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PERMITTEE

Trademark Nitrogen, Inc.
1216 Old Hopewell Road
Tampa, FL 33619

Authorized Representative:
Omar Bourassa, Technical Manager

0570025-012-AO
Effective Date: January 25, 2017
Renewal Application Due Date: January 19, 2020
Expiration Date: March 19, 2020
Air Operation Permit

Trademark Nitrogen, Inc.
Hillsborough County, Florida

PROJECT

This is the final air operation permit, which authorizes the operation of Trademark Nitrogen, Inc., a nitrogen fertilizer production plant (Standard Industrial Classification No. 2873). This project incorporates Permit No. 0570025-011-AC, which authorized the installation of a chiller and a Selective Catalytic Reduction (SCR) unit, and the replacement of the waste heater boiler and the turbine gas heater. The facility is located in Hillsborough County at 1216 Old Hopewell Road in Tampa, Florida. The UTM coordinates are Zone 17, 367.3 kilometers (km) East, and 3092.6 km North.

This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Emissions Unit Specific Conditions); and Section 4 (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

Permitting Authority: Applications for air operation permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4 and 62-210 of the Florida Administrative Code (F.A.C.). The Permitting Authority responsible for making a permit determination for this project is the Environmental Protection Commission of Hillsborough County. The Permitting Authority's physical and mailing address is: 3629 Queen Palm Dr., Tampa, Florida 33563. The Permitting Authority's telephone number is 813/627-2600.

Petitions. A person whose substantial interests are affected by the proposed decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed (received) in the Legal Department of the EPC at 3629 Queen Palm Drive, Tampa, Florida 33619, Phone 813-627-2600, Fax 813-627-2602. Petitions filed by the applicant or any of the parties listed below must be filed within 14 days of receipt of this notice. Petitions filed by any other person must be filed within 14 days of receipt of this proposed action. A petitioner must mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner; the name, address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when each petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and, (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the permitting authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the permitting authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation: Mediation is not available in this proceeding.

Effective Date: This permitting decision is final and effective on the date filed with the clerk of the Permitting Authority unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition pursuant to Rule 62-110.106, F.A.C., and the petition conforms to the content requirements of Rules 28-106.201 and 28-106.301, F.A.C. Upon timely filing of a petition or a request for extension of time, this action will not be effective until further order of the Permitting Authority.

Judicial Review: Any party to this permitting decision (order) has the right to seek judicial review of it under Section 120.68, F.S., by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Legal Department of the EPC at 3629 Queen Palm Drive, Tampa, Florida 33619, Phone 813-627-2600, Fax 813-627-2602, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Hillsborough County, Florida.

ENVIRONMENTAL PROTECTION
COMMISSION OF HILLSBOROUGH COUNTY

Janet L. Dougherty

Janet L. Dougherty
Executive Director

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Air Permit package was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on the date indicated below to the following persons.

Omar Bourassa – Trademark Nitrogen, Inc. Obourassa@trademarknitrogen.com
Robert Wallace, P.E. – Environmental Engineering Consulting, Inc. rwallace@eec-tampabay.com
Marvin Scott – Environmental Engineering Consulting, Inc. mscott@eec-tampabay.com

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

Clerk _____ Date 1/25/2017

FACILITY DESCRIPTION

The existing facility consists of the following emissions units.

Facility ID No.0570025	
ID No.	**Emission Unit Description**
001	Nitric Acid Plant with 2 Absorption Towers
002	Ammonium Nitrate Plant (Neutralizer and Evaporator)

Trademark Nitrogen is a nitrogen fertilizer production plant, which is comprised of a nitric acid plant with a daily production limit of 143 tons/day nitric acid plant and an ammonium nitrate plant with a daily production limit of 179 tons/day.

Nitric Acid Plant

The nitric acid plant consists of two absorption towers (primary and secondary) that operate in series. The process consists of compressing and heating atmospheric air and mixing the air with hot ammonia. The mixture is passed through a catalyst to produce nitrogen oxides (NO_2). The nitrogen oxides are then passed through a series of heat exchangers, coolers, and through a primary absorber where the oxides are absorbed in water to produce nitric acid. The remaining oxides are passed through the secondary absorber acting as a control device to reduce NOx emissions prior to the Selective Catalytic Reduction (SCR) unit. The SCR unit converts NOx to N2 and H2O by mixing the tail gas with a small amount of ammonia then passing the mixture over a catalyst before being discharged out the stack. The following is a more detailed description of the nitric acid plant operation.

The production of nitric acid involves three basic steps: (1) Oxidation of ammonia to nitric oxide, (2) oxidation of nitric oxide to nitrogen dioxide, and (3) absorption of nitrogen dioxide in water to produce nitric acid. The process begins by drawing atmospheric air through an Air Intake Filter House, which removes 95% of the dust particles and solid contaminants in the air, and compressing the air in an Air Compressor. At the inlet to the air compressor is an Everest Sciences Corp., Model No. ESid-T30, Air Chiller. The cooling of the intake air by the chiller increases the air density, which provides a greater mass of air to the compressor, leading to increased nitric acid production. The chiller operates only at times when the ambient air is above 50°F.

In the air compressor, as the air is compressed from one stage to another, it flows through an Intercooler, and is ultimately compressed to 125 psig. The Intercooler is used to maintain the air at the design air temperature between compressor stages. The Intercooler also ensures that the discharge temperature of the air from the air compressor system is approximately 170 °F under all inlet ambient air conditions.

The air from the compressor flows to an air pre-heater and then is mixed with ammonia in the ammonia-air mixer. The liquid ammonia enters the ammonia vaporizer and then enters the ammonia superheater, where steam heats the ammonia vapors. The hot ammonia vapor stream is then directed to the ammonia-air mixer where a variable NH_3/air ratio is produced. Once past the ammonia-air mixer, the gas stream enters a converter, which contains a platinum gauze catalyst. The converter operates at a temperature of approximately 1650 °F. The catalyst does not at any time participate in the oxidation of the NH_3, it simply allows the reaction to take place faster.

The converter system has three major parts: a catalyst holder unit, a cover, and the Exchanger Train Equipment, which is described below. The oxidation of the ammonia/air mixture to nitric oxide (NO) in the converter is a heat releasing reaction (exothermic), consequently, no outside heat is required except during start-up. The Exchanger Train equipment is designed to recover the heat energy as it cools the reacted process gas stream.

The first of the heat exchangers that cools the hot gas leaving the catalyst is the converter chamber which preheats the waste heat boiler. The converter chamber also contains the horizontal tubes of the turbine gas heater for reheating the stripped tail gas from the absorber, described below. The waste heat boiler is a horizontal, fixed tube

sheet, fire-tube type, York, Model No. YLAA0136SE46XFBBCTXHXXBLXCXX40SE, boiler, with a Steam Drum and is designed to produce steam at 150 psig. The process gas leaves the waste heat boiler and is cooled as it flows through the air preheater, which heats the process air used in the air/ammonia mixer described above, and then the tail gas heater.

The NO formed in the converter during the ammonia oxidation must be oxidized. In this process, the process gas flows from the platinum filter to the cooler condenser where it is further cooled, to 100 °F or less at pressures up to 116 lbs/in^2, by water circulating around tubes through which the process gas passes. During the nitric oxidation process, the nitric oxide reacts non-catalytically with residual oxygen to form NO_2 and nitrogen tetroxide (N_2O_4, referred to as dimer). Operating at low temperatures and high pressures promotes maximum production of NO_2 within a minimum reaction time. The final step introduces the NO_2/dimer mixture into the absorption process after being cooled. The condensed water vapors from the oxidation reaction are combined with the oxides of nitrogen to form weak nitric acid.

The remaining gas and weak acid then pass to the weak acid separator where the weak acid is drained off and the gas continues into the primary absorber. The separated weak acid is then pumped into the weak acid trays in the primary absorber. The cooled gas from the cooler condenser enters the bottom of the absorber above the bleaching trays, while liquid nitrogen tetroxide is added at a higher point. Weak acid from the secondary abatement absorber is added at the top of the primary absorber in the correct amount to correspond to the oxidation rate to produce 53-55% acid. Both liquids flow countercurrent to the NO_2/dimer gas mixture. The weak acid passes downward through the primary absorber and continues to pick up strength until it exits the bleaching section with a concentration of 56%. Oxidation takes place in the free space between the trays, while absorption occurs on the trays.

The bleaching section of the primary absorber consists of five trays at the bottom of the column. Air is introduced into this section to strip out dissolved oxides of nitrogen and to assist re-oxidation of the nitric acid in the absorption tower. The amount of air added is kept as low as possible, consistent with satisfactory bleaching. Normally, an excess of oxygen of 1% to 2% in the tail gas is desirable. The tail gas from the top of the primary absorber contains combinations of NO, NO_2 and N_2O_4 that has not been absorbed. This gas is fed to the bottom of the secondary abatement absorber. The nitrogen dioxide is absorbed from the gas by a countercurrent flow of condensate.

Emissions from the nitric acid manufacturing process consist of NO, NO_2, HNO_3 mist, and NH_3. The major source of NOx is the tailgas from the primary absorption tower. The control of NOx emissions is accomplished by use of the secondary abatement absorber and the SCR described below. The tailgas from the top of the primary absorber that contains combinations of NO, NO_2 and N_2O_4, enters the secondary abatement absorber where it is stripped of the oxides of nitrogen by the absorption process. The secondary absorber has seventeen perforated trays.

The nitric acid formed in the secondary abatement absorber flows from the bottom of the tower on a level control basis to the primary absorber. The acid leaving the secondary abatement absorber will have a concentration from 2% to 4%. The gas exits the secondary abatement absorber and passes through a mist separator where any entrained acid is removed and sent back to the nitric acid storage tanks. The gas then passes through the tail gas steam pre-heater where it is preheated to 260 °F. It then enters the tail gas preheater where it is preheated to 400 °F before it enters the turbine gas heater. The gas leaves the turbine gas heater (870 °F to 910 °F) and goes through the power recovery turbine.

After the power recovery turbine, the gas is vented to a Selective Catalytic Reduction Unit (SCR) system to further control NOx emissions. The system consists of an ammonia/tail gas pre-mixer, an ammonia/tail gas mixer, a tail gas blower, and the SCR. The SCR unit converts NOx to N_2 and H_2O by mixing the tail gas from the secondary abatement absorber with a small amount of ammonia, then passing the mixture over a catalyst before being discharged out the stack. A portion of the tail gas flowing to the stack is recirculated by the tail gas blower and mixed with ammonia in the ammonia/tail gas pre-mixer. This mixture is then combined with the tail gas

stream from the expander in the ammonia/tail gas mixer. The tail gas undergoes NOx reduction in the SCR before being emitted through the stack.

The NOx emissions are continuously monitored by the Rosemount NGA Model 2000 NOx analyzer, which utilizes chemiluminescence for monitoring oxides of nitrogen. The analyzer is situated on the compressor floor by the compressor panel board.

The primary absorption tower specifications are as follows:

Manufacturer	Blaw-Knox Corp.
Serial Number	15383
Shell Working Pressure	125 psi
Temperature	100 ^{o}F
Date Manufactured	1962
Tower Diameter	6.75 ft
Heat Removed	4,738,254 Btu/hr

Ammonium Nitrate Plant

Ammonium nitrate (NH_4NO_3) is produced by neutralizing the nitric acid (HNO_3) produced onsite with ammonia (NH_3). Nitric acid is piped into the neutralizer from the nitric acid storage tanks and anhydrous ammonia is piped to the neutralizer from an anhydrous ammonia tank. The nitric acid is sprayed downward from a nozzle within the neutralizer while the anhydrous ammonia is sprayed upward causing mixing to take place and produce an approximately 76% NH_4NO_3 liquid solution product. The pH of the neutralizer ranges from 1.1 - 1.2 with a temperature of approximately 256 °F. The 76% ammonium nitrate solution is then piped to the evaporator to further concentrate it to approximately 86% ammonium nitrate. The evaporator is heated using steam filled pipes while air is blown through the ammonium nitrate solution to evaporate off some of the water in the ammonium nitrate solution. The ammonium nitrate is kept in a molten state and stored in heated tanks on site until it is trucked offsite.

Particulate matter (PM) emissions are generated from the neutralizer and the evaporator, both of which are ultimately controlled by a packed bed scrubber, manufactured by Metal Equipment Company. The PM emissions from the neutralizer are first controlled by a separator followed by a condenser prior to being sent to the packed bed scrubber. The PM emissions from the evaporator are controlled by a knock-out pot followed by the scrubber. Condensate from the knock-out pot, separator, and condenser are collected and used in the scrubber as the scrubbing liquid.

In addition to the above mentioned sources, the facility receives and loads various liquid fertilizers and liquid products used in the manufacture of liquid fertilizer. The products are stored in 92 tanks and include products such as liquid ammonium nitrate, nitric acid, various liquid fertilizer solutions, safety oil, scrap water, phosphoric acid, and anhydrous ammonia. The truck loading rack and the tanks are not considered significant sources of emissions since they handle liquid products that are not significant sources of regulated emissions.

The facility also operates the following sources which are exempt from permitting pursuant to Rule 62-210.300(3)(b) F.A.C.: a urea handling operation; a magnesium nitrate solutions plant with a magnesium oxide silo; a bulk storage warehouse with railcar unloading of urea; and a truck loading and a bagging machine located in the warehouse.

Also, the facility has categorically exempt sources that include: a 6.7 MMBtu/hr Orr & Steambower natural gas fired boiler and 4.5 MMBtu/hr natural gas fired Kemco Systems, Inc., water heater, which are exempt pursuant to Rule 62-210.300(3)(a)34 F.A.C.; and a 150 kW natural gas fueled Generac emergency generator, which is exempt in accordance with Rule 62-210.300(3)(a)35, F.A.C. However, the engine remains subject to 40 CFR 60, Subpart IIII - *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* because it was manufactured after April 1, 2006.

In addition, the facility operates a nitrogen-phosphorus-potassium blend plant (NPK liquid fertilizer), which is considered to be a negligible source of emissions, since the product is liquid and there are no known emissions from this process.

APPLICABLE REGULATIONS

A summary of applicable regulations is shown in the following table.

Regulation	**EU No(s).**
Federal Rule Citations	
40 CFR 60, Subpart A - NSPS General Provisions	001
40 CFR 60, Subpart G - Standards of Performance for Nitric Acid Plants	001
State Rule Citations	
Rule 62-296.320, F.A.C. - General Pollutant Emission Limiting Standards	001, 002
Rule 62-296.408, F.A.C. – Nitric Acid Plants	001
Rule 62-296.700, F.A.C. - Reasonably Available Control Technology – Particulate Matter	002
Rule 62-296.712, F.A.C. - Miscellaneous Manufacturing Process Operation	002
Local Rule Citations	
Ch. 1-3, Rules of the EPCHC	001, 002

FACILITY REGULATORY CLASSIFICATION

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility does not operate units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is not a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The facility is not a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Environmental Protection Commission of Hillsborough County. The mailing address is 3629 Queen Palm Dr., Tampa, Florida 33619. All documents related to applications for permits to operate an emissions unit shall be submitted to the Environmental Protection Commission of Hillsborough County.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Environmental Protection Commission of Hillsborough County at: 3629 Queen Palm Dr., Tampa, Florida 33619.

3. Appendices: The following Appendices are attached as a part of this permit: Appendix A (Citation Formats and Glossary of Common Terms); Appendix B (General Conditions); Appendix C (Common Conditions); Appendix D (Common Testing Requirements); Appendix G (NSPS, 40 CFR 60, Subpart G - Nitric Acid Plants); and Appendix NSPS (40 CFR 60, Subpart A - General Provisions).

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the EPCHC may require the permittee to conform to new or additional conditions. The EPCHC shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the EPCHC may grant additional time. [Rule 62-4.080, F.A.C.]

6. Modifications: The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the EPCHC. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]

7. Renewal: Prior to 60 days before the expiration date of this permit, the permittee shall apply for a renewal of the permit. A renewal application shall be timely and sufficient. If the application is submitted prior to 60 days before expiration of the permit, it will be considered timely and sufficient. If the renewal application is submitted at a later date, it will not be considered timely and sufficient unless it is submitted and made complete prior to the expiration of the operation permit. When the application for renewal is timely and sufficient, the existing permit shall remain in effect until the renewal application has been finally acted upon by the Department. [Rule 62-4.090, F.A.C.]

8. Annual Operating Report (AOR): The information required by the Annual Operating Report for Air Pollutant Emitting Facility (DEP Form No. 62-210.900(5)) shall be submitted by April 1 of each year, for the previous calendar year, to the Environmental Protection Commission of Hillsborough County. All synthetic non-Title V sources shall submit a completed DEP Form 62-210.900(5) unless the annual operating report is submitted using the DEP's electronic annual operating report software. Emissions shall be computed in accordance with the provisions of subsection 62-210.370(2), F.A.C. [Rule 62-210.370(3), F.A.C.]

   {Permitting Note: Resources to help you complete your AOR are available on the electronic AOR (EAOR) website at: http://www.dep.state.fl.us/air/emission/eaor. If you have questions or need assistance after reviewing the information posted on the EAOR website, please contact the Department by phone at (850) 717-9000 or email at eaor@dep.state.fl.us.}

9. The permittee wishes to transfer this permit to another owner, an "Application for Transfer of Air Permit" (DEP Form 62-210.900(7)) shall be submitted, in duplicate, to the Environmental Protection Commission of Hillsborough County within 30 days after the sale or legal transfer of the permitted facility. [Rule 62-4.120, F.A.C.]

10. All applicable rules of the Environmental Protection Commission of Hillsborough County including design discharge limitations specified in the application shall be adhered to. The permit holder may also need to comply with county, municipal, federal, or other state regulations prior to construction. [Rule 62-4.070(7), F.A.C.]

11. The permittee shall not cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor. [Rule 62-296.320(2), F.A.C.]

12. The permittee shall operate, maintain, and calibrate a continuous emission monitoring system for measuring and recording NOx emissions. The span value for calibration checks shall be 500 ppm of NO2. [Rule 62-4.070(3), F.A.C. and 40 CFR 60.73(a)]

13. At least 15 days prior to the date on which each required emissions test is to begin, the owner or operator shall notify the air compliance program identified by permit, unless shorter notice is agreed to by the appropriate air compliance program. The notification shall include the date, time, place of each such test, Facility ID Number, Emission Unit ID Number(s) and description(s), Emission Point Number(s) and description(s), test method(s), pollutant(s) to be tested, along with the name and telephone number of the person who will be responsible for conducting such test(s) for the owner or operator. If a scheduled emissions test needs to be re-scheduled, the owner or operator shall submit to the appropriate air compliance program a revised notification at least seven days prior to the re-scheduled emissions test date or arrange a re-scheduled test date with the appropriate air compliance program by mutual agreement. [Rule 62-297.310(9), F.A.C]

14. When the Environmental Protection Commission of Hillsborough County (EPC) after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in Rules 62-204, 62-210, 62-212, 62-296, or 62-297, F.A.C., or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the source to conduct compliance tests which identify the nature and quantity of pollutant emissions from the source and to provide a report on the results of said tests to the EPC. [Rules 62-297.310(7)(b) and 62-4.070(3), F.A.C.]

A. Nitric Acid Plant

This section of the permit addresses the following emissions units.

EU No.	Emission Unit Description
001	Nitric Acid Plant with 2 Absorption Towers

PERFORMANCE RESTRICTIONS

A.1. Production Limit: In order to limit the potential to emit, the production rate from the nitric acid plant shall not exceed 5.96 tons of 100% HNO_3 per hour and 143 tons per day. [Rules 62-4.070(3), 62-210.200(PTE), and 62-296.408, F.A.C.; and Permit No. 0570025-011-AC]

A.2. Restricted Operation: The hours of operations are not limited (8,760 hours per year). [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.; and Permit No. 0571446-0008-AC]

A.3. The nitric acid plant is only permitted to operate while the Selective Catalytic Reduction unit (SCR) is in operation. [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.; and Permit No. 0570025-011-AC]

EMISSIONS STANDARDS

A.4. Visible Emissions Standard: Visible emissions from the Nitric Acid Plant shall not exceed 5% opacity. [Rule 62-4.070(3), Chapter 1-3.52, Rules of the EPC; and Permit No. 0570025-008-AC]

{NOTE: This visible emission limitation for the nitric acid plant is more restrictive than, and therefore meets the requirements of, the NSPS Subpart G, 40 CFR 60.72(a)(2), and Rule 62-296.408(1), F.A.C. limitations of 10% opacity.}

A.5. NOx Emissions Standard: In order to limit the potential to emit, the Nitrogen Oxide (NOx) emissions from the nitric acid plant shall not exceed any of the following emission limits. [Rules 62-4.070(3), 62-210.200(PTE), and 62-296.408, F.A.C., and Permit No. 0570025-011-AC]

A) 2.3 pounds per ton of 100% HNO_3 produced

B) 60.0 tons per year

{NOTE: This NOx emission limitation for the nitric acid plant is more restrictive than, and therefore meets the requirements of, the NSPS Subpart G, 40 CFR 60.72(a)(1), and Rule 62-296.408(2), F.A.C. limitations of 3.0 lbs/ton 100% HNO_3 produced}

TESTING REQUIREMENTS

A.6. Annual VE Compliance Tests: Test the emissions from the nitric acid plant for visible emissions (VE), at the point of highest opacity, once during each calendar year (January 1st to December 31st). A report of the test data shall be submitted to the air Compliance Section of the Environmental Protection Commission of Hillsborough County within 45 days of the testing. Testing procedures shall be consistent with the requirements of Rule 62-297.310, F.A.C. [Rules 62-4.070(3), and 62-297.310, F.A.C.]

A.7. NOx Compliance Test: Test the emissions from the nitric acid plant for nitrogen oxides (NOx) at least 90 days prior to the expiration date of the operating permit. A report of the test data shall be submitted to the air Compliance Section of the Environmental Protection Commission of Hillsborough County within 45 days of the testing. Testing procedures shall be consistent with the requirements of Rule 62-297.310, F.A.C. [Rules 62-4.070(3), and 62-297.310, F.A.C.; Permit No. 0570025-011-AC]

A.8. Testing Capacity: Testing of emissions shall be conducted with the source operating at capacity. Capacity is defined as 90-100% of the rated capacity of 5.96 tons of 100% HNO_3 produced per hour in the nitric acid plant. If it is impracticable to test at the testing capacity, an emissions unit may be tested at less than the

testing capacity. If an emissions unit is tested at less than the testing capacity, another emissions test shall be conducted and completed no later than 60 days after the emissions unit operation exceeds 110% of the capacity at which its most recent emissions test was conducted. Failure to submit the processing rates during the test may invalidate the test. [Rules 62-4.070(3) and 62-297.310(3), F.A.C.]

A.9. Test Methods: Required tests shall be performed in accordance with the following reference method:

Method	Description of Method and Comments
7, 7A, 7B, 7C or 7D	Determination of Nitrogen Oxide Emissions From Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources

The above methods are described in Appendix A of 40 CFR 60 and are adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department.

The EPA Method 9 test for the emission units shall be a minimum of thirty (30) minutes in duration.

If method 7C or 7D is used, the sampling time shall be at least 1 hour. The minimum requirements for stationary point source emissions test procedures and reporting shall be in accordance with Rule 62-297, F.A.C. and 40 CFR 60, Appendix A. [Rules 62-4.070(3), 62-204.800, 62-296.408, F.A.C.; 40 CFR 60.74 and Appendix A of 40 CFR 60]

MONITORING REQUIREMENTS

A.10. Monitoring data shall be converted into the units of the 40 CFR 60 NSPS Subpart G standard (pounds/ton of 100% HNO_3) through use of an established conversion factor in accordance with 40 CFR 60.73(b). The conversion factor shall be re-established during any performance test required by 40 CFR 60.8 or any continuous monitoring system performance evaluation required by 40 CFR 60.13(c). The conversion factor shall be established and reported with each NOx compliance stack test report. All monitoring data shall be retained for at least a two year period. [40 CFR 60.73(a) and 60.74(d) and Rule 62-4.070(3), F.A.C.]

RECORDS AND REPORTS

A.11. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit. The permittee shall submit a written test report to the Air Compliance Section of the Environmental Protection Commission of Hillsborough County, on the results of each such test as soon as practicable but no later than 45 days after the last run of each test is completed. For each test run, the report shall also indicate the following: [Rule 62-297.310(10), F.A.C]

A) In accordance with 40 CFR 60.74(b)(4), the production rate of nitric acid during the test shall be submitted and shall be based on daily production records and confirmed by material balance over the production system.

A.12. Recordkeeping: In order to demonstrate compliance with the requirements of Specific Condition Nos. A.1., A.2., and A.5., the permitte shall maintain daily records. The records shall be maintained onsite for at least three years and shall be made available to any local, state, or federal air pollution agency. The records shall include, but not be limited to, the following: [Rules 62-4.070(3) and 62-4.160(14), F.A.C.; 40 CFR 60.73(c); and Permit No. 0570025-011-AC]

A) Day, Month, Year
B) Nitric acid plant production rate (in tons/day of 100% HNO_3)
C) Hours of operation for the nitric acid plant
D) Monthly and 12-month rolling NOx emissions from the nitric acid plant

A.13. Excess Emissions Reports: In accordance with 40 CFR 60.7(c) and 40 CFR 60.73(e), semiannually excess emission reports shall be submitted to the Air Compliance Section of the Environmental Protection Commission of Hillsborough County. **Excess emissions are defined as any 3-hour period during which the average (arithmetic average of 3 continuous 1-hour periods) NOx emissions, as measured by the NOx continuous emission monitoring system, exceed the standards contained in Specific Condition No. A.5.A) or A.5.B).** The semiannual reports shall include the following: [Rule 62-4.070(3), F.A.C., 40 CFR 60.7(c), 40 CFR 60.73(e) and Permit No. 0570025-008-AC]

A) The date and time of commencement and completion of each time period of excess emissions, the magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), and any conversion factors used.
B) Specific identification of excess emissions that occur during startups, shutdowns, and malfunctions of the affected source. This shall include the nature and cause of any malfunctions (if known) and the corrective action taken or preventative measures adopted.
C) The date and time identifying each period during which the NOx continuous emissions monitoring system was inoperative (not including zero and span checks), and the nature of system repairs or adjustments.
D) When no excess emissions have occurred or the continuous emission monitoring system has not been inoperative, repaired or adjusted, such information shall be stated in the report.
E) A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in 40 CFR 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The EPC may request additional relevant information subsequent to this notice. [40 CFR 60.7(a)(4)]
F) The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. [40 CFR 60.7(b)]
G) The permittee shall maintain a file of all measurements, including performance testing measurements and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records. [40 CFR 60.7(f)]
H) The opacity standards set forth in this permit shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard. [40 CFR 60.11(c)]
I) At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the EPC which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. [40 CFR 60.11(d)]
J) No owner or operator subject to the provisions of this part shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would

otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. [40 CFR 60.12]

B. Ammonium Nitrate Plant

This section of the permit addresses the following emissions units.

EU No.	Emission Unit Description
002	Ammonium Nitrate Plant (Neutralizer and Evaporator)

PERFORMANCE RESTRICTIONS

B.1. Production Limit: In order to limit the potential to emit, the production rate from the ammonium nitrate plant shall not exceed 7.45 tons of 100% NH_4NO_3 per hour and 179 tons per day. [Rules 62-4.070(3), 62-210.200(PTE), and 62-296.408, F.A.C.; and Permit No. 0570025-008-AC]

B.2. Restricted Operation: The hours of operations are not limited (8760 hours per year). [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C. and Permit No. 0570025-008-AC]

EMISSIONS STANDARDS

B.3. Visible Emissions and PM Emissions Standards: The permittee shall not cause, permit, or allow emissions of particulate matter in excess of 0.03gr/dscf, or any visible emissions greater than 5 percent opacity. However, the permittee may exceed these emission limits if he utilizes a pollution control device or system for control of particulate matter which has an actual particulate matter collection efficiency of at least 98 percent. [Rules 62-4.070(3) and 62-296.712(2), F.A.C.; Chapter 1-3.52, Rules of the EPC]

B.4. In order to limit the potential to emit, the particulate matter (PM) emissions from the ammonium nitrate plant shall not exceed 32.8 TPY. [Rules 62-4.070(3), 62-210.200(PTE), and 62-296.712, F.A.C.; and Permit No. 0570025-011-AC]

TESTING REQUIREMENTS

B.5. Annual VE Compliance Tests: Test ammonium nitrate plant's neutralizer and the evaporator at the scrubber exhaust for Visible Emissions (VE), at the point of highest opacity, once during each calendar year (January 1st to December 31st). A report of the test data shall be submitted to the air Compliance Section of the Environmental Protection Commission of Hillsborough County within 45 days of the testing. Testing procedures shall be consistent with the requirements of Rule 62-297.310, F.A.C. [Rules 62-4.070(3), and 62-297.310, F.A.C. and Permit No. 0570025-007-AC]

B.6. Testing Capacity: Testing of emissions shall be conducted with the source operating at capacity. Capacity is defined as 90-100% of the rated capacity of 7.45 tons of 100% NH_4NO_3 produced per hour in the ammonium nitrate plant. If it is impracticable to test at the testing capacity, an emissions unit may be tested at less than the testing capacity. If an emissions unit is tested at less than the testing capacity, another emissions test shall be conducted and completed no later than 60 days after the emissions unit operation exceeds 110% of the capacity at which its most recent emissions test was conducted. Failure to submit the processing rates during the test may invalidate the test. [Rules 62-4.070(3) and 62-297.310(3), F.A.C.]

B.7. Test Methods: Required tests shall be performed in accordance with the following reference method:

Method	Description of Method and Comments
9	Visual Determination of the Opacity of Emissions from Stationary Sources

The above methods are described in Appendix A of 40 CFR 60 and are adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. The visible emissions test shall be conducted by a certified observer and shall be a minimum of

thirty (30) minutes in duration. The minimum requirements for stationary point source emissions test procedures and reporting shall be in accordance with Rule 62-297, F.A.C. and 40 CFR 60, Appendix A. [Rules 62-4.070(3), 62-204.800, F.A.C.; Appendix A of 40 CFR 60]

MONITORING REQUIREMENTS

B.8. The ammonium nitrate plant's pollution control equipment, scrubber, shall be operated and maintained in good repair to perform adequately the function for which it was intended. Maintenance shall include, but is not limited to, daily/weekly/monthly/quarterly/annually inspections and replacement or repair of faulty equipment when necessary or as required by the manufacturer. The permittee shall comply with the requirements of the Operation and Maintenance (O&M) Plan as described below: [Rule 62-4.070(3), and 62-296.700(6), F.A.C.]

A) Process Parameters:

1. Manufacturer: Metal Equipment Company
2. Model No./Job No.: 76A67
3. Type: Packed Bed Scrubber
4. Design Gas Volume: 21,000 cfm
5. Average Inlet Temperature: 160 ^{o}F
6. Design Scrubbing Flow Rate: 250 gpm (recycle)
7. Pressure drop across scrubber: less than 3 inches w.c. (max. – 5 psig)
8. Process controlled by scrubber: Neutralizer and Evaporator
9. Operation Schedule: 8,760 hrs/yr

B) The following observations, checks and operations shall be conducted on the schedule specified:

<u>Daily</u>

1. Inspect the general condition of the equipment when the equipment is operated
2. Check and record the scrubber's pressure drop

<u>Monthly</u>

1. Inspect Ducts and Drains
2. Inspect Re-circulating Piping

<u>Quarterly</u>

1. Inspect Fan Shaft Bearings
2. Inspect Fan Drive Coupling
3. Inspect Fan Motor
4. Inspect Packing Media*
5. Inspect Spray Nozzles*

*In order to inspect the packing media and spray nozzles the unit has to go down and the tower has to be opened. At that time the media and spray nozzles should be inspected.

<u>Annual</u>

1. Inspect Fan Blades

C) Records of inspection, maintenance and performance parameter data shall be retained for a minimum of two years and shall be made available to the Environmental Protection of Hillsborough County upon request. [Rule 62-296.700(6)(e), F.A.C.]

RECORDS AND REPORTS

B.9. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit. The permittee shall submit a written test report to the Air Compliance Section of the Environmental Protection Commission of Hillsborough County, on the results of each such test as soon as practicable but no later than 45 days after the last run of each test is completed. For each test run, the report shall also indicate the production rate of the ammonium nitrate plant. [Rule 62-297.310(10), F.A.C]

B.10. In order to demonstrate compliance with the requirements of Specific Condition Nos. B.1. and B.2., the permitte shall maintain daily records. The records shall be maintained onsite for at least three years and shall be made available to any local, state, or federal air pollution agency. The records shall include, but not be limited to, the following: [Rules 62-4.070(3) and 62-4.160(14), F.A.C.,]

A) Day, Month, Year
B) Ammonium nitrate production rate (in tons/day)
C) Hours of operation for the ammonium nitrate plant

B.11. The permittee shall submit a written test report to the Air Compliance Section of the Environmental Protection Commission of Hillsborough County, on the results of each such test as soon as practicable but no later than 45 days after the last run of each test is completed. [Rule 62-297.310(10), F.A.C.]