

# **Statement of Basis**

**Tier I Operating Permit No. T1-2017.0024**

**Project ID 62445**

**J.R. Simplot Company - Don Siding Pocatello  
Pocatello, Idaho**

**Facility ID 077-00006**

**Final**

**July 2, 2020**

**Kelli Wetzel** 

**Permit Writer**

The purpose of this Statement of Basis is to set forth the legal and factual basis for the Tier I operating permit terms and conditions, including references to the applicable statutory or regulatory provisions for the terms and conditions, as required by IDAPA 58.01.01.362

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APPENDIX A –

## 1. ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
HAP	Hazardous Air Pollutant
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
MACT	Maximum Achievable Control Technology
NESHAP	National Emission Standards for Hazardous Air Pollutants
MRRR	Monitoring, Recordkeeping and Reporting Requirements
NO <sub>x</sub>	nitrogen oxides
PC	permit condition
PM	particulate matter
PM <sub>2.5</sub>	particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
PM <sub>10</sub>	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PTC	permit to construct
<i>Rules</i>	<i>Rules for the Control of Air Pollution in Idaho</i>
SO <sub>2</sub>	sulfur dioxide
VOC	volatile organic compound

## 2. INTRODUCTION AND APPLICABILITY

J.R. Simplot Company – Don Siding Pocatello (Simplot) is a manufacturer of integrated phosphate fertilizer, and is located at Section 18 R-34-E, T-6-S; 5½ Section 7 R-34-E T-6-S. The facility is classified as a major facility, as defined by IDAPA 58.01.01.008.10.c, because it emits or has the potential to emit PM<sub>10</sub>, PM<sub>2.5</sub>, CO, NO<sub>x</sub>, and SO<sub>2</sub> above the major source threshold of 100 tons per year. The facility is also classified as a major facility, as defined by Subsection 008.10.a, because it emits or has the potential to emit hydrofluoric acid above the major source thresholds of 10 tons-per-year for any single HAP.

IDAPA 58.01.01.362 requires that as part of its review of the Tier I application, DEQ shall prepare a technical memorandum (i.e. statement of basis) that sets forth the legal and factual basis for the draft Tier I operating permit terms and conditions including reference to the applicable statutory provisions of the permit. This document provides the basis for the Tier I operating permit minor permit modification for Simplot.

## 3. FACILITY INFORMATION

### 3.1 Facility Description

Simplot owns and operates an integrated phosphate fertilizer manufacturing plant in Power County near Pocatello, Idaho. The plant produces phosphoric acid, sulfuric acid, several grades of solid and liquid fertilizers, and other commercial chemical products.

## 3.2 Facility Permitting History

### Tier I Operating Permit History - 5-year permit term April 3, 2020 to April 3, 2025

The following information is the permitting history of this Tier I facility during the five-year permit term which was from April 3, 2020, to April 3, 2025. This information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or superseded (S).

April 3, 2020 T1-2017.0024, Tier I renewal, Permit status (A)

### Underlying Permit History - Includes every underlying permit issued to this facility

The following information is the comprehensive permitting history of all underlying applicable permits issued to this Tier I facility. This information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or superseded (S).

August 19, 2019 PTC Permit P-2016.0055, Incorporate the consent decree requirements with U.S. EPA for the sulfuric acid plants, Permit status (A)

August 3, 2017 PTC Permit P-2016.0055, Replace an existing Tier II operating permit and five different PTCs and incorporate emission limits from the 2004 RACT Consent Order and PM<sub>10</sub> emission limits for the Phosphoric Acid Manufacturing Plant, Permit status (S)

November 5, 2009 PTC Permit P-2009.0053, Addition of a 10-acre decant pond, Permit status (T)

December 12, 2001 PTC Permit P-010312A, Granulation plant upgrade, Permit status (S)

October 16, 2001 PTC Permit P-010312, Granulation No. 3 Plant upgrade (S)

June 15, 2001 PTC Permit P-000318, Sulfuric acid plant restoration project, Permit status (S)

December 11, 2000 PTC Permit P-000318, 15-day pre-permit construction for 300 Sulfuric Acid Plant restoration project (S)

September 20, 2000 PTC Permit 077-00006, Boiler replacement, Permit status (S)

December 3, 1999 Tier II Permit 077-00006, Including the Quality Assurance (QA) requirements of 40 CFR 60, Appendix F, Permit status (S)

November 12, 1999 PTC Permit 077-00006, Granulation No. 3 de-fluorination project, Permit status (S)

July 13, 1999 Tier II No. 077-00006, Clarified CEM calibration requirements in Tier II issued on June 29, 1995 (S)

August 14, 1998 Tier II No. 077-00006, revised affected permit conditions in Tier II OP issued on June 29, 1995 - to remove the Cyclonic Scrubber from Granulation III operating unit (S)

September 16, 1996 PTC No. 077-00006, Sulfuric Acid Plant 300, incorporated the Sulfuric Acid Plant 300 PTC No. 077-00006 issued on May 3, 1996. This permitting action was as a result of the 11/6/96 consent order (S)

May 3, 1996 PTC No. 077-00006, #3 Sulfuric Acid Plant. Equipment modification & process revisions to #3 Sulfuric Acid Plant (S)

September 13, 1995 PTC Permit 077-00006, Granulation No. 3 East dry bulk station, Permit status (A)

June 29, 1995 PTC Permit 077-00006, PM<sub>10</sub> SIP permit issuance, Permit status (A)

June 16, 1995 PTC Permit P-950066, Back and Wilcox boiler installation, Permit status (S)

August 29, 1994 Interim operating permit (S)

August 21, 1991 PSD OP partial revision to update air pollution control devices in the monoammonium phosphate plant (S)

March 25, 1991	PSD OP partial revision to update air pollution control devices in the diammonium phosphate plant (S)
August 23, 1990	PSD OP partial revision to waive PM testing requirement for the ammonia plant stack. The ammonia plant no longer exists. (S)
April 17, 1990	PTC Permit 1260-0060, Extended absorption scrubber, Permit status (A)
December 18, 1989	OP No. 1260-0060 (should be 0006, a typo in the original operating permit), PSD OP for plant expansion (S)
January 20, 1986	PTC No. 1260-0006, constructing Wet Process Phosphoric Acid Plant No. 4 (S)
January 20, 1986	OP No. 13-1260-0006, a facility-wide OP that includes requirements in OPs issued January 28, 1985, March 9, 1981, December 15, 1980, etc. (S)
May 3, 1985	PTC No. 1260-0006, Addition to Super Phosphoric Acid Plant 3 (S)
January 25, 1985	PTC Permit 1260-0006, Initial permit issued for the #400 Sulfuric Acid Plant, Permit status (S)

Other Underlying Documents for the Applicable Requirements in Tier I – consent orders, settlement agreements, consent decree, etc.

Only the consent orders and consent decree containing requirements that are incorporated into the Tier I are listed here:

December 3, 2015	Consent decree with U.S. EPA and the State of Idaho for the sulfuric acid plants
June 27, 2016	Consent order, Fluoride in forage and resolution of the Compliance Schedule in the Tier I OP
September 1, 2004	Consent order, Fluoride in forage (State-only)

## 4. APPLICATION SCOPE AND APPLICATION CHRONOLOGY

### 4.1 Application Scope

This permit is minor modification of the facility's currently effective Tier I operating permit. The facility has requested to update the Compliance Assurance Monitoring (CAM) requirements for the defluorination scrubber at the Granulation No. 3 Plant. The facility is requesting to modify the low-end indicator range for pressure drop for the defluorination scrubber from 4.5" H<sub>2</sub>O to 2.2" H<sub>2</sub>O. The pressure drop of 2.8" H<sub>2</sub>O was previously found to provide a reasonable assurance of compliance with the applicable particulate matter and fluoride emissions limits and is documented in a DEQ source test review and approval letter dated April 21, 2020. This letter is included as Appendix A to this document. The facility has requested the low-end pressure drop be 20% less than the average pressure drop recorded during the source test. This is consistent with the approach for establishing CAM indicator ranges for other pollution devices.

### 4.2 Application Chronology

May 11, 2020	DEQ received an application.
May 12, 2020	EPA and affected states were provided a copy of the application.
June 29, 2020	DEQ made available the draft permit and statement of basis for peer review.
July 2, 2020	DEQ issued the final permit and statement of basis.

## 5. EMISSIONS UNITS, PROCESS DESCRIPTION(S), AND EMISSIONS INVENTORY

Emissions units, process descriptions and the emission inventory do not change from previous Tier I permit actions and are not repeated in this statement of basis. For information regarding these topics see the April 3, 2020, statement of basis which supports Tier I permit No. T1-2017.0024 issued April 3, 2020.

## 6. EMISSIONS LIMITS AND MRRR

None of the emission limits in this permit change.

CAM Table 10.5 of the permit was amended. Table 10.5 was amended to modify the low-end indicator range for pressure drop for the defluorination scrubber from 4.5" H<sub>2</sub>O to 2.2" H<sub>2</sub>O. The pressure drop is directly from DEQ's source test review and approval letter dated April 21, 2020, with a 20% drop for consistency in establishing CAM indicator ranges. The DEQ letter is included in Appendix A of this document. The following are the changes to Table 10.5 as indicated by red line strikeout:

**Table 10.5 Compliance Assurance Monitoring Requirements for the Defluorination Scrubber**

Requirement	Indicator No. 1	Indicator No. 2
Indicator	Scrubber Pressure Drop	Scrubber Liquid Flow Rate
Measurement Approach	The pressure drop is monitored with a differential pressure gauge.	The liquid flow rate is monitored with a flow meter.
Indicator Range	An excursion <sup>(a)</sup> is defined as a pressure drop of less than <del>4.5</del> 2.2 inches of water or greater than 6.6 inches of water.	An excursion <sup>(a)</sup> is defined as a scrubber liquid flow of less than 88 gpm or greater than 132 gpm.
Performance Criteria Data Representativeness	The monitoring system consists of a differential pressure gauge which measures the pressure drop across the scrubber	A liquid flow meter is used to monitor the liquid flow rate.
QA/QC Practices	The differential gauge is calibrated annually.	The flow sensor is calibrated annually.
Monitoring Frequency	The pressure drop across the scrubber is measured continuously.	The scrubber liquid flow is measured continuously.
Data Collection Procedure	The pressure drop is electronically recorded with many data points on a daily basis.	The scrubber liquid flow is electronically recorded with many data points on a daily basis.
Averaging Period	Daily average	Daily average

a) Excursion is defined in 40 CFR 64 as a departure from an indicator range established for monitoring under this part, consistent with any averaging period specified for averaging the results of the monitoring.

## 7. REGULATORY REVIEW

### CAM (40 CFR 64)

The indicators of compliance for the defluorination scrubber at the Granulation No. 3 Plant do not change and continue to be scrubber pressure drop and scrubber liquid flow rate. The numerical value that indicates excursions for pressure drop are directly from DEQ source test review and approval letter dated April 21, 2020, with a 20% allowance to be consistent in establishing CAM indicator ranges. In short, during the test period, Simplot emitted PM, PM<sub>10</sub>, and fluoride at maximum of 3.9 lb/hr which was 68% of the allowable limit (5.7 lb/hr) while operating under the scrubber conditions listed in the letter. Therefore, those scrubber operating parameters provide a reasonable assurance of compliance and satisfy CAM requirements.

### Minor Modification (IDAPA 58.01.01.383)

The CAM indicator change made to the permit qualifies as a minor modification in accordance with IDAPA 58.01.01.383.b because changes to the CAM indicators of compliance are not required to be processed as significant permit modifications.

## **8. PUBLIC COMMENT**

The Minor Permit Modification rules at IDAPA 58.01.01.383 do not require a public comment period.

## **9. EPA AND AFFECTED STATES REVIEW**

As required by IDAPA 58.01.01.383.03, EPA and affected states were provided a copy of the minor permit modification application within 5 working days of receipt, or on October 22, 2019. Neither the EPA nor affected states provided any comment.

EPA will be provided a copy of the final permit.

**Appendix A – April 21, 2020 DEQ Source Test Approval Letter**



STATE OF IDAHO  
DEPARTMENT OF  
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, ID 83706 • (208) 373-0502  
[www.deq.idaho.gov](http://www.deq.idaho.gov)

Brad Little, Governor  
John H. Tippetts, Director

April 21, 2020

Via Email

John Hewson, Environmental Manager  
J.R. Simplot Company-Don Plant  
P.O. Box 912  
Pocatello, Idaho 83204  
[John.Hewson@simplot.com](mailto:John.Hewson@simplot.com)

Subject: J.R. Simplot Company-Don Siding Plant; Facility ID No. 077-00006  
Approval of the 2020 Granulation Plant No. 3 Fluoride and PM/PM<sub>10</sub> Performance Tests

Dear Mr. Hewson:

On April 8, 2020, the Idaho Department of Environmental Quality (DEQ) received a performance test report, prepared by TETCO, for the fluoride and particulate matter (i.e., PM/PM<sub>10</sub>) emissions testing on the Granulation Plant No. 3 operated by J.R. Simplot Company (Simplot) at the Don Plant located near Pocatello, Idaho. The performance tests were conducted on March 4, 2020. The purpose of the tests was to demonstrate compliance with Tier I Operating Permit No. T1-2007.0109 issued October 24, 2012. A renewed Tier I Operating Permit No. T1-2017.0024 was issued on April 3, 2020, subsequent to the emissions test.

### **Protocol and Test Observation**

DEQ received a test notification on February 14, 2020, indicating the performance tests were being scheduled for the week of March 2, 2020, and the fluoride portion of the test would be conducted per the methods and procedures outlined in the 2014 test protocol, with the exception that a fluoride audit sample would not be obtained for this test. DEQ received a second test notification on February 26, 2020, indicating the particulate matter portion of the performance test would be conducted per the methods and procedures outlined in the 2013 test protocol. DEQ approved the 2013 protocol in a letter dated March 4, 2013, and the 2014 protocol in a letter dated February 3, 2014, but did not re-review the protocols prior to these tests. DEQ did not observe these tests.

### **Results**

Based on a review of the submitted test report, DEQ has determined that the fluoride and particulate matter performance testing on the Granulation Plant No. 3 main stack demonstrated compliance with the emissions limits in T1-2007.0109 and T1-2017.0024 during the test period. A summary of the test results appear in Table 1.

**Table 1. Summary of the 2020 Granulation Plant No. 3 Test Results.**

Pollutant	Measured Emissions Rate	Emissions Limit	Emissions as % of limit	P <sub>2</sub> O <sub>5</sub> Throughput Rate <sup>1</sup>
PM <sup>2</sup>	3.8 lb/hr	7.0 lb/hr	54%	10.4 ton/hr
PM <sub>10</sub> <sup>2</sup>	3.9 lb/hr	5.7 lb/hr	68%	
Fluoride	0.06 lb/hr	1.28 lb/hr	5%	

Notes:

1. While producing monocalcium phosphate (21P).
2. PM emissions are reported as filterable particulate matter (Method 5). PM<sub>10</sub> emissions are reported as the sum of filterable and condensable particulate matter (Methods 5 and 202).

Method 9 opacity observations were performed for 10 minutes during the first run and the highest 3-minute aggregate opacity was 0%.

Operating parameters monitored during testing, along with the associated limits, appear in Table 2.

**Table 2. Granulation Plant No. 3 Entoleter Scrubber Operating Parameters.**

Operating Parameter	Test Average	Permit Limit <sup>1</sup>
Fresh Water to Scrubber (gpm) <sup>2</sup>	28 <sup>3</sup>	≥ 10 or ≥ 32 <sup>4</sup>
Scrubber Duct Spray Water Flow (gpm)	333	≥ 250
Liquid Flow Rate Through Wet Scrubber (gpm)	720	≥ 600

Notes:

1. Based on permit condition 9.12 of T1-2007.0109.
2. Gallons per minute.
3. While producing monocalcium phosphate (21P).
4. Operating minimum is 10 gallons per minute or greater while producing 21P or 18.5P, and 32 gallons per minute or greater while producing 0-45-0.

Permit conditions 9.26.1 through 9.26.9 of T1-2007.0109 summarizes Simplot's requirements under EPA's compliance assurance monitoring (CAM) program. On January 24, 2013, Simplot submitted indicator ranges as required by permit condition 9.26.4 for the control devices to which CAM applies. On February 13, 2013, DEQ approved these ranges; therefore, Simplot satisfied the requirements of permit condition 9.26.5. The control devices, indicator ranges, and operating parameters monitored during testing appear in Table 3.

T1-2007.0109 was replaced on April 3, 2020 by Tier I Operating Permit No. T1-2017.0024. The aforementioned tests were performed while T1-2007.0109 was in effect; therefore, compliance with the emissions limits and performance testing requirements were evaluated with regards to T1-2007.0109. However, now that T1-2017.0024 is in effect, Simplot's ongoing compliance and future testing obligations are governed by T1-2017.0024.

**Table 3. Granulation Plant No. 3 Operating Parameters – CAM**

Operating Parameter	2020 Test Average	T1-2007.0109 (Old) Indicator Ranges	T1-2017.0024 (New) Indicator Ranges
Entoleter Scrubber Pressure Drop (in. H <sub>2</sub> O) <sup>1</sup>	18	5.0 – 25.0	5.0 – 27.0
Entoleter Scrubber Liquid Flow Rate (gpm) <sup>2</sup>	720	600 – 800	580 – 823
Entoleter Scrubber Fresh Water <sup>3</sup> Flow (gpm)	28 <sup>4</sup>	≥ 10 or ≥ 32 <sup>5</sup>	≥ 20 or ≥ 32 <sup>6</sup>
Entoleter Scrubber Duct Spray Water Flow (gpm)	333	≥ 250	≥ 230
Baghouse Pressure Drop (in. H <sub>2</sub> O)	4.2	1.0 – 12.0	Presence of visible emissions
Defluorination Scrubber Pressure Drop (in. H <sub>2</sub> O)	2.8	2.5 – 10.0	4.5 – 6.6
Defluorination Scrubber Liquid Flow Rate (gpm)	104	96 – 144	88 – 132

Notes:

1. Inches of water column.
2. Gallons per minute.
3. Extraction well water was used in place of fresh water.
4. While producing monocalcium phosphate (21P).
5. Operating minimum is 10 gallons per minute or greater while producing 21P or 18.5P and 32 gallons per minute or greater while producing 0-45-0.
6. Operating minimum is 20 gallons per minute or greater while producing 21P or 18.5P and 32 gallons per minute or greater while producing 0-45-0.

In accordance with permit condition 10.10 of T1-2017.0024, the maximum allowable operating rate to the Granulation Plant No. 3 process, measured in tons of P<sub>2</sub>O<sub>5</sub> equivalent feed per hour, shall be limited to 120% of the average operating rate attained during any compliance test period for which a test protocol has been granted prior to approval by DEQ; unless (1) the test demonstrates noncompliance, (2) a more restrictive operating limit is specified elsewhere in the permit, or (3) at such an operating rate, emissions would exceed any emission limit(s) set forth in the permit. The average production rate of P<sub>2</sub>O<sub>5</sub> during emissions testing was 10.4 tons of P<sub>2</sub>O<sub>5</sub> equivalent feed per hour. Therefore, based on DEQ's review of this and previous performance test reports, the maximum allowable production rate for Granulation Plant No. 3 is 15.6 tons of P<sub>2</sub>O<sub>5</sub> equivalent feed per hour (120% of the 13.0 tons per hour operating rate attained in 2006).

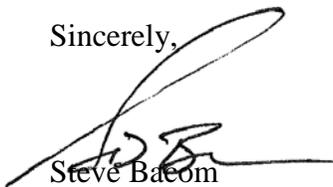
Permit condition 9.26.7, Table 9.3 of T1-2007.0109, noted the use of fresh water in the scrubber as part of CAM Indicator No. 3. In the 2017 test report, Simplot requested that all references to fresh water in CAM Indicator No. 3 be changed to allow the use of well extraction water in place of fresh water. Because the 2017 test results demonstrated compliance with the fluoride emission limits, DEQ agreed to the requested change to CAM Indicator No. 3. Permit condition 10.25, Table 10.3 of T1-2017.0024 specifically notes the use of fresh water or well extraction water in the scrubber as part of CAM Indicator No. 3.

Permit condition 10.18 of T1-2017.0024 establishes the frequency with which Simplot is required to conduct fluoride performance testing. If the fluoride emission rate measured in the most recent test is less than or equal to 75% of the emission limit, the next test shall be conducted within five years of the test date. As indicated in Table 1, the measured fluoride emissions are less than 75% of the emission limit; therefore, the next fluoride performance test shall be conducted no later than March 4, 2025.

Permit condition 10.19 of T1-2017.0024 establishes the frequency with which Simplot is required to conduct PM and PM<sub>10</sub> performance testing. For emissions limits of PM and PM<sub>10</sub>, if the PM or PM<sub>10</sub> emissions rates measured in the most recent test is less than or equal to 75% of the respective emission limit, the next test shall be conducted within five years of the test date. As indicated in Table 1, the measured PM and PM<sub>10</sub> emissions are less than 75% of the respective emission limit; therefore, the next PM and PM<sub>10</sub> performance tests shall be conducted no later than March 4, 2025.

If you have any questions regarding this performance test review, please contact me at (208) 373-0590, or [Steve.Bacom@deq.idaho.gov](mailto:Steve.Bacom@deq.idaho.gov).

Sincerely,



Steve Bacom  
Compliance Officer  
Technical Services Division

cc: Ted Corrington, J.R. Simplot Company [Ted.Corrington@simplot.com](mailto:Ted.Corrington@simplot.com)  
Dean Kitchen, TETCO [Dean.Kitchen@tetco-ut.com](mailto:Dean.Kitchen@tetco-ut.com)  
Clay Gentry, Pocatello Regional Office  
Melissa Gibbs, Pocatello Regional Office  
Marilyn Seymore, Air Quality Division  
Wally Evans, Air Quality Division  
Emanuel Ziolkowski, Air Quality Division  
Zach Klotovich, Technical Services Division  
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