusion of projects resulting in shut-down of N₂O abatement Applied: Unchanged. b. no effect on HNO₃ production Applied: This criterion has been eliminated since it has been consistently proven that N₂O abatement AIEs not affect nitric acid production. c. no increased NO_x emissions Applied: Unchanged. d. no other GHG emissions Applied: This criterion AIEs not apply, because secondary catalyst technology AIEs not lead to any non-N₂O GHG emissions. e. continuous N₂O measurement possible This criterion AIEs not address a question of applicability as such. If monitoring is not possible / is complicated, a more appropriate and differentiating discussion can take place within the discussion of the | /PDD/ /B-1/ | CAR B1 | OK |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
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| | <p>monitoring aspects associated with the project</p> <p>The determination team raised some issues regarding this statement:</p> <p>CAR B1</p> <p>Section B.1.: Explanation and Justification of deviations from AM0034</p> <ul style="list-style-type: none"> • Applicability criteria: <ul style="list-style-type: none"> • The Explanation should follow the relevant list of conditions in the methodology • Criterion (b) of the PDD: "no effect on HNO₃-production" should not be eliminated but assessed according to the actual situation of the plant • Criterion (e) of the PDD: "continuous N₂O-measurement": This criterion is fulfilled. | | | |
| B.1.4. Is the project in accordance to every other stipulation or requirement mentioned in all sections of the methodology? | Yes, the project meets all stipulations of the methodology. In this context it has to be mentioned, that there has been a close contact between the project proponents and the Walloon government regarding the development of the project specific methodology. | /PDD/ /B-1/ /B-2/ | | OK |
| <p>B.2. Project Boundaries</p> <p><i>Project Boundaries are the limits and borders defining the GHG emission reduction project</i></p> | | | | |
| B.2.1. Are the project's spatial boundaries (geographical) clearly defined? | The project boundary includes the nitric acid plant from the inlets to the ammonia burner to the outlet of the stack. All | /PDD/ | CAR A2 | OK |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
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| | <p>NO_x and N₂O abatement-devices and the AMS in the stack are included. According to the methodology, only the emissions of N₂O as tail gas emission have to be considered in the project boundary.</p> <p>This is -according to the methodology- described in words and a visualisation of the physical project boundary as well as a table defining all significant GHG gases has been included in the PDD.</p> <p>CAR A2 was raised regarding following issue: The description of boundary in section B.3. should include the "Table 1: Overview of emission sources included or excluded from the project boundary" figured in the methodology with project specific explanations/justification if necessary.</p> | | | |
| B.2.2. Are all sources and GHGs included in the project boundary as required in the applied methodology? | The methodology only considers N ₂ O as the main emission source in tail gas after the destruction facility. All other gases/sources are not included in the project boundary. | /PDD/ | | OK |
| B.2.3. In case the methodology allows choosing whether a source and/or gas is to be included, is the choice sufficiently explained and justified? | See B.2.2 | /PDD/ | | OK |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
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| B.3. Baseline Identification <i>The choice of the baseline scenario will be validated with focus on whether the baseline is a likely scenario, and whether the methodology to define the baseline scenario has been followed in a complete and transparent manner.</i> | | | | |
| B.3.1. What has been identified as the baseline scenario? | Because of absence of any N ₂ O regulations at the plant, the Uhde 2 plant operator would not install any reduction technology and would continue emitting N ₂ O at the current levels until the introduction of the nitric acid sector into the EU ETS from January 2013 onwards | /PDD/ /2370/ /6502/ /750S2/ /IPCC/ | | OK |
| B.3.2. What possible baseline scenarios have been considered? | Following alternative to the project activity has been identified: <ul style="list-style-type: none"> • Continuation of the <i>Status Quo</i>, where there is no N₂O destruction technology installed • Installation of a Non-Selective Catalytic Reduction unit (NSCR) • Implementation of a primary, secondary or tertiary N₂O destruction technology in the absence of the registration as a JI project activity. Since not all possible scenarios listed in the methodology AM0028 were discussed, CAR B2 was raised: | /PDD/ /B-1/ /B-6/ | CAR B2 | OK |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
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| | "Section B.2.: Point 1.2 "Most realistic scenario in the absence of JI revenues for N ₂ O reductions achieved": The discussion of realistically feasible scenario alternatives should strictly follow the procedure to identify the baseline scenario described in AM0028 and include all alternatives listed in this document." | | | |
| B.3.3. In case alternatives have to be considered, are all scenarios supplemental to those provided in the methodology reasonable in the context of the project activity? | No additional scenarios have been considered. | /PDD/ | | OK |
| B.3.4. Has the baseline scenario been determined according to the methodology? | No, the scenarios: <ul style="list-style-type: none"> • Alternative use of N₂O such as: <ul style="list-style-type: none"> ○ Recycling of N₂O as a feedstock for the plant; ○ The use of N₂O for external purposes were not included in the assessment. CAR B2 was raised. | /PDD/ /B-1/ /B-6/ | CAR B2 | OK |
| B.3.5. Is the list of alternatives complete? | No see B.3.4. | /PDD/ /B-1/ /B-6/ | CAR B6 | OK |
| B.3.6. Has the baseline scenario been determined using conservative assumptions where possible? | The determination of the baseline scenario was carried out on the basis of the methodology AM0028 that deemed to be a conservative approach. In addition, the application of a benchmark value instead of (higher) historical emissions can also be rated as conservative. | /PDD/ /BENCH/ /B-1/ | | OK |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
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| B.3.7. AIEs the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations? | Yes, as explained above, all legal requirements have been taken into account; it was checked by the determination team that no legal emission limits for N ₂ O exists until 2012-12-31. | /PDD/ /B-1/ /BENCH/ /PERM/ /PERM2 3/ /PERM2 3N/ /IPCC/ /650/ | | OK |
| B.3.8. Is the baseline scenario determination compatible with the available data and are all literature and sources clearly referenced? | The baseline scenario determination is compatible with the available data and literature sources are clearly referenced. The PDD provides references to all relevant literature sources (sources were submitted for determination, too) and data. | /PDD/ /B-1/ /IPCC/ /BENCH/ /B-5/ | | OK |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
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| B.4. Additionality Determination <i>The assessment of additionality will be validated with focus on whether the project itself is not a likely baseline scenario.</i> | | | | |
| B.4.1. Methodology | | | | |
| B.4.1.1. Did the additionality justification follow the requirements of the applied methodology and/or methodological tools? | <p>The additionality has been assessed according to the methodology (Section II).</p> <p>The additionality has been proved according to the methodology, which includes a scheme for the assessment of the reference scenario and additionality of the project activity. The PP used the "Combined tool to identify the baseline scenario and demonstrate additionality", which is consistent to the "Additionality Tool" referenced in the methodology AM0034.</p> | /PDD/ /B-1/ /B-7/ | | OK |
| B.4.2. Consideration of JI before project | | | | |
| B.4.2.1. Is the project starting date reported in accordance with the glossary of JI terms? | <p>The start of the project activity will be the 08th December 2010 after a routine stop of the plant. At this date, the plant operation restarts with a fully operational secondary catalyst in the ammonia burner. This date is fixed as the starting date of the project since it is the start of the "real action".</p> <p>CAR A2 was raised, since the PDD mentioned the 1st December as starting date which was corrected during on-</p> | /PDD/ /jir/ | CAR A2 | OK |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
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| | site visit | | | |
| B.4.2.2. In case the project start date is before commencing of determination, was the incentive from JI seriously considered and are details given in the PDD? | The starting date of the project is expected to be 2010-12-08, which is later than the determination date. A prove of considering of JI before this date is not necessary. | /PDD/ | | OK |
| B.4.2.3. How and when was the decision to proceed with the project? | N/A | | | |
| B.4.2.4. Is the project start date consistent with the available evidences? | CAR A2 was raised, since the PDD mentioned the 1st December as starting date which was corrected during on-site visit | /PDD/ | CAR A2 | OK |
| B.4.2.5. Was the decision to proceed with the project taken by a person entity, which has the authority to do so? | N/A | | | - |
| B.4.2.6. How was the JI involved in the decision making process? | It is obvious, that the only incentive to carry out the project activity is the income generated by the ERUs claimed. JI is the prerequisite to implement the project and the main driver in the decision making process. | /PDD/ | | OK |
| B.4.2.7. Can the JI involvement in the decision be assessed as serious? | Yes, see above | | | - |
| B.4.3. Identification of alternatives Step 1 (in case of SSC projects pl. skip steps 1 and 2) | | | | |
| B.4.3.1. Have all realistic alternatives been identified to the project? | No, the scenarios: | /PDD/ | CAR | OK |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
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| | <ul style="list-style-type: none"> • Alternative use of N₂O such as: <ul style="list-style-type: none"> ○ Recycling of N₂O as a feedstock for the plant; ○ The use of N₂O for external purposes <p>Were not included in the assessment. CAR B2 was raised.</p> | /B-6/ | B2 | |
| B.4.3.2. Contains the list of alternatives at least the status-quo situation and the project not undertaken as a JI project? | Yes the list of alternatives includes the status-quo situation and the implementation of the abatement technology in the absence of the registration of the project activity. | /PDD/ | | OK |
| B.4.3.3. Do all identified alternatives comply with applicable regulation? | Yes, the alternatives are complying with the legal obligations, since there are no restrictions for N ₂ O emissions during the proposed project period. | /PDD/ | | OK |
| B.4.4. Investment analysis Step 2 <i>In case the investment analysis as per step 2 is chosen to justify the additionality Annex 2 "Assessment of Financial Parameters" has to be used to provide additional details of the calculation parameters..</i> | | | | |
| B.4.4.1. Is an appropriate analysis method chosen for the project (simple cost analysis, investment comparison analysis or benchmark analysis)? | According to the "Methodological Tool "Tool for the demonstration and assessment of additionality" (Version 05.2), the PP can choose between investment analysis (step 2) and barrier analysis (step 3). Since the PP applied the barrier analysis, no financial assessment was carried out. | /PDD/ /B-7/ | | OK |
| B.4.4.2. Is a clear, viewable and unprotected Excel spreadsheet available for the investment | N/A | | | |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|--|--|------|-----------------|-----------------|
| calculation? | | | | |
| B.4.4.3. AIEs the period chosen for the investment analysis reflect the technical lifetime of the project activity or in case a shorter period is chosen, is the fair value of the project activity's assets at the end of the investment analysis period (as a cash inflow) included? | N/A | | | |
| B.4.4.4. Is the fair value calculated in accordance with local accounting regulations (where available) or international best practice? | N/A | | | |
| B.4.4.5. Is the book value as well as the expectation of the potential profit or loss included in the fair value calculation? | N/A | | | |
| B.4.4.6. Are depreciation and other non-cash related items added back to net profits for the purpose to calculate the financial indicator? | N/A | | | |
| B.4.4.7. Is taxation excluded in the investment analysis or is the benchmark intended for post tax comparisons? | N/A | - | - | - |
| B.4.4.8. Were the input values used in the investment analysis valid and applicable at the time of the investment decision? | N/A | - | - | - |
| Investment comparison | | | | |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|--|--|------|-----------------|-----------------|
| B.4.4.9. In case of project IRR: Are the costs of financing expenditures (loan repayments and interests) excluded from the calculation of project IRR? | N/A | - | - | - |
| B.4.4.10. In case of equity IRR: Is the part of the investment costs, which is financed by equity considered as net cash outflow and is the part financed by debt excluded in net cash outflow? | N/A | - | - | - |
| B.4.4.11. Is the type of benchmark chosen appropriate for the type of IRR calculated (e.g. local commercial lending rates or weighted average costs of capital for project IRR; required/expected returns on equity for equity IRR)? | N/A | - | - | - |
| B.4.4.12. Is the benchmark value suitable for the project activity? | N/A, see above | - | - | - |
| B.4.4.13. Is it ensured that the project cannot be developed by other developers than the PP? | N/A, see above | - | - | - |
| B.4.4.14. Was the benchmark consistently used in the past for similar projects with similar risks? | N/A, see above. | - | - | - |
| B.4.4.15. Was sensitivity analysis appropriately done by the project participants? | N/A, see above | - | - | - |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
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| B.4.5. Barrier analysis Step 3 or SSC additionality assessment | | | | |
| B.4.5.1. Are there any barriers given whose issues have a clear and definable impact on the profitability of the project? | Revenues from the sale of ERUs are the only income that would be generated by the project activity. This implies that without the registration of the project as a JI activity, the project will not take place. | PDD | | OK |
| B.4.5.2. How is it justified and evidenced that the barriers given in the PDD are real? | <p>The PP explained and proved that:</p> <ul style="list-style-type: none"> • None of the N₂O destruction technology options (including NSCR) are expected to generate any significant financial or economic benefits other than JI related income (Financial barrier). • It is therefore unlikely that any plant operator would install such technologies on a voluntary basis without the incentive of any regulatory requirements (emissions caps) or financial benefits (such as revenues from the sale of ERUs). <p>A deep evaluation is made in annex A4: assessment of barrier analysis.</p> | PDD | | OK |
| B.4.5.3. How is it justified that one or a set of real barriers prevent(s) the implementation of the project activity? | The determination team can confirm that similar projects have only been implemented (Europe and over-seas) in the context of emission trading projects (JI, CDM, VCS,...). According to the "Additionality tool", Sub-step 3a: Identify barriers that would prevent the implementation of the proposed CDM project activity: | PDD /B7/ | | OK |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|--|--|-------------------------|-----------------|-----------------|
| | <p><i>“(a) Investment barriers, other than the economic/financial barriers in Step 2 above, inter alia:</i></p> <ul style="list-style-type: none"> <i>• For alternatives undertaken and operated by private entities: Similar activities have only been implemented with grants or other non-commercial finance terms. Similar activities are defined as activities that rely on a broadly similar technology or practices, are of a similar scale, take place in a comparable environment with respect to regulatory framework and are undertaken in the relevant country/region.”</i> <p>The determination team can confirm the assessment of the financial barrier was justified according to the relevant tool.</p> | | | |
| <p>B.4.6. Common practice analysis Step 4 (in case of SSC projects skip this step)</p> | | | | |
| <p>B.4.6.1. Is the defined region for the common practice analysis appropriate for the technology/industry type?</p> | <p>This project type is already diffused in Europe and other countries resp. industrial sector (fertilizer industry) but solely included in emission trading-projects like JI, CDM or VCS.</p> <p>The EFMA published a position paper regarding the implementation of benchmarks in near future related to emission trading projects and future inclusion of N₂O in the ETS.</p> <p>Taking these facts as basis, the determination team can confirm that the defined region and/or industry type is appropriate for the common practise analysis.</p> | <p>/PDD/ /EFMA/</p> | | <p>OK</p> |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|--|--|-------------------|-----------------|-----------------|
| B.4.6.2. To what extent similar projects have been undertaken in the relevant region? | There are several similar projects related to JI-activities in the European community (http://ji.unfccc.int/JI_Projects/ProjectInfo.html) . All projects are already implemented/ in preparation of first verification. | /unfccc/ | | OK |
| B.4.6.3. In case similar projects are identified, are there any key differences between the proposed project and existing or ongoing projects and what kind of differences is observed? | No, all projects are located in the same scope and using the same technology for N ₂ O-abatement resp. emission reduction. | /PDD/ /unfccc/ | | OK |
| B.5. Calculation of GHG Emission Reductions <i>It is assessed whether the calculations of project emissions, baseline emissions, leakage emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified. Furthermore calculation of emission reductions shall be assessed.</i> | | | | |
| B.5.1. Are the emission reductions real, measurable and give long-term benefits related to the mitigation of climate change? | The emission reductions are real, measurable and give long-term benefits related to the mitigation of climate change. | /PDD/ /B-1/ | | OK |
| B.5.2. Are the equations applied correctly according to the applied approved methodology? | The equations applied for calculation are correctly applied according to the approved methodology, but some | /PDD/I | CAR B3 | OK |



| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|--|---|-------------|------------------------|---------------------|
| | <p>amendments were necessary in the context of the project (see findings below).</p> <p>The formulae to calculate the project and baseline emissions are presented in the section B.6.1. of the PDD in a clear and transparent manner according to the methodology. Some issues were raised in the context of data processing.</p> <p>The calculation of estimated emission reductions has been carried out in the section B.6.2. of the PDD.</p> <p>The considering of leakage is discussed in the methodology. In accordance with the methodology, no leakage calculation is required, because the technology used is a secondary catalyst.</p> <p>CAR B3:</p> <p>Plant Uhde 2: The calculation should take into account two lines of nitric acid output (60 and 69 %).</p> <p>Data processing:</p> <p>The description of the application of instrument correction factors / elimination of implausible values in section D.1.2.2. should be described as implemented in the project activity.</p> <p>The statistical analysis acc. to the methodology should be included in section D.1.2.2.</p> <p>CAR B4:</p> <p>Calculation of emission reduction in section E.5. of plant 2:</p> | /B-1/ | CAR B4 /CAR B5/ | |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. | | | | | | | | |
|--|--|----------------|---|-----------------|--|-----|-----|------|---|---------------------------|--|----|
| | <p>The max. estimated HNO₃ production used for ER calculation should not exceed the nameplate (design) capacity) of plant 2, which is 750 t/d or 273,750 t/a as required by the methodology.</p> <p>CAR B5:</p> <p>The starting date of the crediting period at Uhde 2 will be the 8th and not 1st December according to the plants schedule. Revision of ER calculation is requested.</p> | | | | | | | | | | | |
| B.5.3. In case the methodology allows for different methodological choices, are the equations applied properly justified and have they been used reflecting the other methodological choices (i.e. baseline identification)? | The methodology provides a clear procedure for calculation of the emission reductions. There are no provisions for choices between different methodological approaches. | /PDD/ /B-1/ | | OK | | | | | | | | |
| B.5.4. Have conservative assumptions been used when calculating the project emissions? | <p>Yes. The Walloon government issued a project confirmation letter setting benchmark values (EF_{BM}) for the calculation of the reduction of N₂O-Emission in future years.</p> <p><u>These values/years are:</u></p> <table border="1" data-bbox="831 1102 1429 1190"> <tr> <td>2010</td> <td>2011</td> <td>2012</td> <td></td> </tr> <tr> <td>2.5</td> <td>2.5</td> <td>1.85</td> <td>kg N₂O/t HNO₃ (100%)</td> </tr> </table> | 2010 | 2011 | 2012 | | 2.5 | 2.5 | 1.85 | kg N ₂ O/t HNO ₃ (100%) | /PDD/ /B-1/ /BENCH/ | | OK |
| 2010 | 2011 | 2012 | | | | | | | | | | |
| 2.5 | 2.5 | 1.85 | kg N ₂ O/t HNO ₃ (100%) | | | | | | | | | |
| B.5.5. Are all data and parameters, which remain fixed throughout the crediting period correct, applicable to the project and will lead to a conservative estimation of emission reductions? | Yes, the regulatory limits and benchmark values are fixed over the crediting period. Since the project takes into account a low baseline emission factor instead of historical emission data, the calculation of emission reductions can be rated as conservative. | /PDD/ | | OK | | | | | | | | |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|--|--|-------------------------|-----------------|-----------------|
| B.5.6. Is the choice of the value for the data and parameters, which have to be monitored reasonable? | Yes, the choice of data is <ul style="list-style-type: none"> • in line with the methodology and • checked to be reasonable. | /PDD/ | | OK |
| B.6. Monitoring of Emission Reductions <i>It is assessed whether the monitoring plan is appropriate for the project activity and in line with the applied methodology.</i> | | | | |
| B.6.1. Are all monitoring parameters required by the applied methodology contained in the monitoring plan? | A methodology AM0034 includes a comprehensive list of parameters monitored during the crediting period. Since a benchmark value will be applied, only project emissions will be monitored: <ul style="list-style-type: none"> • NCSG_n: N₂O concentration in the stack gas • VSG_n: Volume flow rate of the stack gas • OH_n: Operation hours • NAP_n: Nitric acid production • TSG: Temperature of stack gas • PSG: Pressure of stack gas Following parameter (trip-points) are recorded on-site and are available for plausibility check during verification on-site: | /PDD/ /B-1/ /MO2/ | CAR A2 | OK |



| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|--|---|-------------|---------------------|---------------------|
| | <ul style="list-style-type: none"> • AFR: Ammonia flow rate to the AOR • AIFR: Ammonia to air ratio • OT_n: Oxidation temperature • OP_n: Operation pressure <p>The plant PCS (process control system) generates a status signal, which is logically included in several trip and safety points of plant parameter. In case of abnormal situations, the plant will be shut down by closing the ammonia inlet valve and the signal changes (0>1, 1>0. This plant status signal will be evaluated to determine whether the plant is in operation or not.</p> <p>CAR A2: Section D.1., point 6.: "The data acquisition system". This section should clearly describe the generation and logging of the status signal of the plant. Since these trip points used for plant operations are different between documentation and PCS, following CAR was raised: CAR A2: Trip points of Uhde 2 should be mentioned according to the values applied in the DCS</p> | | | |
| B.6.2. In case different approaches can be chosen acc. to the methodology, is the selection of parameters justified and correct? | N/A | - | - | - |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|---|---|-----------------------|-----------------|-----------------|
| B.6.3. Are the means of monitoring of all parameters contained in the monitoring plan in accordance with the requirements of the applied methodology? | Yes, Process parameter were monitored and recorded through the plant-PCS. Emission data (NCSG) are currently monitored by use of an existing ABB-analyser, after start up of the project, the Analyser will be replaced with a Dr. Foedisch MCA 04 AMS. | /PDD/ /SCREE N/ | | OK |
| B.6.4. Are all parameters appropriately labelled? | Yes, the parameters are labelled according to the methodology. | /PDD/ | | OK |
| B.6.5. Is it likely that the monitoring arrangements described in the PDD can properly be implemented in the context of the project activity? | No, since the AMS was not commissioned and not installed during on site visit, and existing analysers not checked against the DIN EN 14181, QAL2 a FAR D2 was raised to check the correct implementation during first verification. FAR D2: Since the PP will use the already installed ABB analysers for measuring the N ₂ O emissions during first time of the project, the verifier should check the <ul style="list-style-type: none"> • suitability of the analysers, sampling points and sampling pipes proved in a corresponding QAL 2 test • consideration of longer measurement frequency in the monitoring report. | /PDD/ | FAR D2 | OK |
| B.6.6. Are the means of implementation of the monitoring plan, including QA/QC procedures | The PP implemented several QA/QS procedures in the course of improvement of the internal ISO 9001 ^{/PROC1/ /PROC5/} . | /PDD/ /CERT/ | FAR D2 | OK |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|---|---|---|-----------------|-----------------|
| sufficient to ensure that emission reductions can be reported without material misstatement? | <p>Emission data will be determined through analysers, which are in compliance with the European Standard DIN EN 14181: "Stationary source emissions – Quality assurance of automated measuring systems as required by the methodology referenced in the PDD.</p> <p>Remark:</p> <p>Since the existing ABB analyser cannot be proven to fulfil the requirements of QAL1, the suitability of this analyser for the project activity will be proven during the QAL2 audit by comparison with a Standard Reference Method.</p> <p>The determination team issued a FAR D2 (see above) to prove the suitability to the verifier.</p> | /PROC1/ /PROC2/ /PROC3 2/ /PROC4/ /PROC5 2/ | | |
| B.6.7. Will all monitored data required for verification and issuance be kept for two years after the end of the crediting period or the last issuance of CERs, for this project activity, whichever occurs later? | Yes, all monitored data required for verification and issuance will be stored in a central data system of the company and kept for two years after the project end. This is stated in the PDD under B.7.2. | /PDD/ | | OK |
| B.6.8. AIEs the monitoring plan provide for the collection and archiving of all relevant data necessary for determining baseline emissions, project emissions, and leakage within the project boundary during the crediting period? | <p><u>Baseline emissions:</u></p> <p>As per the national authorities, baseline emissions should be calculated applying a "Benchmark Emission Factor (EF_{BM}), or if lower, regulatory limits of local authorities (see B.5.4.).</p> <p>Hence, the acquisition of data of N_2O-emissions in order to determine the baseline emissions is not necessary.</p> | /PDD/ /B-1/ /BENCH/ | | OK |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|--|---|-------|-----------------|-----------------|
| | <p>However, the monitoring of trip point values and data related to the amount of produced HNO₃ are completely included in the monitoring plan.</p> <p><u>Project emissions:</u></p> <p>According to the methodology, the monitoring plan provides all relevant data necessary for measurement of the project emissions within the project boundary.</p> <p><u>Leakage:</u></p> <p>According to the methodology, leakage shall not be monitored. Caused by an increased amount of catalyst and a thicker catalyst bed a constant pressure loss occurs but will not be monitored over the crediting period.</p> | | | |
| B.6.9. Are the choices of GHG indicators reasonable and conservative? | <p>Yes, e.g. the reference value (benchmark emissions factor) that will be applied to calculate the emissions reductions from a specific verification period was determined according to Walloon government decision and Methodology.</p> <p>The violation of these limits will lead to a reduction of ERUs for the relevant period.</p> <p>The PP was requested to include an overview of emission sources included or excluded from the project boundary in the PDD, section B.3. (CAR A2) .</p> | /PDD/ | CAR A2 | OK |
| B.6.10. Is the measurement method clearly stated for each indicator to be monitored and also | The monitoring plan of the PDD, which reflect the necessities of the methodology, provides measurement methods for | /PDD/ | CAR D1 | OK |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|---|--|---------------------------------------|------------------------|-----------------|
| deemed appropriate? | <p>project emissions in chapter B.6.2 of the PDD.</p> <p>Nevertheless, the use of the ABB analysers for the first time of project periods was not mentioned and should be included in the monitoring plan (CAR D1).</p> | | | |
| B.6.11. Is the measurement equipment described and deemed appropriate? | <p>The requirements for main equipment for measurement of project emissions are described in the PDD and in documents provided during the site visit. The PP will use an existing AMS in the first course of the project, which suitability is not approved at the moment. FAR D2 was raised to check this during first verification.</p> <p>The determination of NAP (HNO₃-output) will be measured by existing devices. Quality procedures, technical specifications were provided during on site visit. A cross check procedure using density values generated in the plant-laboratory are not implemented at the moment. A corresponding FAR was raised (FAR D3).</p> | /PDD/ | FAR D2 FAR D3 | OK |
| B.6.12. Is the measurement accuracy addressed and deemed appropriate? Are procedures in place on how to deal with erroneous measurements? | <p>The accuracy of plant parameters will be determined through internal QA/QS-procedures using cross checks. Some findings were raised to improve these procedures until start of the project activity.</p> <p>The accuracy of the AMS will be determined annually through QAL2 or AST test.</p> <p>For determination and elimination of erroneous values (of the AMS) the PP implemented –according to the methodology- a plausibility check before entering the data in the data base.</p> | /PDD/ (PROC1/ - /PROC5 2/ | FAR D2 FAR D3 | OK |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|--|---|------------------|-----------------|-----------------|
| B.6.13. Is the measurement interval identified and deemed appropriate? | <p>The AMS for project emissions is working as an online- and permanent-measurement device. The methodology required a storage interval of 2 seconds but the PP requested a deviation (see. B.1.2.) to implement a 5 second interval in order to reduce redundant data sets. The determination team deemed this larger interval as appropriate since it causes only a non significant increase of accuracy of the measurement of project emissions.</p> <p>The measuring frequency of the existing ABB analyser is at 2 minutes which has to be described in the PDD (CAR D1)</p> | /PDD/ | CAR D1 | OK |
| B.6.14. Are the registration, monitoring, measurement and reporting procedure defined? | The data of the AMS for the calculation of project emissions will be transferred to central data acquisition system of the company (Honeywell PHD) and evaluated by N.serve according to the regulations of the methodology. | /PDD/ | | OK |
| B.6.15. Are procedures identified for maintenance of monitoring equipment and installations? Are the calibration intervals being observed? | <p>The AMS is included in the quality procedures, which are established for proper operation of the plant.</p> <p>Additional measures are related to the European Norm EN14181 (2004) "Stationary source emissions - Quality assurance of automated measuring systems" will be implemented after commissioning of the new analyser:.</p> <ul style="list-style-type: none"> • Three quality assurance levels of EN 14181: <ul style="list-style-type: none"> • QAL 1: performance approval | /PDD/ /14181/ | CAR D3 | OK |



| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|--|--|-------------|---------------------|---------------------|
| | <p>To prove, that the AMS is suitable for purpose and in line with the European norm. The PP provides a QAL1 Certificate 0000025929 dated 2010-03-10 according to DIN EN 14181:2004 issued by TÜV Rheinland</p> <ul style="list-style-type: none"> • QAL 2: commissioning and validation of an AMS <p>An accredited laboratory (acc. ISO 17025) carries out specific testing procedures to verify that the AMS installation meets the accuracy requirements laid down by EN 14181. The performance of the complete installation was compared against a series of measurements made with approved Standard Reference Methods.</p> <ul style="list-style-type: none"> • QAL 3: ongoing operation and maintenance <p>The PP implemented a quality assurance system to prove the ongoing compliance of the AMS with the norm. The maintenance activities are monitored and controlled as part of an overall quality assurance programme.</p> <ul style="list-style-type: none"> • AST: Annual Surveillance Test <p>The PP verifies the continuing validity of the calibration function on yearly basis. The requirements and responsibilities for carrying out the AST tests are the same as for QAL 2. Since QAL2 was carried out in 2010, the AST is not necessary in 2010.</p> | | | |



| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|--|--|-------------|---------------------|---------------------|
| | <p>Since the new analyser was not commissioned at time of determination, the determination team was not able to check the QA/QS procedures related to ensure the proper functionality of the analyser. FAR D3 was raised: The PP should</p> <ul style="list-style-type: none"> • provide calibration and maintenance records of all monitoring and measuring devices of the project. Each record should include: <ul style="list-style-type: none"> • Tracking Number. This tracking number is also on the equipment. • Equipment Description, type, Manufacturer and Model Location - Calibration requirements • Calibration interval with justification for the interval • Calibration Procedure • Calibration History • Calibration Due. • implement a procedure for calibration/maintenance of the Dr. Foedisch AMS including measures for the case that the error exceeds the allowed limits. | | | |
| B.6.16. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation) | <p>Process data will send via I/O cards to the process control system (PCS). They will be stored in a Honeywell PHD plant history database.</p> <p>The processing of the raw N₂O-data sets will be carried out by N.serve who is responsible for this part of the project.</p> | /PDD | | OK |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|--|--|---|-----------------|-----------------|
| B.7. Project Management Planning <i>It is checked that project implementation is properly prepared for and that critical arrangements are addressed.</i> | | | | |
| B.7.1. Is the authority and responsibility of overall project management clearly described? | <p>Yes, the operational structure of the QMS of the plant is certified according to ISO 9001:2008, 14001:2004 and OHSAS 18001:2007. Several quality documents regarding maintenance of monitoring equipment and emission determination were provided to the determination team. The PP presented an organisational chart of the plant and project management to the determination team.</p> <p>The determination team raised the FAR D3 to improve the quality management system of the project. This includes the request for</p> <ul style="list-style-type: none"> developing an ISO document showing relevant responsibilities/ procedures/demands/documents of the project (project book). | /PDD/ (PROC1/ - /PROC5 2/ /O/ /ORG/ | FAR D3 | OK |
| B.7.2. Are procedures identified for training of monitoring personnel? | <p>Specific training measures are planned and carried out after commissioning of new measurement instruments. Currently the PP implemented training for staff involved in maintenance of the analysers.</p> | /PDD/ /TRAIN/ | | OK |
| B.7.3. Are procedures identified for review of reported results/data? | <p>Yes, all monitoring related data will be sent to N.serve for revision, plausibility check and calculation of the project emissions. N.serve is involved in many other N₂O-based</p> | /PDD/ | | OK |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|---|--|-------|-----------------------------------|-----------------|
| | projects and can provide experiences in data handling and processing. | | | |
| B.7.4. Is the authority and responsibility of overall project management clearly described? | Yes, see above. | /PDD/ | | OK |
| C. Duration of the Project/ Crediting Period <i>It is assessed whether the temporary boundaries of the project are clearly defined.</i> | | | | |
| C.1. Is the project's starting date and the project duration clearly defined and evidenced? | The projects starting date is expected in on 2010-12-08 according to the internal schedule of the plant | /PDD/ | | OK |
| C.2. Is the project's operational lifetime clearly defined and evidenced? | The operational lifetime (efficiently of the catalyst) is estimated at 3 years, which is guaranteed by the catalyst supplier. | /PDD/ | | OK |
| C.3. Is the start of the crediting period clearly defined and reasonable? | The PP assumes that the starting date of the crediting period will be the starting date of the project, which is scheduled at 2010-12-08. The exact rules and procedures for implementation a JI Track 1 project in Wallonia were still to be finalised and only a confirmation letter was issued by the Walloon government. The starting date of the crediting period will be included in the LoA, which can be expected after provision of the draft determination report. At this moment, the determination team considers a starting date of the | /PDD/ | /CAR A1/ | OK |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|---|---|-------|-----------------|-----------------|
| | crediting period expected at 2010-12-08 in his determination process. | | | |
| D. Environmental Impacts <i>Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the AIE.</i> | | | | |
| D.1. Has an analysis of the environmental impacts of the project activity been sufficiently described? | <p>The environmental impacts are described in the PDD under Section D.: Environmental Impacts.</p> <p>The PP states that apart from the reduction of emissions of N₂O, there will be no significant further positive or negative impacts on the environment.</p> | /PDD/ | | OK |
| D.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved? | <p>It is unclear, if the host country government (Belgium) AIEs request an EIA.</p> <p>CL F1: The PP should clarify the necessity of an EIA.</p> | /PDD/ | CL F1 | OK |
| D.3. Will the project create any adverse environmental effects? | See D.1. | - | - | - |
| D.4. Are transboundary environmental impacts considered in the analysis? | See D.1. | - | - | - |
| D.5. Have identified environmental impacts been addressed in the project design? | N/A | - | - | - |

| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|---|--|--|-----------------|-----------------|
| D.6. AIEs the project comply with environmental legislation in the host country? | Yes, the project fully complies with environmental legislation of Belgium. | /2370/ /6502/ /PERM2/ /PERM2 3/ /PERM2 3N/ /IPCC/ | | OK |
| E. Stakeholder Comments <i>The AIE should ensure that stakeholder comments have been invited with appropriate media and that due account has been taken of any comments received.</i> | | | | |
| E.1. Have relevant stakeholders been invited to consultation? | <p>A global stakeholder consultation was carried out on the TÜV NORD website www.global-warming.de during a 30 days period from 2010-11-15 to 2010-12-15. No comments were received.</p> <p>A local stakeholder process has not been carried out. This is considered to be appropriate for this kind of project activities as no affected local stakeholders could be identified. A local stakeholder process was not requested by Belgian authorities.</p> | /PDD/ /gw/ | | OK |



| Checklist Item (incl. guidance for the determination team) | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|---|---|-------------|-------------------------|-------------------------|
| E.2. Have appropriate media been used to invite comments by local stakeholders? | See E.1. | /PDD/ | | OK |
| E.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 E.1. | /PDD/ | | OK |
| E.4. Is an appropriate summary of the stakeholder comments received provided in the PDD? | No comments were received during the period of 30 days of the global stakeholder process. | /PDD/ | | OK |
| E.5. Has due account been taken of any stakeholder comments received? | See E.1. | /PDD/ | | OK |

ANNEX 2: ASSESSMENT OF BASELINE IDENTIFICATION

Table A-2: Assessment of Baseline Identification

| | |
|-------------------------------------|--|
| <input type="checkbox"/> | Baseline alternatives are not identified |
| <input checked="" type="checkbox"/> | Assessment of alternatives of baseline see below |

| Baseline Alternatives identified | In line with the Methodology? | Eliminated | Reasons for elimination / non-elimination from list of alternatives | Evidence used | AIE Assessment | |
|---|-------------------------------------|-------------------------------------|--|--|-------------------------------------|---|
| | | | | | Appropriateness of elimination | Assessment of determination team (results and means of assessment) |
| <i>a) Continuation of the Status Quo (Business as Usual Scenario). The continuation of the business as usual scenario, where there is no N₂O destruction technology installed.</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | The scenario not to install any N ₂ O abatement technology is in compliance with the legal situation during the crediting period. This alternative will be not removed from list of alternatives. | /PDD/ /2370/ /6502/ /750S2/ /IPCC/ | <input type="checkbox"/> | The determination team follows the statements for the elimination of scenario a), since there are no governmental obligations to force the plant operator to reduce the N ₂ O-emission level until 2013. |
| <i>b) Alternative uses of N₂O, such as: - Recycling of N₂O for feedstock - External use of N₂O</i> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | The use of N ₂ O as a feedstock for the production of nitric acid is technically not feasible, because it is not possible to produce nitric acid from N ₂ O at the quantities found in the tail gas of nitric acid plants. | /PDD/ /BREF/ | <input checked="" type="checkbox"/> | Due to low concentrations of N ₂ O in the exhaust of the plant, the recycling is not a technically suitable and economically attractive alternative. |

| Baseline Alternatives identified | In line with the Methodology? | Eliminated | Reasons for elimination / non-elimination from list of alternatives | Evidence used | AIE Assessment | |
|--|-------------------------------------|-------------------------------------|---|-----------------|-------------------------------------|--|
| | | | | | Appropriateness of elimination | Assessment of determination team (results and means of assessment) |
| c) <i>Installation of NCSR (Non Specific Catalytic Reduction)</i> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | The application of a Non Specific Catalytic Reduction Unit causes high investment and operation costs due to permanent demand of a reduction agent. This technology produces emissions of CO, CO ₂ and remaining hydrocarbons. | /PDD/ /BREF/ | <input checked="" type="checkbox"/> | Since there is an efficient N ₂ O-abatement system available on market, there is no need to choose a not-state-of-the-art-technology, which causes higher costs conducted with less efficiency. |
| d) <i>Implementation of a primary, secondary or tertiary N₂O destruction technology in the absence of the registration of the project activity.</i> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Since there is no financial benefit to reduce the N ₂ O-emission in the absence of legal restrictions, the implementation of a catalyst technology in absence of the project activity will not take place. | /PDD/ | <input checked="" type="checkbox"/> | The determination team follows the justification of the PP that there is no incentive to implement an abatement technology in a comparable extent in absence of the project activity |



ANNEX 3: ASSESSMENT OF FINANCIAL PARAMETERS

Table A-3: Assessment of Financial Parameters

| | |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | No financial parameters are used for additionality justification so far |
| <input type="checkbox"/> | Assessment of all financial parameters see below |

| Parameter | Value applied | Unit | Source of Information (please indicate document and page) | Reference | AIE ASSESSMENT | | |
|-----------|---------------|------|--|-----------|------------------------------|---------------------------------------|---------|
| | | | | | Correctness of value applied | Appropriateness of information source | Comment |
| | | | | | | | |



ANNEX 4: ASSESSMENT OF BARRIER ANALYSIS

Table A-4: Assessment of Barrier Analysis

| | |
|-------------------------------------|--|
| <input type="checkbox"/> | No barrier parameters are used for additionality justification |
| <input checked="" type="checkbox"/> | Assessment of barriers see below |

| Kind of Barrier (invest, tech, other) | Description of Barrier | Evidence used | Assessment of determination team | |
|--|------------------------|---------------|---------------------------------------|-----------------------------|
| | | | Appropriateness of information source | Explanation of final result |
| | | | | |

| | | | | |
|----------------|--|---|--|--|
| Investment | None of the N ₂ O destruction technology options (including NSCR) are expected to generate any financial or economic benefits other than JI-related income (minor tax savings caused by lower N ₂ O-emissions excepted). Their operation AIEs not create any marketable products or by-products. However, any operator willing to install and thereafter operate such technology faces significant investment and additional operating costs | /PDD/ Check of legal frame conditions of the country | The sources are appropriate to prove, that there are no financial benefits, which can be generated by the reduction of N ₂ O or other GHG emissions. | The PP could prove, that the project activity faces an investment barrier since the implementation of the project activity can only be financed through the benefit of the JI. There is no incentive beyond the JI for plant operator to implement an abatement technology, which reduced N ₂ O-emissions beyond the legal limit. |
| Techno-logical | It is unlikely that any plant operator would install such technologies on a voluntary basis without the incentive of any regulatory requirements (emissions caps) or financial benefits (such as revenues from the sale of ERUs). | /PDD/ /BREF/ | The BREF documents show clearly, that the implementation of an additional N ₂ O abatement technology in an existing plant is coupled with comprehensive construction works. | The PP could prove, that the project activity faces a technological barrier. |

| | | | | |
|--------------------------------|---|--------------|---------------|--|
| <p>Other (common practice)</p> | <p>Before the implementation of JI projects within Europe, secondary catalyst technology had only been operated in some European countries on an industrial trial basis. Researching this technology made sense due to the prospective revenues obtainable under the Kyoto Protocol's Clean Development Mechanism (CDM) by employing it in nitric acid plants located in developing nations on a voluntary basis.</p> | <p>/PDD/</p> | <p>/EFMA/</p> | <p>Common practice in the relevant regions/industrial scopes is the inclusion of N₂O abatement projects in emission trading projects. There is no incentive to invest in the technology without revenues through tradable emission reduction units.</p> |
|--------------------------------|---|--------------|---------------|--|



ANNEX 5: OUTCOME OF THE GSCP

Table A-5: Outcome of the Global Stakeholder Consultation Process

| | |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | No comments were received during the global stakeholder consultation period |
| <input type="checkbox"/> | Comments were received during the global stakeholder consultation period. The comments (in unedited form) and the consideration/response of the determination team are presented below: |

| Comment No.: | Comment by: | Inserted on: | Subject | Comment ^{*)} | Response determination team ^{*)} | Conclusion (incl. CARs CLs or FARs) |
|--------------|-------------|--------------|---------|-----------------------|---|-------------------------------------|
| | | | | | | |

^{*)} In case clarifications have been requested by the determination team corresponding rows shall be added



ANNEX 6: APPLICATION OF NON APPROVED METHODOLOGIES REQUIREMENTS CHECKLIST

Table A-6: Non approved Methodologies Requirement Checklist

| | |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | An approved CDM or country specific methodology was applied. |
| <input type="checkbox"/> | A non approved methodology was applied. |

| Checklist Item | Determination Team Comments (Means and results of assessment) | Ref. | Draft Concl. | Final Concl. |
|----------------|--|------|-----------------|-----------------|
| | | | | |



ANNEX 7: STATEMENTS OF COMPETENCE OF TEAM MEMBERS



CERTIFICATE OF APPOINTMENT

Ms. Alexandra Nebel
born on 1980-07-25
satisfies the requirements as specified in the TÜV NORD
JI/CDM CP directives and is hereby appointed as

TÜV NORD CDM Lead Assessor

The present appointment will terminate on 2012-11-19
Certification registration No. 09 11 08 – 95 rev1
Essen, 2009-11-20



Head of TÜV NORD JI/CDM Certification Program
of TÜV NORD CERT GmbH



CERTIFICATE OF APPOINTMENT

Ms. Sabine Meyer
born on 1976-07-05
satisfies the requirements as specified in the TÜV NORD
JI/CDM CP directives and is hereby appointed as

TÜV NORD JI/CDM Assessor

The present appointment will terminate on 2013-10-27
Certification registration No. 10 10 08 – 197 rev1
Essen, 2010-10-28



Head of TÜV NORD JI/CDM Certification Program
of TÜV NORD CERT GmbH



CERTIFICATE OF APPOINTMENT

Mr. Ulrich Walter
born on 1964-10-12
satisfies the requirements as specified in the TÜV NORD
JI/CDM CP directives and is hereby appointed as

TÜV NORD JI/CDM Assessor

The present appointment will terminate on 2013-05-24
Certification registration No. 10 05 08 – 149 rev1
Essen, 2010-05-25



Head of TÜV NORD JI/CDM Certification Program
of TÜV NORD CERT GmbH



CERTIFICATE OF APPOINTMENT

Mr. Dipl.-Ing. Rainer Winter

born on 1963-02-21

satisfies the requirements as specified in the TÜV NORD
JI/CDM CP directives and is hereby re-appointed as

TÜV NORD JI/CDM Senior Assessor

The present appointment will terminate on 2013-07-03

Certification registration No. 04 02 154-03

Initial appointment Assessor: 2004-03-31

Senior Assessor: 2007-07-37

Essen, 2010-07-04



Deputy of TÜV NORD JI/CDM Certification Program
of TÜV NORD CERT GmbH



CERTIFICATE OF APPOINTMENT

Mr. Dipl.-Ing. Eric Krupp

born on 1971-08-25

satisfies the requirements as specified in the TÜV NORD
JI/CDM CP directives and is hereby re-appointed as

TÜV NORD JI/CDM Senior Assessor

The present appointment will terminate on 2013-07-05

Certification registration No. 06 05 01 – 017

Initial appointment on 2007-07-06

Essen, 2010-11-29



Head of TÜV NORD JI/CDM Certification Program
of TÜV NORD CERT GmbH