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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 (NAPP V2.2). 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	CF Industries Nitrogen LLC
Project ID and Name	768 – Terra #9 Nitrous Oxide Abatement Project
Cooperative/Aggregate ID (if applicable)	N/A
Current Reporting Period Dates	August 10, 2023 to July 26, 2024 – RP19
Protocol Version	Nitric Acid Production V2.2
Claimed CRTs by Vintage	94,296 CO ₂ e vintage 2023 110,435 CO ₂ e vintage 2024
Date Submitted	12/26/25

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1 Introduction

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

Nitrous Oxide (N₂O) is an undesired by-product gas from the manufacture of nitric acid. N₂O is formed during the catalytic oxidation of ammonia. Over a suitable catalyst, a maximum 98% (typically 92-96%) of ammonia fed is converted to nitric oxide (NO). The remainder participates in undesirable side reactions that lead to the production of N₂O, among other compounds.

Waste N₂O from nitric acid production is typically released into the atmosphere, as it does not have any economic value or toxicity at typical emission levels. N₂O is an important greenhouse gas (GHG) which has a high global warming potential (GWP) of 265.

The current project activity involves the installation of a secondary catalyst to abate N₂O inside the reactor once it is formed. The project boundary encompasses the complete Terra Yazoo City AOP#9 Nitric Acid Production Plant, from the inlet of the ammonia burner to the waste gas stack.

The baseline scenario is determined to be the release of N₂O emissions to the atmosphere at the currently measured rate, in the absence of regulations to restrict N₂O emissions. If regulations on N₂O emissions are introduced during the crediting period, the baseline scenario shall be adjusted accordingly.

The baseline emission rate was determined by measuring the N₂O emission factor during the complete production campaign before project implementation. To ensure the data obtained during the initial N₂O measurement campaign used to determine the baseline emission factor is representative of actual GHG emission from the source plant, a set of process parameters known to affect N₂O generation under the control of the plant operator will be monitored from historical data.

Baseline emissions will be dynamically adjusted from activity levels on an ex-post basis through monitoring the amount of nitric acid production. Project N₂O emissions will be monitored directly in real time. Additional N₂O monitoring and recording facilities will be installed to measure the amount of N₂O emitted by the project activity.

The project activity will reduce N₂O emissions and will neither increase nor decrease direct emissions of other air pollutants. The project does not impact local communities or access of services in the area.

2 Project Definition

a 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 NO_x abatement at any point since December 2, 2007

The abatement technology used is secondary abatement catalyst located near the ammonia converter that converts N₂O to N₂

The #9 NAP has never out of operation for 24 consecutive months

The #9 NAP was constructed and operated well before December 2, 2009

The #9 NAP has never used NSCR technology

b 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."

CF Industries Nitrogen LLC, wholly owned by CF Industries LLC

Technical Consultant(s): None

Other Parties with Material Interest (entity name and role): None

Entity Signing Attestation of Title: CF Industries Nitrogen LLC

Additional Information:

3 Project Eligibility

a Project Location

Provide the project location.

CF Industries Nitrogen LLC Yazoo City Complex

4608 Highway 49 East

Yazoo City, Mississippi 39194

b 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 project 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.

Please provide the start date for the project and describe the documentation used to demonstrate the start date as described above. 4/16/2009, 00:00 hours. According to Terra

Mississippi Nitrogen Memorandum, from M. Williams to D. Borzik, dated 4/28/09, Subject: No. 9 Gauze Change and N₂O Catalyst Installation – gauze on the No. 9 acid plant was lit following gauze change and initial installation of N₂O abatement catalyst at midnight, 4/15/2009.

c 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.

8/12/2019 to approximately 8/11/2029

Date of Reserve Approval if applicable:

d Additionality

i 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, either by installing either a secondary N₂O abatement catalyst or a tertiary N₂O abatement catalyst.

☒ Secondary N₂O Abatement catalyst

☐ Tertiary N₂O Abatement catalyst, including catalytic decomposition or NSCR

ii 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.

CF Industries has submitted a signed “Attestation of Voluntary Implementation”, for Reporting Period 19, affirming that Project 768 was initially implemented, and continues to operate voluntarily, and not due to any law, statute, rule, regulation, ordinance, court order, governmental condition, permit or other legally binding mandate.

e Social and Environmental Safeguards

i Social Safeguards

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

CF Industries has submitted a signed “Attestation of Regulatory Compliance” for Reporting Period 19, affirming that Project 768 was in material compliance with all Laws, as defined on the CAR Attestation of Regulatory Compliance form. Further, all instances of facility noncompliance were disclosed to the Verifier for further evaluation.

ii 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.

CF Industries has submitted a signed “Attestation of Regulatory Compliance” for Reporting Period 19, affirming that Project 768 was in material compliance with all Laws, as defined on the CAR Attestation of Regulatory Compliance form. Further, all instances of facility noncompliance were disclosed to the Verifier for further evaluation.

f 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.

CF Industries has submitted a signed “Attestation of Regulatory Compliance” for Reporting Period 19, affirming that Project 768 was in material compliance with all Laws, as defined on the CAR Attestation of Regulatory Compliance form.

Further, all instances of facility noncompliance were disclosed to the Verifier for further evaluation. Specifically, the project is under the jurisdiction of the USEPA and the Mississippi Department of Environmental Quality (MDEQ). Following a September 2024 wastewater inspection, MDEQ issued a Notice of Violation alleging that three E. coli samples collected during RP-19 had various issues related to them that were not in full compliance with requirements in the facility's NPDES permit. All of these E. coli samples are associated with the facility's sanitary wastewater treatment plants, and are in no way related to the project. The MDEQ NOV letter, CF's response, and MDEQ's No Further Action letter have all been provided to the Verifier.

4 GHG Assessment Boundary

a 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)	N ₂ O 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)	N ₂ O from reaction byproduct	B, P

4 - Ammonia Used to Operate SCR De-NOX Unit (included if ammonia is an input to the N ₂ O destruction facility)	GHG emissions from production of ammonia used in tertiary abatement for N ₂ O destruction	CO ₂ , CH ₄ , N ₂ O	B, P
5 - Hydrocarbon Input	Hydrocarbon used as reducing agent and/or reheating the tail gas	CO ₂ , CH ₄	P
7 - External Energy to Reheat Tail Gas	May be used to reheat the tail gas before entering the tertiary catalyst or NSCR	CO ₂ , CH ₄ , N ₂ O	P

5 Quantifying GHG Emission Reductions

a Quantifying Baseline Emissions

i 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: 1,400F to 1,754F (temp range AOCs set in variance request made by CF on 8/16/22 and approved by CAR on 9/15/22)

Oxidation pressure range: 72.52 psi to 108 psi (pressure range AOCs set in variance request made by CF on 8/16/22 and approved by CAR on 9/15/22)

Maximum ammonia-to-air ratio input into the AOR: 11.8% maximum (NH₃/air ratio max AOC set in variance request made by CF on 8/16/22 and approved by CAR on 9/15/22)

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: Campaign 36	Vintage: Campaign 37
HNO ₃ ,MAX, scaled: 87,700.0 tHNO ₃	HNO ₃ ,MAX, scaled: 89,454.00 tHNO ₃
Baseline Emission Factor: 0.00643256 t N ₂ O/tHNO ₃	Baseline Emission Factor: 0.00643256 t N ₂ O/tHNO ₃
Total N ₂ O Emissions during the Baseline Sampling Period: 507.45 t N ₂ O	Total N ₂ O Emissions during the Baseline Sampling Period: 507.45 t N ₂ O
Baseline Emissions: 140,280 t CO ₂ e	Baseline Emissions: 133,298 tCO ₂ e

- Campaigns 36 & 37 are included in RP-19. Campaign 36 had only 2023 & 2024 vintage, but Campaign 37 had only 2024 vintage. The data indicated above does not try to split values between vintages.

b Quantifying Project Emissions

i 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: 2023	Vintage: 2024
Total N ₂ O emissions in the campaign: 165.83 tN ₂ O	Total N ₂ O emissions in the campaign: 93.97 tN ₂ O
Project Emissions: 43,945 tCO ₂ e	Project Emissions: 24,902 tCO ₂ e

Tertiary Catalyst Projects: N/A

Vintage:	Vintage:
Emissions from the N ₂ O in the tail gas during the reporting period: tCO ₂	Emissions from the N ₂ O in the tail gas during the reporting period: tCO ₂
Emissions from the ammonia input used to operate the tertiary catalyst facility during the reporting period: tCO ₂	Emissions from the ammonia input used to operate the tertiary catalyst facility during the reporting period: tCO ₂
Emissions from the use of hydrocarbons as a reducing agent or to reheat tail gas during the reporting period: tCO ₂	Emissions from the use of hydrocarbons as a reducing agent or to reheat tail gas during the reporting period: tCO ₂
Emissions from the external energy used to reheat the tail gas during the reporting period: tCO ₂	Emissions from the external energy used to reheat the tail gas during the reporting period: tCO ₂
Project Emissions: tCO ₂ e	Project Emissions: tCO ₂ e

c Final CRT Summary

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

Vintage: 2023	Vintage: 2024
Baseline Emissions: 138,241 tCO ₂ e	Baseline Emissions: 135,338 tCO ₂ e
Project Emissions: 43,945 tCO ₂ e	Project Emissions: 24,902 tCO ₂ e
Total GHG Emission Reductions/Removals: 94,296 tCO ₂ e	Total GHG Emission Reductions/Removals: 110,435 tCO ₂ e
Buffer Pool Contributions: N/A	Buffer Pool Contributions: N/A

6 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.

After consultation with CAR staff, no Variances were requested for RP-19.

Two prior variances were cited by the Verifier in the Verification Report as being directly relevant to RP-19:

- 1) Variance dated 9/14/2010 regarding the allowance of EN 14181 installation and certification QA/QC provisions to satisfy the Protocol's initial certification requirements.
- 2) Variance dated 9/15/2022 allowing allowable operating conditions (AOCs) to be revised based on the facility's Safe Operating Control Limits (SOCLs). The request was approved to apply to all past, current and future reporting periods until the end of the projects second crediting period (8/11/2029).

During RP-19, the project met all the conditional requirements contained in both Variances.

7 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	Process Flow Block Diagram- Yazoo City- #9.pdf (uploaded)
Attestation of Title	CAR 768 RP19 Attestation of Title.pdf
Attestation of Voluntary Implementation	CAR 768 RP19 Attestation of Voluntary Implementation.pdf
Attestation of Regulatory Compliance	CAR 768 RP19 Attestation of Reg Compliance.pdf

Monitoring Plan	CF Yazoo City Complex NAP No. 9 Monitoring Plan v4.3.pdf
Project Contributions to the U.N. Sustainable Development Goals Report Tool (if applicable)	SDG-Reporting-Tool-v2.0.1 – YC N2O – CAR 768 8-27-25.xls
Project Data Report (this document)	
Variance Request (if applicable)	None