

**U.S. Nitric Acid Production**

**Project Data Report**

The Project Data Report (PDR) Template must be completed for each verification period. This template is only intended as a guide and provides the minimum required information to be reported. This template is designed for use with the Nitric Acid Production Protocol V2.2 and V3.0. The project developer has the option to include additional information at their discretion.

*Please note that this document will be made publicly available once the project has registered credits for the verification period. If there is proprietary information, please provide a redacted version for publication and a non-redacted version for internal review. Please contact the Reserve to discuss what information may be allowed to be redacted.*

|  |  |
| --- | --- |
| **Account Holder** |  |
| **Project ID and Name** |  |
| **Cooperative/Aggregate ID (if applicable)** |  |
| **Current Reporting Period Dates** |  |
| **Protocol Version** | Nitric Acid Production V |
| **Claimed CRTs by Vintage** |  |
| **Date Submitted** |  |

# Introduction

*Provide a general description of the project, including location, baseline scenario, project activity, etc.*

# Project Definition

## Project Definition

*Describe the abatement technology used, and confirm that the following scenarios do not apply to the project:*

* *NAPs that are restarted any time after December 2, 2007, after being out of operation for a period of 24 months or longer*
* *New NAPs constructed after December 2, 2009, with the exception of new NAPs for which a permit application for construction was submitted to the appropriate government*

*authorities prior to December 2, 2009*

* *Secondary catalyst projects at existing NAPs where NSCR is currently operating*
* *Secondary catalyst projects at existing NAPs that used NSCR technology for NOX abatement at any point since December 2, 2007*

## Project Developer

*List the entities which have any amount of legal control over the project boundary and identify the mechanism through which the Account Holder has legal authority to implement the project. In addition, please state which entity will be designated as the project developer and will sign the Attestation of Title. If the Account Holder is not the entity listed on the facility’s operating permit, explain how they obtain the right to operate the project on the facility’s behalf. which entity will be designated as the project developer and will sign the Attestation of Title. If there are no technical consultants or other parties with material interest, state “N/A.”*

Technical Consultant(s):

Other Parties with Material Interest (entity name and role):

Entity Signing Attestation of Title:

Additional Information:

# Project Eligibility

## Project Location

*Provide the project location.*

## Project Start Date

*For secondary projects, the project start date is the date on which production first commences after the installation of a secondary catalyst. Confirm the start date is either the start of a campaign or the commencement of nitric acid production after an outage. For tertiary projects, the project start date is the date on which production first commences after installation of a tertiary catalyst. Projects that switch abatement technologies or installs an additional system for a combined secondary and tertiary catalyst project the start date should correspond with the original start date from the initial listing.*

*Please provide the start date for the project and describe the documentation used to demonstrate the start date as described above. Provide the duration of the project startup testing, if applicable.*

## Project Crediting Period

*Due to the nature of campaigns, a crediting period for nitric acid production projects is approximately ten years and aligns with the end of the last full campaign that begins in the tenth year of reporting. If the project developer anticipates a crediting period greater than 11 years in total, provide the date in which the project received Reserve approval prior to the initiation of the final campaign.*

*Provide the crediting period below using an approximate date for the crediting period end date.*

      to approximately

Date of Reserve Approval if applicable:

## Additionality

### Performance Standard Test

*The Performance Standard Test for Nitric Acid Production projects is based on an assessment of common practice of use of emission control technologies in NAPs to reduce N2O emissions. Check the box below for how the project meets the Performance Standard Test.*

Secondary catalyst

Tertiary catalyst, including catalytic decomposition or NSCR

Combined secondary and tertiary catalyst

### Legal Requirement Test

*Attest that the project activities are not legally required. Identify any federal, provincial, or local regulations or legally binding mandates that are relevant to the project.*

## Social and Environmental Safeguards

### Social Safeguards

*Confirm below that the project is in material compliance with all labor and safety laws for the verification period.*

### Environmental Safeguards

*Confirm below that the project is in material compliance with all environmental regulations in the verification period, and how the project is designed and implemented in such a way to mitigate potential releases of pollutants that may cause degradation of the quality of soil, air, and surface and groundwater.*

## Regulatory Compliance

*Provide the federal, state, and/or local regulatory agencies with jurisdiction over the project boundary. Disclose any instances of non-compliance during the verification period. Describe how the project intends to monitor for compliance during future reporting periods.*

# GHG Assessment Boundary

## GHG Assessment Boundary

*The table below includes only the SSRs that are included in the project quantification. For all SSRs considered in the GHG Assessment Boundary (included and excluded GHGs and their justification) refer to Tables 4.1 and 4.2 in the Protocol.*

*Secondary Catalyst Projects*

|  |  |  |  |
| --- | --- | --- | --- |
| **SSR** | **Source Description** | **Gas** | **Baseline (B) or Project (P)** |
| 1 – Nitric Acid Production | Nitric acid process  unit (burner inlet to  stack) | N2O from reaction byproduct | B, P |

*Tertiary Catalyst Projects*

|  |  |  |  |
| --- | --- | --- | --- |
| **SSR** | **Source Description** | **Gas** | **Baseline (B) or Project (P)** |
| 1 – Nitric Acid Production | Nitric acid process  unit (burner inlet to  stack) | N2O from reaction byproduct | B, P |
| 4 - Ammonia  Used to  Operate SCR  De-NOX Unit (included if ammonia is an input to the N2O destruction facility) | GHG emissions from production of ammonia used in tertiary abatement for N2O destruction | CO2, CH4,  N2O | B (if applicable), P |
| 5 - Hydrocarbon  Input | Hydrocarbon used  as reducing agent  and/or reheating  the tail gas | CO2 and/or CH4 | P |
| 7 - External  Energy to  Reheat Tail  Gas | May be used to  reheat the tail gas  before entering  the tertiary  catalyst or NSCR | CO2, CH4,  N2O | P |

*Combined Secondary and Tertiary Catalyst Projects*

|  |  |  |  |
| --- | --- | --- | --- |
| **SSR** | **Source Description** | **Gas** | **Baseline (B) or Project (P)** |
| 1 – Nitric Acid Production | Nitric acid process  unit (burner inlet to  stack) | N2O from reaction byproduct | B, P |
| 4 - Ammonia  Used to  Operate SCR  De-NOX Unit (included if ammonia is an input to the N2O destruction facility) | GHG emissions from production of ammonia used in tertiary abatement for N2O destruction | CO2, CH4,  N2O | B (if applicable), P |
| 5 - Hydrocarbon  Input | Hydrocarbon used  as reducing agent  and/or reheating  the tail gas | CO2 and/or CH4 | P |
| 7 - External  Energy to  Reheat Tail  Gas | May be used to  reheat the tail gas  before entering  the tertiary  catalyst or NSCR | CO2, CH4,  N2O | P |

# Quantifying GHG Emission Reductions

## Quantifying Baseline Emissions

### Summary of Baseline Quantification

*Provide the following information depending on the project scenario. Provide the following information depending on the project scenario. Leave the other section blank if not applicable.*

*Secondary Catalyst Projects*

**Allowable Operating Conditions:**

Oxidation temperature range:

Oxidation pressure range:

Maximum ammonia-to-air ratio input into the AOR:

*Select how these allowable ranges were determined:*

Option (a): The best available historical data for the operating range of temperature and

pressure, and maximum ammonia-to-air ratio from the previous five campaigns.

Option (b): The best available historical data from less than five campaigns. This option is

allowable only if limited historical data are available (e.g., an upgraded or relocated NAP that has not been operating for at least five campaigns).

Option (c) Specified range of temperature and pressure found in the operating manual20 for

the existing equipment, and maximum ammonia-to-air ratio as specified by the ammonia oxidation catalyst manufacturer or the operating manual for the NAP equipment if guidance from the ammonia oxidation catalyst manufacturer is not available. This option is only allowable if no historical data are available.

|  |  |
| --- | --- |
| **Vintage:** | **Vintage:** |
| HNO3,MAX, scaled:       tHNO3 | HNO3,MAX, scaled:       tHNO3 |
| Baseline Emission Factor:       tN2O/tHNO3 | Baseline Emission Factor:       tN2O/tHNO3 |
| Total N2O Emissions during the Baseline  Sampling Period:       tN2O | Total N2O Emissions during the Baseline  Sampling Period:       tN2O |
| Baseline Emissions:       tCO2e | Baseline Emissions:       tCO2e |

*Tertiary Catalyst Projects*

**Allowable Operating Conditions:**

Oxidation temperature range:

Oxidation pressure range:

Maximum ammonia-to-air ratio input into the AOR:

*Select how these allowable ranges were determined:*

Option (a): The best available historical data for the operating range of temperature and

pressure, and maximum ammonia-to-air ratio from the previous five campaigns.

Option (b): The best available historical data from less than five campaigns. This option is

allowable only if limited historical data are available (e.g., an upgraded or relocated NAP that has not been operating for at least five campaigns).

Option (c) Specified range of temperature and pressure found in the operating manual20 for

the existing equipment, and maximum ammonia-to-air ratio as specified by the ammonia oxidation catalyst manufacturer or the operating manual for the NAP equipment if guidance from the ammonia oxidation catalyst manufacturer is not available. This option is only allowable if no historical data are available.

|  |  |
| --- | --- |
| **Vintage:** | **Vintage:** |
| HNO3,MAX, scaled:       tHNO3 | HNO3,MAX, scaled:       tHNO3 |
| Baseline Emission Factor:       tN2O/tHNO3 | Baseline Emission Factor:       tN2O/tHNO3 |
| Total N2O Emissions during the Baseline  Sampling Period:       tN2O | Total N2O Emissions during the Baseline  Sampling Period:       tN2O |
| Baseline Emissions:       tCO2e | Baseline Emissions:       tCO2e |

*Combined Secondary and Tertiary Catalyst Projects*

**Allowable Operating Conditions:**

Oxidation temperature range:

Oxidation pressure range:

Maximum ammonia-to-air ratio input into the AOR:

*Select how these allowable ranges were determined:*

Option (a): The best available historical data for the operating range of temperature and

pressure, and maximum ammonia-to-air ratio from the previous five campaigns.

Option (b): The best available historical data from less than five campaigns. This option is

allowable only if limited historical data are available (e.g., an upgraded or relocated NAP that has not been operating for at least five campaigns).

Option (c) Specified range of temperature and pressure found in the operating manual20 for

the existing equipment, and maximum ammonia-to-air ratio as specified by the ammonia oxidation catalyst manufacturer or the operating manual for the NAP equipment if guidance from the ammonia oxidation catalyst manufacturer is not available. This option is only allowable if no historical data are available.

|  |  |
| --- | --- |
| **Vintage:** | **Vintage:** |
| HNO3,RP, scaled:       tHNO3 | HNO3,RP, scaled:       tHNO3 |
| EFBL:       tN2O/tHNO3 | EFBL:       tN2O/tHNO3 |
| HNO3,NEW:       tHNO3 | HNO3,NEW:       tHNO3 |
| EFNEW:       tN2O/tHNO3 | EFNEW:       tN2O/tHNO3 |
| Baseline Emissions:       tCO2e | Baseline Emissions:       tCO2e |

## Quantifying Project Emissions

### Summary of Project Emissions

*Complete the table below depending on the project scenario. Leave the other table blank if not applicable.*

Secondary Catalyst Projects:

|  |  |
| --- | --- |
| **Vintage:** | **Vintage:** |
| Total N2O emissions in the campaign:       tN2O | Total N2O emissions in the campaign:       tN2O |
| Project Emissions:       tCO2e | Project Emissions:       tCO2e |

Tertiary Catalyst Projects:

|  |  |
| --- | --- |
| **Vintage:** | **Vintage:** |
| Emissions from the N2O in the tail gas during the reporting period:       tCO2 | Emissions from the N2O in the tail gas during the reporting period:       tCO2 |
| Emissions from the ammonia input used to operate the tertiary catalyst facility during the reporting period:       tCO2 | Emissions from the ammonia input used to operate the tertiary catalyst facility during the reporting period:       tCO2 |
| Emissions from the use of hydrocarbons as a reducing agent or to reheat tail gas during the reporting period:       tCO2 | Emissions from the use of hydrocarbons as a reducing agent or to reheat tail gas during the reporting period:       tCO2 |
| Emissions from the external energy used to reheat the tail gas during the reporting period:       tCO2 | Emissions from the external energy used to reheat the tail gas during the reporting period:       tCO2 |
| Project Emissions:       tCO2e | Project Emissions:       tCO2e |

Combined Secondary and Tertiary Catalyst Projects – Approach 1:

|  |  |
| --- | --- |
| **Vintage:** | **Vintage:** |
| Emissions from the N2O in the tail gas during the reporting period:       tCO2 | Emissions from the N2O in the tail gas during the reporting period:       tCO2 |
| Emissions from the ammonia input used to operate the tertiary catalyst facility during the reporting period:       tCO2 | Emissions from the ammonia input used to operate the tertiary catalyst facility during the reporting period:       tCO2 |
| Emissions from the use of hydrocarbons as a reducing agent or to reheat tail gas during the reporting period:       tCO2 | Emissions from the use of hydrocarbons as a reducing agent or to reheat tail gas during the reporting period:       tCO2 |
| Emissions from the external energy used to reheat the tail gas during the reporting period:       tCO2 | Emissions from the external energy used to reheat the tail gas during the reporting period:       tCO2 |
| Project Emissions:       tCO2e | Project Emissions:       tCO2e |

## Final CRT Summary

*Summarize the final result for determining the net GHG Reductions by vintage.*

|  |  |
| --- | --- |
| **Vintage:** | **Vintage:** |
| Baseline Emissions:       tCO2e | Baseline Emissions:       tCO2e |
| Project Emissions:       tCO2e | Project Emissions:       tCO2e |
| Total GHG Emission Reductions:       tCO2e | Total GHG Emission Reductions:       tCO2e |
|  |  |

# Variance Request

*If a variance was requested during the verification period, provide a brief description of the rule/requirement in the protocol in question, the conditions of the determination, and the date of the variance request and determination.*

Date of Variance Request:

Protocol Section and Rule/Requirement:

Description of how the project did not meet the above requirements:

Date Reserve Issued Determination:

Variance Conditions:

# Project Documentation

*The following documents are required to be submitted for project registration. In cases where there is proprietary information, please provide unredacted and redacted versions. If additional documents were submitted, please include the document title and its associated file name.*

|  |  |
| --- | --- |
| **Document** | **File Name** |
| Project Diagram |  |
| Attestation of Title |  |
| Attestation of Voluntary Implementation |  |
| Attestation of Regulatory Compliance |  |
| Monitoring Plan |  |
| Project Contributions to the U.N. Sustainable Development Goals Report Tool |  |
| Project Data Report (this document) |  |
| Variance Request (if applicable) |  |
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