



Nitric Acid N₂O Project Submittal Form

Instructions: Please complete all fields as thoroughly as possible. If the project in question is still in the planning/ development phase, all fields must be completed using best available data and estimates based on the proposed system design. This is an interactive Word form. Upon completion, please save this form as a PDF prior to uploading it to the Reserve. This will lock your answers and protect the document from any further changes. All fields must be completed, even if the answer is also provided elsewhere; if a field is not applicable insert N/A in the space provided.

Section 1: Project Contact Information

Project Name (as it appears in the Reserve software): Rentech Energy Midwest Corporation - Nitric Acid Plant 1

Account Holder (as it appears in the Reserve software): Rentech Energy Midwest Corporation

Is the Account Holder authorized to sign the "Attestation of Title" form? ☒ Yes ☐ No

Facility Owner: Rentech Energy Midwest Corporation

Technical Consultants: ClimeCo America Corporation

Other Parties with a Material Interest: **None**

Date of Form Completion: 2/15/2011

Form Completed By (name, organization): Bill Flederbach, ClimeCo America Corporation

Section 2: General Project Site Information

1. Name of nitric acid production facility and specify the plant (if there is more than one plant at the same facility): **Rentech Energy Midwest Corporation - Nitric Acid Plant 1**
2. Project Site Address (including county and country): **16675 Highway 20 West, East Dubuque, Illinois 61025. Jo Daviess County, United States**
3. Type of nitric acid plant (e.g. single pressure): **Single Pressure**
4. Year plant was commissioned: **1978**
5. If the plant is not yet commissioned, please estimate the commission start date: **Not Applicable**



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- a. Have permits for construction been received? **Not applicable - NAP 1 is already constructed and the tertiary abatement system is exempt from IEPA Division of Air permitting requirements.**

Section 3: Project Description and Eligibility

6. Project Type: ☐ Secondary Catalyst or ☒ Tertiary Catalyst
7. Project Description (Please provide one to two paragraphs and submit a Project Diagram):
REMC operates a Girdler Nitric Acid Plant (NAP 1) at their East Dubuque, Illinois facility. NAP 1 was commissioned in 1978. Plant specifications include a nameplate nitric acid production capacity of 220 short tons per day, a typical gauze campaign length of 120 days, operational 330 days per year, oxidation pressure of 120 psig, and a flue gas temperature of approximately 1000 to 1100 F. REMC has retained ClimeCo America Corporation to engineer the fit-up of the CRI Catalyst N₂O tertiary system and oversee all aspects of the CAR process. The CRI tertiary catalyst is designed to oxidize 95% or greater of the inlet N₂O concentration. The N₂O catalyst will be installed downstream of the Ammonia Oxidation Reactor (AOR) and upstream of the tail gas expander. The installation will include a new N₂O analyzer designed by EcoChem. The new CEM will be located upstream of the tertiary catalyst. REMC has already installed and performed a RATA on the N₂O analyzer and mass flow meter for the downstream location. The start-up of the system is targeted for July 1, 2011.
8. What version of the Nitric Acid Production Project Protocol is the project based upon?
Version 1 dated 12/09/2009 and the ERRATA and Clarification document dated 11/19/2010
9. Project Start Date (Date project became or is expected to become operational MM/DD/YYYY): **07/01/2011**
10. Project Reporting Start Date (First date for which reductions will be reported on the Reserve; format: MM/DD/YYYY): **07/01/2011**



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11. Has the project ever been submitted for listing with the Reserve as a different Nitric Acid N₂O Project Type (i.e., secondary catalyst or tertiary catalyst)? **NO**
12. Have any vintage reduction tonnes from the project ever been registered with or claimed by another registry or program, or sold to another third party prior to registering with the Reserve? **No**

If the answer is yes, you must complete and return a "*Project Transfer*" form.

13. Description and citation of all local and state air and water quality, explosive gas, or other regulations pertinent to the project: **The project is exempt from IEPA Bureau of Air permitting requirements and as such does not require a permit to construct or operate the device. There are no other pertinent federal, state or local environmental regulations applicable to the installation of the tertiary catalyst. The nitric acid line is permitted under the facility's Clean Air Act Title V permit and is subject to the New Source Performance Standard Subpart G (Nitric Acid Plants). As such, the facility is currently subject to the NO_x limit of 3.0 pounds per ton HNO₃ (lb/tHNO₃) limit. The facility currently meets this limit by the use of an extended absorption tower and hydrogen peroxide. The Prevention of Significant Deterioration (PSD) Tailoring Rule is not applicable to this source and thus best available control technology (BACT) for greenhouse gases is not applicable. This project is being performed on a voluntary basis.**

14. Is this project being implemented and maintained as the result of any law, statute, regulation, court order, or other preexisting legally binding mandate?

☐ Yes ☒ No

If yes, please explain. **Not Applicable**

15. Is NO_x being (or has NO_x ever been) abated at the plant? ☒ Yes ☐ No

If yes: **The facility is subject to NSPS Subpart G and the 3.0 lb/tHNO₃ limit as described in question 13. Extended absorption is often referred to as a process enhancement and not NO_x abatement (such as an add-on SCR system).**



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- a. Is NSCR currently being used or ever been used since December 2, 2007?

☐ Yes ☒ No

- b. If there is no NSCR, what is the existing NO_x abatement technology (and its date of commissioning) and describe any previous NO_x abatement technology used: Currently, the facility uses extended absorption and hydrogen peroxide injection to meet NO_x requirements. REMC has procured an SCR to be installed for NO_x on NAP 1. However, this is a separate project and will be located downstream of the N₂O tertiary catalyst - there is no relationship to the N₂O project. Additionally, the SCR will be installed at a later date.

16. Was the plant relocated to its current location at any time since December 2, 2007? ☐ YES
☒ NO

If yes: What date was this plant operational after the relocation (MM/DD/YYYY): **Not Applicable**

17. Was the plant upgraded (i.e. modified in any way to increase production capacity) at any time after December 2, 2007?

☐ YES ☒ NO

If yes: What date was this plant operational after the upgrade (MM/DD/YYYY): **Not Applicable**

18. Are there plans to upgrade the plant during the project crediting period? (Please describe.)
No plans at this time.

19. Has the plant been idle at any time since December 2, 2007? ☐ YES ☒ NO

If yes: What were the start and end dates for the idle period(s) (MM/DD/YYYY): **Not Applicable**



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Section 4: Pre-project Information and monitoring

20. Is a continuous emission monitoring system (CEMS) for monitoring N₂O installed for the project? ☒ YES ☐ NO

21. The date CEMS started or is expected to start recording project data (MM/DD/YYYY) is

There is an existing N₂O analyzer installed on NAP 1 which will serve as the downstream monitoring location (after N₂O control). The N₂O CEM and the mass flow meter are already certified consistent with 40 CFR Part 75 requirements and are currently collecting data. The N₂O analyzer upstream of the N₂O catalyst will be installed and certified prior to the system start-up on 7/01/2011.

22. How long will the project baseline sampling period be (minimum of 10 weeks after the start of a campaign): **Not required. The tertiary system will monitor real time N₂O inlet and outlet concentrations rather than the baseline emission factor approach used in secondary abatement projects.**

23. Has a detailed monitoring plan been developed for this project? If not, what date will a monitoring plan be in place? **The monitoring plan will be prepared and the facility personnel will be trained prior to the system start-up on July 1, 2011.**

29. Additional information: None.