**TECHNICAL REVIEW AND EVALUATION**
**OF APPLICATION FOR**
**AIR QUALITY PERMIT No. 99729**

## I. INTRODUCTION

This Class I Renewal permit is for the continued operation of Apache Nitrogen Products, Inc. (ANPI)'s nitric acid, liquid ammonium nitrate, ammonium nitrate prill and truck emulsion plants. Permit No. 99729 renews and supersedes Permit No. 72820. A Class I permit is required because the facility's potential to emit for $PM_{10}$, $PM_{2.5}$, and $NO_x$ is greater than the major source thresholds. Permit No. 72820 had an expiration date of January 28, 2024, and the application for this permit renewal was submitted on July 26, 2023. This submission met the permit condition requiring that a complete and timely application be submitted by the Permittee at least six (6) months, but no earlier than eighteen (18) months, prior to the expiration date of the current permit.

### A. Company Information

| | |
|---|---|
| Facility Name: | Apache Nitrogen Products Inc. |
| Mailing Address: | PO Box 700<br>Benson, AZ 85602 |
| Facility Location: | 1436 S. Apache Powder Rd.<br>St. David, AZ 85630 |

### B. Attainment Classification

The facility is located in Cochise County an area that is deemed attainment or unclassifiable for all criteria pollutants.

## II. PROCESS DESCRIPTION

### A. Process Description

The primary product from ANPI is ammonium nitrate prill, intermediate products – ammonium nitrate solution (ANS) and nitric acid - can be sold individually. However, the majority of the intermediate products are utilized for prill production. ANPI produces nitric acid from anhydrous ammonia in ammonia oxidation plants (AOP) 3 and 4, which is converted into ANS at the ANS plant. Next, the ANS is sent to a falling film evaporator (FFE) at the prill plant, where ANS is further concentrated. After the FFE, the concentrated ANS is sent to the prill tower, where the spraying and rapid cooling of the ANS allows for prill formation. Finally, the prill is sized, coated, and sent to prill barns 1 and 2 for storage and subsequent shipping via trucks.

ANPI has the ability to receive offsite prill via train. Shipments of prill arrive to the site by train and are transloaded into prill barns 1 and 2 via enclosed conveyors for storage.

ANPI has incorporated the production of Ammonium Nitrate Emulsion (ANE) at their truck emulsion plant (TEP) at their facility. ANE involves the mixing and heating of ANS, water, urea, and diesel fuel. To start the production of ANE, ANS produced at ANPI is transported by truck to the TEP. Next, water, which is also transported from an onsite location, and urea are mixed with the ANS and heated. Finally, diesel fuel is added to the mixture to create an emulsion. ANE slurry is then sent to a tanker truck for shipment to the consumer.

Ancillary operations at ANP include three natural-gas fired steam boilers, one natural gas/diesel fuel fired electric power generating engine, a cooling tower, a diesel fired air compressor, and a gasoline dispensing facility (GDF) for distribution of gasoline to plant vehicles.

**B.** Control Devices

The facility uses the following air pollution control equipment to minimize emissions from various processes:

1. A hydrogen peroxide system is used in absorption towers to minimize nitrogen oxides emissions during startups of AOP-3 and AOP-4

2. A selective catalytic reduction (SCR) system is used at the AOP-3 tail gas system to reduce nitrogen oxide emissions.

3. A high efficiency wet scrubber is utilized to remove ammonia and ammonium nitrate, expressed as particulate matter, from the neutralizer exhaust gases.

4. An ammonium nitrate (AN) reclaim unit (scrubber) for the collection of ammonium nitrate from the dryers in the prill plant as well as the treatment of a portion of gases from the (FFE).

5. A boot-lift connector system for the reduction of particulate matter (PM) emissions during transloading of prill.

6. A flexible chute system for the reduction of PM emissions during loading of trucks with prill product.

7. A packed bed scrubber is installed on the vents of the nitric acid storage tanks for minimizing nitrogen oxides ($NO_X$) emissions.

8. Hydrogen peroxide injections into the nitric acid stream into the storage tank for minimizing nitrogen oxides (NOx) emissions.

## III. COMPLIANCE HISTORY

**A.** During the previous permit term, the Arizona Department of Environmental Quality (ADEQ) conducted 26 report reviews, including 5 excess emission reports and 1 deviation

report, 3 physical inspections, 4 performance test observations, and 18 performance test reviews. During this time, one NOC and one NOV were issued, they are summarized below.

**B.**

**Table 1: Performance Test Results**

| Emission Unit | Pollutant | Date of Test | Results of Performance Test |
|---|---|---|---|
| AOP-4 | $NO_x$ | 7/9/2019 | Pass |
| AOP-3 | $NO_x$ | 8/20/2019 | Pass |
| AOP-4 | $NO_x$ | 4/21/2020 | Pass |
| AOP-3 | $NO_x$ | 4/23/2020 | Pass |
| Prill Tower | PM | 4/23/2020 | Pass |
| Reclaim Unit | PM | 4/23/2020 | Pass |
| Prill Tower | PM | 4/22/2021 | Pass |
| Reclaim Unit | PM | 4/22/2021 | Pass |
| AOP-4 | $NO_x$ | 6/15/2021 | Pass |
| AOP-3 | $NO_x$ | 6/16/2021 | Pass |
| AOP-4 | $NO_x$ | 6/14/2022 | Pass |
| AOP-3 | $NO_x$ | 6/16/2022 | Pass |
| AOP-4 | $NO_x$ | 9/13/2022 | Pass |
| AOP-3 | $NO_x$ | 9/14/2022 | Pass |
| Boiler No. 2 | PM | 11/18/2022 | Pass |
| Prill Tower | PM | 3/2/2023 | Pass |
| Reclaim Unit | PM | 3/2/2023 | Pass |
| AOP-3 | $NO_x$ | 9/19/2023 | Pass |
| AOP-4 | $NO_x$ | 10/18/2023 | Pass |

**C.** Case Number 187125

A Notice of Opportunity to Correct Deficiencies was issued to ANPI on December 5, 2019 due to a potential excess opacity event at the Prill Tower on December 4, 2019. On the date of the potential excess emission event, an ADEQ inspector observed visible emissions from the Prill Tower while driving past the site. The ADEQ inspector collected two DOCS II opacity observations. The observations were uploaded and analyzed. The first opacity reading was determined to be 45.83% opacity and the second opacity reading was determined to be 32.08% opacity.. After reviewing ANPI's response, ADEQ found that they had addressed the deficiencies as requested and closed the NOC on December 31, 2019.

**D.** Case Number 215315

A Notice of Violation was issued to ANPI on September 20, 2023 due to a potential excess opacity event at the Prill Tower on September 12, 2023. On the date of the potential excess emission event, ADEQ inspectors observed visible emissions from the Prill Tower while

driving on Highway 80. The ADEQ inspectors turned onto Apache Powder Road and located a position to collect a DOCS observation from offsite within proper sun alignment for the DOCS observation. The observations were uploaded and analyzed. The first opacity reading was determined to be 30.00% opacity and the second opacity reading was determined to be 27.29% opacity. ANPI responded to the NOV on September 27On October 3, ADEQ determined that ANPI met the Documenting Compliance provisions of the NOV and closed it.

## IV. EMISSIONS

The emissions calculations for the permit review process relied upon emission factors drawn from the EPA's Compilation of Air Pollution Emission Factors (AP-42); California Emission Inventory Development and Reporting System; 40 CFR Part 98, Subpart C, Tables C-1 and C-2 for Greenhouse Gases (GHG) emissions; EPA TANKS Program; performance testing, and Continuous Emissions Monitoring System (CEMS) data.

The facility has a potential-to-emit (PTE) more than the major source thresholds of $NO_X$, particulate matter less than 10 microns ($PM_{10}$), and particulate matter less than 2.5 microns ($PM_{2.5}$). The facility's PTE is provided in Table 2 below:

**Table 2: Potential to Emit (tpy)**

| Pollutant | PTE | Significant Thresholds | Major NSR Triggered? |
|---|---|---|---|
| $NO_X$ | 247.40 | 40 | No |
| $PM_{10}$ | 262.70 | 15 | No |
| $PM_{2.5}$ | 202.70 | 10 | No |
| CO | 31.90 | 100 | No |
| $SO_2$ | 0.49 | 40 | No |
| VOC | 4.52 | 40 | No |
| Pb | 0.00 | 0.6 | No |
| HAPs | 1.55 | 10 (single)/ 25 (combined) | No |
| GHG ($CO_2e$) | 744,769 | 75,000 | No |

## V. MAJOR NEW SOURCE REVIEW

Major new source review is required if a facility has a PTE of any regulated NSR pollutant in an amount greater than 250 tpy, a facility that has a PTE of any regulated NSR pollutant in an amount greater than 100 tpy if it is a categorical source, or if there is a major modification to the facility. A major modification is a physical change, or change in the operation of a major stationary source that would result in a significant emissions increase of a regulated NSR pollutant and a significant net increase of that pollutant from the stationary source. The facility has not undergone any physical or operational changes, therefore NSR is not triggered. Changes in PTE are due to changes in

emission factors as a result of performance tests. As a part of the Prill Plant Optimization Project, Permit Revision No. 77084 added a requirement that EPA Method 202 be used during performance testing in order to determine condensable particulate matter emission rates. Previously, emission rates for PM were calculated solely using EPA Method 9 testing, which only accounts for filterable PM. By adding the results of both testing procedures, the PTE for PM is now being calculated more comprehensively.

## VI. VOLUNTARILY ACCEPTED EMISSION LIMITATIONS AND STANDARDS

The permit contains the following voluntary emission limitations and standards:

**A.** Ammonia Oxidation Plant 3 (AOP-3)

The facility has accepted a voluntary emission limit of 37.67 tpy of $NO_X$ to avoid triggering new source review for a major modification. The limit was incorporated into Installation Permit No. 1229 issued in 1992.

**B.** Ammonia Oxidation Plant 4 (AOP-4)

The facility has accepted a voluntary emission limit of 2.41 lb/ton of acid produced for $NO_X$ as a result of Best Available Control Technology (BACT) analysis required by Consent Order United States of America v. Apache Nitrogen Products Incorporated (4:17-cv-00612) (D. Ariz. March 27, 2018). The limit was incorporated into Significant Permit Revision No. 82463 issued in 2021.

## VII. APPLICABLE REGULATIONS

Table 3 identifies applicable regulations and verification as to why that standard applies. The table also contains a discussion of any regulations the emission unit is exempt from.

**Table 3: Applicable Regulations**

| Unit | Control Device | Rule | Discussion |
|---|---|---|---|
| AOP-3 | Tail Gas Catalytic Reactor | 40 CFR Part 60, Subpart G | The trigger date for 40 CFR Subpart G is August 17, 1971. AOP-3 was modified in 1992 and resumed operations in 1994. |
| AOP-4 | N/A | 40 CFR Part 60, Subpart G | The trigger date for 40 CFR Subpart G is August 17, 1971. AOP-4 was constructed in 1978. |
| ANS-Neutralizer | Two Stage Venturi/Packed Bed Scrubber | A.A.C. R18-2-730, 40 CFR 64 (Compliance Assurance Monitoring – CAM) | The plant is an unclassified source subject to A.A.C. R18-2-730. |

| Unit | Control Device | Rule | Discussion |
|---|---|---|---|
| Natural Gas-Fired Steam Boilers and Superheater | N/A | A.A.C. R18-2-724 | The natural gas-fired industrial equipment is subject to A.A.C. R18-2-724 |
| Diesel 350 hp air compressor | Crank Case Vent | A.A.C. R18-2-719<br>40 CFR Part 63, Subpart ZZZZ | The diesel-fired engine is subject to A.A.C. R18-2-719, existing stationary rotating machinery standards.<br><br>The engine was built before June 12, 2006, and, thus, is subject to the existing area source standards under for 40 CFR 63, Subpart ZZZZ for reciprocating internal combustion engines. |
| Natural Gas-Fired 830 hp Electric Generator | N/A | A.A.C. R18-2-719<br>40 CFR Part 63, Subpart ZZZZ | The natural gas-fired engine is subject to A.A.C. R18-2-719, existing stationary rotating machinery standards.<br><br>The engine was built before June 12, 2006, and, thus, is subject to the existing area source standards under for 40 CFR 63, Subpart ZZZZ for reciprocating internal combustion engines. |
| Diesel 73 hp Fire Pump | N/A | 40 CFR Part 63, Subpart IIII | The trigger date for 40 CFR Part 60, Subpart IIII, is July 15, 2005. The diesel-fire pump was manufactured in 2009. |
| Natural Gas-Fired 96-hp Emergency Generator | N/A | 40 CFR Part 60, Subpart JJJJ | The engine was built after January 1, 2009 and is subject to 40 CFR 60, Subpart JJJJ. |
| Gasoline Storage Tank and Diesel Storage Tank | Submerged filling device | A.A.C. R18-2-710 | A.A.C. R18-2-710 is applicable to storage tanks handling petroleum liquids, and, hence, applicable to gasoline storage tank and diesel storage tank. |
| Gasoline Dispensing Facility | N/A | 40 CFR Part 63, Subpart CCCCCC | The gasoline dispensing facility is subject to 40 CFR 63 Subpart CCCCCC. |
| Misc. Storage Tanks, Truck Emulsion Plants, and Cooling Towers | Acid storage tanks: packed bed scrubber; hydrogen peroxide injections. | A.A.C. R18-2-730 | These unclassified sources are subject to A.A.C. R18-2-730. |
| ANFO Production and Bagging Process | N/A | A.A.C. R18-2-730 | These unclassified sources are subject to A.A.C. R18-2-730. |

| Unit | Control Device | Rule | Discussion |
|---|---|---|---|
| Portable Transloader | N/A | A.A.C. R18-2-730 | These unclassified sources are subject to A.A.C. R18-2-730. |
| Fugitive dust sources | Water Trucks, Dust Suppressants | A.A.C. R18-2 Article 6 A.A.C. R18-2-702 | These standards are applicable to all fugitive dust sources at the facility. |
| Abrasive Blasting | Wet blasting; Dust collecting equipment; Other approved methods | A.A.C. R-18-2-702 A.A.C. R-18-2-726 | These standards are applicable to any abrasive blasting operation. |
| Spray Painting | Enclosures | A.A.C. R18-2-702 A.A.C. R-18-2-727 | These standards are applicable to any spray painting operation. |
| Demolition/renovation Operations | N/A | A.A.C. R18-2-1101.A.8 | This standard is applicable to any asbestos related demolition or renovation operations. |

## VIII. PREVIOUS PERMIT REVISIONS AND CONDITIONS

**A.** Previous Permit Revisions

Table 4 provides a description of the permit revisions made to Permit No. 72820 during the previous permit term.

**Table 4: Permit Revisions to Permit No. 72820**

| Permit Revision No. | Permit Revision Type | Brief Description |
|---|---|---|
| 77084 | MPR | Prill Plant Optimization Project to increase the production of ammonium nitrate prill from approximately 128,000 tons of prill per year to 193,000 tons per year. |
| 82463 | SPR | To resolve alleged violations of the Clean Air Act (CAA) and the Arizona State Implementation Plan (SIP) regarding commencing construction of a major modification project at AOP-4 without having undergone a Prevention of Significant Deterioration (PSD) review by ADEQ, ANPI entered into a consent decree with EPA and the Department of Justice (DOJ).<br>The consent decree stipulated that ANPI contract thyssenkrupp Industrial Solutions, Inc. (tkIS) to conduct an Alternative NOx Reduction Technical Feasibility Study on AOP-4 to determine the risks associated with the |

| Permit Revision No. | Permit Revision Type | Brief Description |
|---|---|---|
| | | installation of pollution control device and equipment reliability. The AOP-4 BACT Analysis, Consent Decree, Complaint, and AOP-4 Study Report were submitted to ADEQ for a BACT Determination. |
| 90402 | MPR | Replaced Process Steam Boiler No. 1 with a new 87 million British thermal units per hour (MMBtu/hr) boiler, replaced Tank-97 with a smaller capacity storage tank, and installed a buffer storage tank to assist with unloading operations. |
| 93752 | MPR | Replaced Process Steam Boilers No. 2 and 3 with a 99.0 MMBtu/hr natural gas-fired boiler and replaced the two existing cooling towers with two 1,180 gallon per minute (gpm) units. |
| 97898 | MPR | Installation and operation of an ammonium nitrate fuel oil (ANFO) production and bagging process. |

**B.** Changes to Current Renewal

Table 5 addresses the changes made to the sections and conditions from Permit No. 72820:

**Table 5: Previous Permit Conditions**

| Section No. | Determination | | | Comments |
|---|---|---|---|---|
| | Added | Revised | Deleted | |
| Att. "A" | | X | | General Provisions: Revised to represent the most recent template language |
| Att. "B" Section I | | X | | Facility Wide Requirements: Revised to represent the most recent template language |
| Att. "B" | | | | |
| Condition I.F | X | | | Facility-wide Requirements: Added additional permit shield language due to new EPA guidance |
| Conditions II.C.1.c and d | | X | | Nitric Acid Production Units (Covered by New Source Performance Standards): Updated citation |
| Conditions II.C.2.a and b | | X | | Nitric Acid Production Units (Covered by New Source Performance Standards): Updated citation |
| Condition III.B.2 | | X | | Ammonium Nitrate Solution Plant: Updated citation |
| Condition IV.B.4.a(1) | | X | | Ammonium Nitrate Prill Plant: Revised performance testing requirements to remove startup requirements because the Prill Plant has completed these requirements |
| Condition V.A.2 | | X | | Boilers and AOP-4 Superheater: Updated citation |

| Section No. | Determination | | | Comments |
|---|---|---|---|---|
| | Added | Revised | Deleted | |
| Condition V.B.2 | | X | | Boilers and AOP-4 Superheater: Updated citation |
| Condition V.B.3.b | | | X | Boilers and AOP-4 Superheater: Removed because these requirements were met |
| Condition VI.B.2 | | X | | Existing Internal Combustion Engine Requirements: Updated citation |
| Condition VI.E.2.b | | X | | Existing Internal Combustion Engine Requirements: Updated citation |
| Condition X.A | | X | | Gasoline and Diesel Storage Tanks: Combined with Section XIII |
| Condition X.C | | X | | Gasoline and Diesel Storage Tanks: Revised monitoring and recordkeeping requirements |
| Conditions XI.D.2.a and b | | X | | Truck Emulsion Plant / Miscellaneous Storage Tanks / Cooling Towers: Updated citation |
| Section XIII | | | X | Diesel Storage Tank: Combined with Section X |
| Att. "C" | | X | | Equipment List:<br>Revised to reflect the most recent equipment operating at the facility and to include equipment information provided. |

## IX. MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

Table 6 contains an inclusive but not an exhaustive list of the monitoring, recordkeeping and reporting requirements prescribed by the air quality permit. The table below is intended to provide insight to the public for how the Permittee is required to demonstrate compliance with the emission limits in the permit. Records are required be kept for a minimum of 5 years as outlined in Section XII of Attachment "A" of the permit.

**Table 6: Permit No. 99729**

| Emission Unit | Pollutant | Emission Limit | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|---|---|---|---|---|---|
| AOP-3 | PM | 10% opacity | COMS | Reduce all data from COMS to six-minute averages. | Report all 6-minute periods which the opacity exceeded 10%. |
| | $NO_x$ | 37.67 TPY | CERMS<br>Performance testing | Reduce all data from the CERMS to 1-hour averages.<br>Record daily production. | Submit a semiannual excess emissions and monitoring systems performance (EEMSP) report. |
| AOP-4 | PM | 10% opacity | COMS | Reduce all data from COMS to six-minute averages. | Report all 6-minute periods which the opacity exceeded 10%. |
| | $NO_x$ | 2.41 lb/ton of acid produced | CEMS<br>Performance testing | Submit a semiannual excess emissions and monitoring systems performance (EEMSP) report. | Submit a semiannual excess emissions and monitoring systems performance (EEMSP) report. |
| ANS-Neutralizer | PM | 20% opacity | Operate a monitoring device for the continuous measurement of the scrubbing liquid flow rate | Maintain records of hourly average values of scrubber liquid flow rate.<br>Maintain records of the semi-annual inspections. | Report any scrubber flow rate to the venturi portion of the wet scrubber that is greater than ±30 percent beyond the averages obtained in the most |

| Emission Unit | Pollutant | Emission Limit | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|---|---|---|---|---|---|
| | | | to the venturi portion of the wet scrubber<br><br>Perform semi-annual and annual inspection and maintenance on the neutralizer reactor and the two-stage scrubber<br><br>A Method 9 observer is required to conduct a monthly survey of visible emissions. | | recent performance test as an excursion.<br><br>Report any failure to perform the annual and semi-annual inspections and maintain records of the inspections as an excursion. |
| Prill Plant | PM | 20% opacity | Bi-weekly opacity monitoring of the prill tower stack<br><br>Monthly opacity monitoring of the prill storage silo<br><br>Performance testing | N/A | Report results of each performance test. |
| Natural Gas-Fired Steam Boilers and Superheater | PM | 15% opacity | Quarterly opacity monitoring | Maintain records of fuel used. | N/A |
| Diesel 350 hp air compressor & | PM | 40% opacity | Monthly opacity monitoring | Maintain records of fuel used. | N/A |

| Emission Unit | Pollutant | Emission Limit | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|---|---|---|---|---|---|
| Natural Gas-Fired 830 hp Electric Generator | | | | | |
| Diesel 73 hp Fire Pump | PM | 0.60 g/hp-hr | N/A | Maintain records of the fire pump engine operation. | N/A |
| | CO | 3.7 g/hp-hr | | | |
| | $NO_X$ | 7.8 g/hp-hr | | | |
| Natural Gas-Fired 96-hp Emergency Generator | CO | 387 g/hp-hr | N/A | Maintain records of conducted maintenance, certification, if applicable, the hours of operation for both emergency and non-emergency operations, and a description of what classified the operation as an emergency. | N/A |
| | $NO_X$ | 10g/HP-hr | | | |
| Gasoline Storage Tank and Diesel Storage Tank | $SO_2$ | N/A | N/A | Maintain a file of the typical Reid vapor pressure of gasoline stored, the dates of storage and the dates on which the gasoline storage tank is empty shall be shown. | N/A |
| Gasoline Dispensing Facility | $SO_2$ | N/A | N/A | Maintain records of monthly throughput of gasoline (total volume of | N/A |

| Emission Unit | Pollutant | Emission Limit | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|---|---|---|---|---|---|
| | | | | gasoline that is loaded into, or dispensed from the gasoline storage tank | |
| Misc. Storage Tanks, Truck Emulsion Plants, and Cooling Towers | PM | 20% Opacity | A Method 9 observer is required to conduct a bi-weekly survey of visible emissions. | N/A | N/A |
| | $NO_X$ | 500 ppm | N/A | N/A | N/A |
| ANFO Production and Bagging Process | PM | 20% Opacity | A Method 9 observer is required to conduct a bi-weekly survey of visible emissions. | N/A | N/A |
| Portable Transloader | PM | 20% Opacity | A Method 9 observer is required to conduct a bi-weekly survey of visible emissions. | N/A | N/A |
| Fugitive Dust | PM | 40% Opacity | A Method 9 observer is required to conduct a monthly survey of visible emissions. | Record of the dates and types of dust control measures employed, and if applicable, the results of any Method 9 observations, and any corrective action taken to lower the opacity of any excess emissions. | N/A |

| Emission Unit | Pollutant | Emission Limit | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|---|---|---|---|---|---|
| Abrasive Blasting | PM | 20% Opacity | N/A | Record the date, duration and pollution control measures of any abrasive blasting project. | N/A |
| Spray Painting | VOC | 20% Opacity<br>Control 96% of the overspray | N/A | Maintain records of the date, duration, quantity of paint used, any applicable MSDS, and pollution control measures of any spray painting project. | N/A |
| Demolition/ Renovation | Asbestos | N/A | N/A | Maintain records of all asbestos related demolition or renovation projects including the "NESHAP Notification for Renovation and Demolition Activities" form and all supporting documents | N/A |

## X. COMPLIANCE ASSURANCE MONITORING (CAM)

The CAM rule applies to pollutant-specific emission units (PSEU) at a major Title V source if the unit meets all of the following criteria:

**A**. The unit is subject to an emission limit or standard for the applicable regulated air pollutant;

**B**. The unit uses a control device to achieve compliance with the emission limit or standard; and

**C**. The unit has "potential pre-control device emissions" of the applicable regulated air pollutant equal to or greater than 100% of the amount (tons/year) required for a source to be classified as a major source. "Potential pre-control device emissions" means potential to emit (PTE, as defined in Title V) except emissions reductions achieved by the applicable control device are not taken into account.

The general purpose of monitoring required by the CAM rule is to assure compliance with emission standards by ensuring that control devices meet and maintain the assumed control efficiencies. Compliance is ensured through requiring monitoring of the operation and maintenance of the control equipment and, if applicable, operating conditions of the pollutant-specific emissions unit. For the PSEUs that have post control potential to emit equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source, for each parameter monitored, the owner shall collect four or more data values equally spaced over each hour. Such units are defined as “large” PSEUs. For all other PSEUs (“small” PSEUs), the monitoring shall include some data collection at least once per 24-hour period.

In the specific case of ANPI, the ANS-Neutralizer is considered a small PSEU because its potential pre-control device PM emissions greater than major source thresholds and has a post control emission below the major source threshold. Therefore the ANS-Neutralizer requires data collection once in 24-hour period.

AOP-3 and AOP-4 are subject to NSPS 40 CFR Part 60 Subpart G Standards of Performance for Nitric Acid Plants which requires CEMS monitoring. Thus, these emissions units are exempt under 0 CFR 64.2(b)(1)(vi).

**Table 7: CAM Evaluation**

| Emission Unit | Pollutant | Emission Limit | Emission Control Device | Pre-control PTE above MST? | Subject to CAM? |
|---|---|---|---|---|---|
| AOP-3 | PM | 10% opacity | N/A | No | No, exempt under 40 CFR 64.2(a)(1)-(3) |
| | $NO_x$ | 37.67 TPY | Hydrogen peroxide injection, SCR | Yes | No, exempt under 40 CFR 64.2(b)(1)(vi) |

| Emission Unit | Pollutant | Emission Limit | Emission Control Device | Pre-control PTE above MST? | Subject to CAM? |
|---|---|---|---|---|---|
| AOP-4 | PM | 10% opacity | N/A | No | No, exempt under 40 CFR 64.2(a)(1)-(3) |
| | $NO_x$ | 2.41 lb/ton of acid produced | Hydrogen peroxide injection | Yes | No, exempt under 40 CFR 64.2(b)(1)(vi) |
| ANS-Neutralizer | PM | 20% opacity | Wet scrubber | Yes | Yes |
| Prill Plant | PM | 20% opacity | Enclosures and water sprays | No | No, exempt under 40 CFR 64.2(a)(1)-(3) |
| Natural Gas-Fired Steam Boilers and Superheater | PM | 15% opacity | N/A | No | No, exempt under 40 CFR 64.2(a)(1)-(3) |
| Diesel 350 hp air compressor & Natural Gas-Fired 830 hp Electric Generator | PM | 40% opacity | Crank Case Vent | No | No, exempt under 40 CFR 64.2(a)(1)-(3) |
| Diesel 73 hp Fire Pump | PM | 0.60 g/hp-hr | N/A | No | No, exempt under 40 CFR 64.2(a)(1)-(3) |
| | CO | 3.7 g/hp-hr | | | |
| | $NO_X$ | 7.8 g/hp-hr | | | |
| Natural Gas-Fired 96-hp Emergency Generator | CO | 387 g/hp-hr | N/A | No | No, exempt under 40 CFR 64.2(a)(1)-(3) |
| | $NO_X$ | 10g/HP-hr | | | |
| Gasoline Storage Tank and Diesel | $SO_2$ | N/A | Submerged filling device | No | No, exempt under 40 CFR 64.2(a)(1)-(3) |

| Emission Unit | Pollutant | Emission Limit | Emission Control Device | Pre-control PTE above MST? | Subject to CAM? |
|---|---|---|---|---|---|
| Storage Tank | | | | | |
| Gasoline Dispensing Facility | $SO_2$ | N/A | N/A | No | No, exempt under 40 CFR 64.2(a)(1)-(3) |
| Misc. Storage Tanks, Truck Emulsion Plants, and Cooling Towers | PM | 20% Opacity | N/A | No | No, exempt under 40 CFR 64.2(a)(1)-(3) |
| | $NO_X$ | 500 ppm | Wet Scrubber | No | No, exempt under 40 CFR 64.2(a)(1)-(3) |
| ANFO Production and Bagging Process | PM | 20% Opacity | N/A | No | No, exempt under 40 CFR 64.2(a)(1)-(3) |
| Portable Transloader | PM | 20% Opacity | N/A | No | No, exempt under 40 CFR 64.2(a)(1)-(3) |

**B. Monitoring Approach**

ANPI uses a two-stage venturi scrubber and packed bed scrubber as the control devices for controlling the emissions of particulate matter (both PM and $PM_{10}$). The monitoring approach for these devices is detailed below.

**Table 8: Monitoring Approach for ANPI**

| Indicator | Monitoring Approach |
|---|---|
| Indicator and its measurement approach | Scrubber liquid flow rate. |
| Indicator Range | The indicator range will be the value established during annual performance testing ± 30%. |
| QA/QC practices and criteria | Operate and maintain flow indicators as per manufacturer's specifications. |
| Monitoring Frequency | The scrubber flow rate monitors will be in continuous operation and shall be recorded once every day. |
| Data Collection Procedure | Recorded by operators on log sheets. |

## XI. ENVIRONMENTAL JUSTICE ANALYSIS

The EPA (Environmental Protection Agency) defines Environmental Justice (EJ) to include the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and polices. The goal of completing an EJ assessment in permitting is to provide an opportunity for overburdened populations or communities to allow for meaningful participation in the permitting process. Overburdened is used to describe the minority, low-income, tribal and indigenous populations or communities that potentially experience disproportionate environmental harms and risks due to exposures or cumulative impacts or greater vulnerability to environmental hazards. The renewal permit does not allow or permit any increases in emissions and will not result in any additional impacts.

## XII. LIST OF ABBREVIATIONS

A.A.C. ..... Arizona Administrative Code
ADEQ ..... Arizona Department of Environmental Quality
ANPI ..... Apache Nitrogen Products, Inc.
ANE ..... Ammonium Nitrate Emulsion
ANS ..... Ammonium Nitrate Solution
AOP. ..... Ammonia Oxidation Plant
A.R.S. ..... Arizona Revised Statutes
BACT ..... Best Available Control Technology
CAM ..... Compliance Assurance Monitoring
CEMS ..... Continuous Emissions Monitoring System
CFR ..... Code of Federal Regulations
CO ..... Carbon Monoxide
$CO_2$ ..... Carbon Dioxide
$CO_2e$ ..... $CO_2$ equivalent basis
EPA ..... Environmental Protection Agency
FFE ..... Falling Film Evaporator
GDF ..... Gasoline Dispensing Facility
GHG ..... Greenhouse Gases
HAP ..... Hazardous Air Pollutant
hp ..... Horsepower
hr ..... Hour
IC ..... Internal Combustion
MMBtu/hr ..... Millions of British Thermal Units per hour
$NO_X$ ..... Nitrogen Oxides
NSPS ..... New Source Performance Standards
Pb ..... Lead
PM ..... Particulate Matter
PM10 ..... Particulate Matter less than 10 µm nominal aerodynamic diameter
PM2.5 ..... Particulate Matter less than 2.5 µm nominal aerodynamic diameter
PSD ..... Prevention of Significant Deterioration
PTE ..... Potential to Emit
SCR ..... Selective Catalytic Reduction
sec ..... Seconds
$SO_2$ ..... Sulfur Dioxide

TEP ..... Truck Emulsion Plant
TPY ..... Tons per Year
VOC ..... Volatile Organic Compound