Air Quality

TIER I OPERATING PERMIT

Permittee	J.R. Simplot Company – Don Siding Pocatello
Permit Number	T1-2017.0024
Project ID	62947
Facility ID	077-00006
Facility Location	1150 West Highway 30 Pocatello, ID 83204

Permit Authority

This permit (a) is issued according to the "Rules for the Control of Air Pollution in Idaho" (Rules) (IDAPA 58.01.01.300–386) (b) incorporates all applicable terms and conditions of prior air quality permits issued by the Idaho Department of Environmental Quality (DEQ) for the permitted source, unless the permittee emits toxic pollutants subject to state-only requirements pursuant to IDAPA 58.01.01.210 and the permittee elects not to incorporate those terms and conditions into this operating permit.

The permittee shall comply with the terms and conditions of this permit. The effective date of this permit is the date of signature by DEQ on this cover page.

Date Issued	March 29, 2023
Date Expires	April 3, 2025

Aaron Hoberg, Permit Writer

Mike Simon, Stationary Source Bureau Chief

Pages 2 - 147 redacted -- outside the scope of the SIP

~~15.4 Malfunction~~

~~For purposes of the limits in this section of the permit, "Malfunction" shall mean any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner, but shall not include failures that are caused in part by poor maintenance or careless operation, consistent with 40 C.F.R. §60.2.~~

~~[PTC No. P-2016.0055, 05/16/2022]~~

~~15.5 Consent Decree~~

~~Consent Decree (CD) shall mean *USA et al. v. J.R. Simplot Company,* Case No. 1:15-cv-00562-CWD (Dist. Idaho 2015). In any permit action after April 12, 2016 (effective date of the CD), the permittee shall adjust the baseline actual emissions downward to eliminate any portion of SO_2 emissions that would have exceeded the SO_2 emission limitation in the CD, that have also been incorporated in Permit Conditions 15.10 and 16.9, for the #300 and #400 sulfuric acid plants respectively.~~

~~[U.S. EPA Consent Decree, 12/3/2015; PTC No. P-2016.0055, 05/16/2022]~~

~~Emission Limits~~

~~15.6 RACT NO_x Emission Limit~~

~~Emissions of NO_x from the No. 300 sulfuric acid plant stack shall not exceed 16.0 lb/hr based on a 24-hour average.~~

~~[PTC No. P-2016.0055, 05/16/2022; 40 CFR 52.670(d)]~~

~~15.7 Annual NO_x Emission Limit~~

~~Emissions of NO_x from the No. 300 sulfuric acid plant stack shall not exceed 64 tons per any consecutive 12-month period.~~

~~[PTC No. P-2016.0055, 05/16/2022]~~

~~15.8 PM Emission Limit~~

~~No person shall emit PM to the atmosphere from any process or process equipment commencing operating on or after October 1, 1979, particulate matter in excess of the amount shown by the following equations, where E is the allowable emission from the entire source in lb/hr, and PW is the process weight in lb/hr:~~

- ~~If PW is less than 9,250 lb/hr,~~

  ~~$E = 0.045(PW)^{0.60}$~~

- ~~If PW is equal to or greater than 9,250 lb/hr,~~

  ~~$E = 1.10(PW)^{0.25}$~~

~~[IDAPA 58.01.01.701]~~

15.9 RACT PM_{10} Emission Limit

Emissions of PM_{10} from the No. 300 sulfuric acid plant stack shall not exceed 11.4 lb/hr based on a 24-hour average and 49.8 T/yr (tons per any consecutive 12-month period).

[PTC No. P-2016.0055, 05/16/2022; 40 CFR 52.670 (d)]

15.10 Consent Decree (CD) SO_2 Emission Limits

- Emissions of SO_2 from the No. 300 sulfuric acid plant stack shall not exceed 2.5 lb/T of 100% sulfuric acid produced on a rolling 3-hour average basis, except during periods of start-up, shutdown, or malfunction.
- Emissions of SO_2 from the No. 300 sulfuric acid plant stack shall not exceed 1.5 lb/T of 100% sulfuric acid produced on a rolling 365-day average basis including periods of start-up, shutdown, or malfunction.

[U.S. EPA Consent Decree, 12/3/2015; PTC No. P-2016.0055, 05/16/2022]

15.11 SO_2 Emission Limit

Emissions of SO_2 from the No. 300 sulfuric acid plant stack shall not exceed 4.0 lb/T of 100% sulfuric acid produced.

Emissions of SO_2 shall not exceed 170 lb/hr calculated as a three-hour rolling average and 750 tons per any consecutive 12-month period.

Emissions of SO_2 shall not exceed 28 lb/T of 100% sulfuric acid produced in accordance with IDAPA 58.01.01.846.

[PTC No. P-2016.0055, 05/16/2022; 40 CFR 60.82; IDAPA 58.01.01.846]

~~**15.12 Sulfuric Acid Mist Emission Limit**~~

~~Emissions of sulfuric acid mist (as total H_2SO_4) shall not exceed 3 lb/hr calculated as a 24-hour rolling average and shall not exceed 13 tons per any consecutive 12-month period.~~

~~Emissions of acid mist shall not exceed 0.15 lb/T of sulfuric acid produced, expressed as 100% H_2SO_4 in accordance with 40 CFR 60.83(a)(1).~~

~~**[40 CFR 60.83(a)(1), PTC No. P-2016.0055, 05/16/2022]**~~

~~**15.13 Ammonia Emission Limit**~~

~~Emissions of NH_3 shall not exceed 2.5 lb/hr and 11 tons per any consecutive 12-month period.~~

~~**[PTC No. P-2016.0055, 05/16/2022]**~~

~~**15.14 Opacity Limit**~~

~~In accordance with 40 CFR 60.83(a)(2), emissions from the No. 300 sulfuric acid plant stack shall not exceed 10% opacity as determined by following EPA Reference Method 9. In accordance with 40 CFR 60.11(c), the opacity standards set forth here shall apply at all times except during periods of startup, shutdown, and malfunction. In accordance with 40 CFR 60.11(b), for purposes of initial compliance, the minimum total time of observations shall be three hours (a total of 30 six-minute averages) using EPA Reference Method 9.~~

~~**[40 CFR 60.83(a)(2); 40 CFR 60.11 (b)&(c); PTC No. P-2016.0055, 05/16/2022]**~~

~~Operating Requirements~~

~~**15.15 Production Limit**~~

~~The maximum production rate of the sulfuric acid plant No. 300 shall not exceed 1,750 tons of 100% sulfuric acid per day calculated as a rolling 24-hour average.~~

~~**[PTC No. P-2016.0055, 05/16/2022]**~~

~~**15.16 Scrubber System**~~

~~The two-stage scrubber system shall be used to control pollution from the sulfuric acid plant No. 300 process at all times the plant is operating. The two stages shall include the packed-bed scrubber and the DynaWave reverse-jet scrubber operated in series. Within 60 days following startup, the permittee will develop an O&M manual for the two-stage scrubber. The O&M manual shall be kept on site at all times and shall be made available to DEQ representatives upon request.~~

~~**[PTC No. P-2016.0055, 05/16/2022]**~~

~~**15.17 Air Pollution Control Practices**~~

~~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 in accordance with 40 CFR 60.11(d).~~

~~**[40 CFR 60.11(d); PTC No. P-2016.0055, 05/16/2022]**~~

~~**15.18 Operation and Maintenance Plan**~~

~~In accordance with the CD, the permittee shall prepare and implement an operations and maintenance plan that describes the operating and maintenance procedures necessary to: minimize the frequency of sulfuric acid plant shutdowns and maintain and operate the sulfuric acid plant, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions, including during periods of startup, shutdown, or malfunction. No less frequently than once every three years, the facility shall review, an update as necessary, the O&M plan for each sulfuric acid plant.~~

~~**[U.S. EPA Consent Decree, 12/3/2015; PTC No. P-2016.0055, 05/16/2022]**~~

Monitoring and Recordkeeping Requirements

15.19 Compliance with SO_2 Emission Limits

Compliance with the SO_2 emissions limits from the consent decree shall be determined in accordance with Simplot's CEMS (Continuous Emission Monitoring System) plan. A copy of the CEMS plan must be kept at the Don Plant site for the Department's inspection and review.

[U.S. EPA Consent Decree, 12/3/2015; PTC No. P-2016.0055, 05/16/2022]

15.20 Continuous Emission Monitoring

In accordance with 40 CFR §60.13(i), and paragraph 17 of the CD, the provisions of 40 CFR § 60.84(a) are an approved alternative with the following requirement. A continuous monitoring system for the measurement of sulfur dioxide emissions from the sulfuric acid plant shall be installed, calibrated, maintained, and operated to demonstrate compliance on a continual basis with the applicable standard for sulfur dioxide capable of directly measuring the SO_2 emissions rate expressed as lb/ton of 100% sulfuric acid produced. The pollutant gas used to prepare calibration gas mixtures under 40 CFR part 60, Appendix B, Performance Specification 2 and for calibration checks under §60.13(d), shall be sulfur dioxide (SO_2). Method 8 shall be used for conducting monitoring system performance evaluations under §60.13(c) except that only the sulfur dioxide portion of the Method 8 results shall be used. The CEMS shall have a dual range with span values set at 500 ppm of sulfur dioxide for periods of normal operation and 3,600 ppm of sulfur dioxide for periods of startup, shutdown, or malfunction operation.

[U.S. EPA Consent Decree, 12/3/2015; PTC No. P-2016.0055, 05/16/2022]

15.21 Hourly SO_2 Emissions Rate

In accordance with 40 CFR §60.13(i), and paragraph 17 of the CD, the provisions of 40 CFR §§ 60.84(b) and (c) are not applicable and the provisions of 40 CFR §60.84(d) are replaced with the following requirements. The 1-hour SO_2 emission rate shall be calculated as follows:

$$E_{\frac{lb}{ton}} = \frac{Cs \cdot S}{(0.264 - 0.0126 \cdot \%O_2 - 7.61 \cdot Cs)}$$

Where:

$P_{H_2SO_4}$ = 100% sulfuric acid production, tons per unit of time

M_{SO_2Stack} = Mass SO_2 stack emission rate, lb per unit of time

$\%O_2$ = Stack O_2 concentration, percent by volume dry basis

Cs = Stack SO_2 concentration, lb/DSCF (to convert parts per million by volume, dry basis (ppmvd) to lb/DSCF, multiply by 1.661×10^{-7}.

$E_{\frac{lb}{ton}}$ = lb SO_2 per ton 100% sulfuric acid produced

S = the acid production rate factor, 11,800 DSCF/ton of 100% sulfuric acid produced

The 3-hour rolling average SO_2 emission rate shall be calculated as follows:

$$E_{3hravg} = \frac{\sum_i^3 E_{1hravg\ i}}{3}$$

Where:

E_{1hravg} = 1-hour average lb SO_2 per ton 100% sulfuric acid produced for hour i

E_{3hravg} = 3-hour rolling average lb SO_2 per ton 100% sulfuric acid produced, rounded to the nearest tenth

[U.S. EPA Consent Decree, 12/3/2015; PTC No. P-2016.0055, 05/16/2022]

15.22 Daily SO_2 Emissions Rate

In accordance with 40 CFR §60.13(i), and paragraph 17 of the CD, the provisions of 40 CFR §§ 60.84(b) and (c) are not applicable and the provisions of 40 CFR §60.84(d) are replaced with the following requirements. The daily mass SO_2 emissions *(M_{SO2Day})* (which are based on a calendar day) shall be calculated for each Sulfuric Acid Plant using the hourly values of the estimated 100% Sulfuric Acid Production rate, and the following equation:

$$M_{SO_2Day} = \sum_i^n \left(E_{1hravg\ i} \cdot P_{H_2SO_4Hour\ i}\right)$$

Where:

$E_{1hravg\ i}$ = 1-hour average lb SO_2 per ton 100% sulfuric acid produce during hour i

$P_{H_2SO_4Hour\ i}$ = 100% sulfuric acid produced during hour i, tons

M_{SO_2Day} = Mass emissions of SO_2 during a calendar day, lb

n = Number of operating hours in the day

For the purposes of calculating a 365-day rolling average lb/ton SO2 emission rate, the system will maintain an array of M_{SO_2Day} and $P_{TonsH2O4}$ each day for 365 days. Every day, the system will add the values from that day to the array and exclude the readings from the oldest day.

The 365-day rolling average lb/ton SO2 emission rate ($E_{365-Day\ Avg}$) will be calculated as follows:

$$E_{365-Day\ Avg} = \frac{\sum_i^n M_{SO_2Day\ i}}{\sum_i^n P_{H_2SO_4Day\ i}}$$

Where:

$M_{SO_2Day\ i}$ = Mass emissions of SO_2 during a calendar day i, lb

$P_{H_2SO_4Day\ i}$ = 100% sulfuric acid produced during day i, tons

$E_{365-Day\ Avg}$ = 365-day rolling average lb SO_2 per ton 100% sulfuric acid produced, rounded to the nearest hundredth.

[U.S. EPA Consent Decree, 12/3/15; PTC No. P-2016.0055, 5/16/22]

~~**15.23 Alternative Continuous Emission Monitoring**~~

~~In accordance with 40 CFR §§ 60.84(d), alternatively, a source that processes elemental sulfur or an ore that contains elemental sulfur and uses air to supply oxygen may use the following continuous emission monitoring approach and calculation procedures in determining SO_2 emission rates in terms of the standard. This procedure is not required, but is an alternative that would alleviate problems encountered in the measurement of gas velocities or production rate. Continuous emission monitoring systems for measuring SO_2, O_2, and CO_2 (if required) shall be installed, calibrated, maintained, and operated by the owner or operator and subjected to the certification procedures in Performance Specifications 2 and 3. The calibration procedure and span value for the SO_2 monitor shall be as specified in paragraph (b) of this section. The span value for CO_2 (if required) shall be 10% and for O_2 shall be 20.9% (air). A conversion factor based on process rate data is not necessary. Calculate the SO2 emission rate as follows:~~

~~$$Es = (CsS) / [0.265 - (0.126\ \%O_2) - (A\ \%CO_2)]$$~~

~~Where:~~

~~E_s = emission rate of SO_2, kg/metric ton (lb/ton) of 100% of H_2SO_4 produced.~~

~~C_s = concentration of SO_2, kg/dscm (lb/dscf).~~

~~S = acid production rate factor, 368 dscm/metric ton (11,800 dscf/ton) of 100% H_2SO_4 produced.~~

~~$\%O_2$ = oxygen concentration, percent dry basis.~~

~~A = auxiliary fuel factor.~~

~~= 0.00 for no fuel.~~

~~= 0.0226 for methane.~~

~~= 0.0217 for natural gas.~~

~~= 0.0196 for propane.~~

~~= 0.0172 for No 2 oil.~~

~~= 0.0161 for No 6 oil.~~

~~= 0.0148 for coal.~~

~~= 0.0126 for coke.~~

~~$\%CO_2$= carbon dioxide concentration, percent dry basis.~~

~~Note: It is necessary in some cases to convert measured concentration units to other units for these calculations:~~

~~Use the following table for such conversions:~~

~~From~~	~~To~~	~~Multiply by~~
~~g/scm~~	~~kg/scm~~	~~10^{-3}~~
~~mg/scm~~	~~kg/scm~~	~~10^{-6}~~
~~ppm (SO_2)~~	~~kg/scm~~	~~2.660×10^{-6}~~
~~ppm (SO_2)~~	~~lb/scf~~	~~1.660×10^{-7}~~

~~For the purpose of reports under 40 CFR 60.7(c), periods of excess emissions shall be all three-hour periods (or the arithmetic average of three consecutive one-hour periods) during which the integrated average sulfur dioxide emissions exceed the applicable standards.~~

~~[40 CFR 60.84(d); PTC No. P-2016.0055, 05/16/2022]~~

Performance Testing Requirements

~~15.24 Compliance Test~~

~~The permittee shall conduct performance tests to demonstrate that the pollution control equipment is capable of achieving pollutant-specific emission limits. Any compliance tests conducted to demonstrate compliance shall be performed in accordance with IDAPA 58.01.01.157, General Provisions 18.21 through 18.23, and the requirements outlined in the following subsections.~~

~~[PTC No. P-2016.0055, 05/16/2022]~~

15.25 Sulfur Dioxide, Sulfuric Acid Mist, and Visible Emissions

The performance tests shall include a performance evaluation of the CEMS. Method 8 (or an alternative method approved by both DEQ and EPA in accordance with IDAPA 58.01.01.157) shall be used to determine the concentration of H_2SO_4.

The permittee shall conduct annual performance tests by December 31 of each calendar year.

In conducting the performance tests required in 40 CFR 60.8, the owner or operator shall use as reference methods and procedures the test methods in Appendix A of 40 CFR 60 or other methods and procedures as specified in this section, except as provided in 40 CFR 60.8(b). Acceptable alternative methods and procedures are given in 40 CFR 60.85(c).

In accordance with 40 CFR 60.85(b), the owner or operator shall determine compliance with the SO_2, acid mist, and visible emission standards as follows:

(1) The emission rate (E) of acid mist shall be computed for each run using the following equation:

$E = (CQ_{sd}) / (PK)$

Where:

E = emission rate of acid mist kg/metric ton (lb/ton) of 100% H_2SO_4 produced.
C = concentration of acid mist, g/dscm (lb/dscf).
Q_{sd} = volumetric flow rate of the effluent gas, dscm/hr (dscf/hr).
P = production rate of 100% H_2SO_4, metric ton/hr (ton/hr).
K = conversion factor, 1000 g/kg (1.0 lb/lb).

(2) Method 8 shall be used to determine the acid mist and SO_2 concentrations (C's) and the volumetric flow rate (Qsd) of the effluent gas. The moisture content may be considered to be zero. The sampling time and sample volume for each run shall be at least 60 minutes and 1.15 dscm (40.6 dscf).

(3) Suitable methods shall be used to determine the production rate (P) of 100% H_2SO_4 for each run. Material balance over the production system shall be used to confirm the production rate.

(4) Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity.

(c) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) If a source processes elemental sulfur or an ore that contains elemental sulfur and uses air to supply oxygen, the following procedure may be used instead of determining the volumetric flow rate and production rate:

(i) The integrated technique of Method 3 is used to determine the O_2 concentration and, if required, CO_2 concentration.

(ii) The SO_2 or acid mist emission rate is calculated as described in Permit Condition 16.23, substituting the acid mist concentration for C's as appropriate.

[40 CFR 60.85; 40 CFR 52.670(d); PTC No. P-2016.0055, 05/16/2022]

~~**15.26 NO_x Performance Test**~~

~~The performance test for NO_x shall be conducted in accordance with IDAPA 58.01.01.157. The test shall use the reference methods and procedures described in 40 CFR 60, Appendix A. Method 7 (or an alternative method approved by DEQ in accordance with IDAPA 58.01.01.157) shall be used to determine the emission rate of NO_x.~~

~~At least once every five years, the permittee shall conduct a performance test to demonstrate compliance with the emissions limit specified in Permit Condition 15.6. Future testing shall be performed according to the following schedule. If the emissions rate measured in the most recent test is less than or equal to 75% of the emission standard in the permit, the next test shall be conducted within five years of the test date. If the emission rate measured during the most recent performance test is greater than 75%, but less than or equal to 90%, of the emission standard in the permit, the next test shall be conducted within two years of the test date. If the emission rate measured during the most recent performance test is greater than 90% of the emission standard in the permit, the next test shall be conducted within 13 months of the test date.~~

~~**[40 CFR 52.670(d); PTC No. P-2016.0055, 05/16/2022]**~~

15.27 PM_{10} Performance Test

A performance test shall be conducted to evaluate total PM_{10} from the sulfuric acid plant No. 300. The test shall use the reference methods and procedures described in 40 CFR 51, Appendix M. Method 201A and Method 202 (or alternative methods approved by DEQ in accordance with IDAPA 58.01.01.157) shall be used to determine the emission rate of PM_{10}.

At least once every five years, the permittee shall conduct a performance test to demonstrate compliance with the emissions limit specified in Permit Condition 15.9. Future testing shall be performed according to the following schedule. If the emissions rate measured in the most recent test is less than or equal to 75% of the emission standard in the permit, the next test shall be conducted within five years of the test date. If the emission rate measured during the most recent performance test is greater than 75%, but less than or equal to 90%, of the emission standard in the permit, the next test shall be conducted within two years of the test date. If the emission rate measured during the most recent performance test is greater than 90% of the emission standard in the permit, the next test shall be conducted within 13 months of the test date.

[40 CFR 52.670(d); PTC No. P-2016.0055, 05/16/2022]

~~**15.28 Ammonia Performance Test**~~

~~The performance test for NH_3 shall be conducted in accordance with IDAPA 58.01.01.157. EPA conditional test method CTM-027 (or alternative method approved by DEQ) shall be used to determine the emission rate of NH_3.~~

~~At least once every five years, the permittee shall conduct a performance test to demonstrate compliance with the emissions limit specified in Permit Condition 15.13. Future testing shall be performed according to the following schedule. If the emissions rate measured in the most recent test is less than or equal to 75% of the emission standard in the permit, the next test shall be conducted within five years of the test date. If the emission rate measured during the most recent performance test is greater than 75%, but less than or equal to 90%, of the emission standard in the permit, the next test shall be conducted within two years of the test date. If the emission rate measured during the most recent performance test is greater than 90% of the emission standard in the permit, the next test shall be conducted within 13 months of the test date.~~

~~**[40 CFR 52.670(d); PTC No. P-2016.0055, 05/16/2022]**~~

~~**15.29 Visible Emissions**~~

~~Visible emissions shall be observed during each performance test run using the methods specified in EPA Reference Method 9 and IDAPA 58.01.01.625.~~

~~**[40 CFR 52.670(d); PTC No. P-2016.0055, 05/16/2022]**~~

~~**15.30 Production Rate**~~

~~The production rate in pounds per hour and tons per day and the operating parameters shall be recorded during each performance test.~~

~~**[40 CFR 52.670(d); PTC No. P-2016.0055, 05/16/2022]**~~

~~**15.31 Opacity**~~

~~Opacity shall be determined using the Method 9 procedures contained in IDAPA 58.01.01.625. The permittee shall monitor the visible emissions monthly and keep a record of the observations, complete with conditions of time of observation. A compilation of the most recent five years of records shall be kept on site and shall be made available to DEQ representatives upon request.~~

~~**[PTC No. P-2016.0055, 05/16/2022]**~~

Pages 156 - 162 redacted -- outside the scope of the SIP

16.4 Malfunction

For purposes of the limits in this section of the permit, "Malfunction" shall mean any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner, but shall not include failures that are caused in part by poor maintenance or careless operation, consistent with 40 C.F.R. §60.2.

[PTC No. P-2016.0055, 05/16/2022]

16.5 Consent Decree

Consent Decree (CD) shall mean *USA et al. v. J.R. Simplot Company,* Case No. 1:l5-cv-00562-CWD (Dist. Idaho 2015). In any permit action after April 12, 2016 (effective date of the CD), the permittee shall adjust the baseline actual emissions downward to eliminate any portion of SO_2 emissions that would have exceeded the SO_2 emission limitation in the CD, that have also been incorporated in Permit Conditions 15.10 and 16.9, for the #300 and #400 sulfuric acid plants respectively.

[U.S. EPA Consent Decree, 12/3/2015; PTC No. P-2016.0055, 05/16/2022]

Emission Limits

16.6 RACT NO_x Emission Limit

Emissions of NO_x from the No. 400 sulfuric acid plant stack shall not exceed 10.1 lb/hr based on a 24-hour average and 42.1 T/yr for any consecutive 12 month period.

[PTC No. P-2016.0055, 05/16/2022]

16.7 PM Emission Limit

No person shall emit PM to the atmosphere from any process or process equipment commencing operating on or after October 1, 1979, particulate matter in excess of the amount shown by the following equations, where E is the allowable emission from the entire source in lb/hr, and PW is the process weight in lb/hr:

- If PW is less than 9,250 lb/hr,

  $E = 0.045(PW)^{0.60}$

- If PW is equal to or greater than 9,250 lb/hr,

  $E = 1.10(PW)^{0.25}$

[IDAPA 58.01.01.701]

16.8 RACT PM_{10} Emission Limit

Emissions of PM_{10} from the No. 400 sulfuric acid plant stack shall not exceed 13.6 lb/hr based on a 24-hour average and 59.6 T/yr for any consecutive 12-month period.

[PTC No. P-2016.0055, 05/16/2022]

16.9 Consent Decree (CD) SO_2 Emission Limits

- Emissions of SO_2 from the No. 400 sulfuric acid plant stack shall not exceed 2.5 lb/T of 100% sulfuric acid produced on a rolling 3-hour average basis, except during periods of start-up, shutdown, or malfunction.
- Emissions of SO_2 from the No. 400 sulfuric acid plant stack shall not exceed 1.6 lb/T of 100% sulfuric acid produced on a rolling 365-day average basis including period of startup, shutdown, and malfunction.

- If the permittee applies for a PTC to replace the converter at this unit, obtains a PTC to replace the converter at this unit, or commences construction to replace the converter at this unit, no later than 180 days from Startup following such construction, the permittee shall commence monitoring SO_2 emissions in accordance with the CEMS Plan, but shall have 365 additional days to ensure that SO_2 shall not exceed 1.2 lb/T of 100% sulfuric acid produced on a rolling 365-day average basis including periods of startup, shutdown, and malfunction.

[U.S. EPA Consent Decree, 12/3/2015; PTC No. P-2016.0055, 05/16/2022]

16.10 SO_2 Emission Limit

Emissions of SO_2 from the No. 400 sulfuric acid plant stack shall not exceed 4 lb/T of 100% sulfuric acid produced and 999 lb per each running three-hour period. SO_2 emissions shall not exceed 1,458 T/yr (tons per any consecutive 12-month period). The ton-per-year emission rate shall be determined by multiplying the actual pound per hour emissions by the actual hours per year the process venting to this stack operates.

[40 CFR 60.82(a); PTC No. P-2016.0055, 05/16/2022]

~~**16.11 Consent Decree (CD) Sulfuric Acid Mist Emission Limit**~~

~~Emissions of sulfuric acid mist from the No. 400 sulfuric acid plant stack shall not exceed 0.05 lb of acid mist per ton of 100% sulfuric acid produced.~~

~~**[U.S. EPA Consent Decree, 12/3/2015; PTC No. P-2016.0055, 05/16/2022]**~~

~~**16.12 Sulfuric Acid Mist Emission Limit**~~

~~Sulfuric acid mist emissions shall not exceed 54.8 T/yr (tons per any consecutive 12-month period). The ton-per-year emission rate shall be determined by multiplying the actual pound per hour emissions by the actual hours per year the process venting to this stack operates.~~

~~**[PTC No. P-2016.0055, 05/16/2022]**~~

~~**16.13 Consent Decree (CD) $PM_{2.5}$ Emission Limit**~~

~~Emissions of $PM_{2.5}$ from the No. 400 sulfuric acid plant stack shall not exceed 0.08 lb/T of 100% sulfuric acid produced.~~

~~**[U.S. EPA Consent Decree, 12/3/2015; PTC No. P-2016.0055, 05/16/2022]**~~

~~**16.14 Opacity Limit**~~

~~Emissions from the No. 400 sulfuric acid plant stack, or any other stack, vent, or functionally equivalent opening associated with the No. 400 sulfuric acid plant, shall not exceed 10% opacity as determined using the U.S. EPA Reference Method 9 and procedures in 40 CFR 60.11. The opacity standards set forth here shall apply at all times except during periods of startup, shutdown, or malfunction.~~

~~**[40 CFR 60.83(a)(2); 40 CFR 60.11(e); PTC No. P-2016.0055, 05/16/2022]**~~

~~Operating Requirements~~

~~**16.15 Consent Decree (CD) and State Production Limit**~~

~~The maximum production rate of Sulfuric Acid Plant No. 400 shall not exceed 789,579 tons of 100% sulfuric acid produced in any consecutive 12-calendar months. Upon termination of the U.S. EPA Consent Decree, this production limit will remain solely as a state only requirement.~~

~~The production rate of sulfuric acid plant No. 400 processes shall be determined during the tests required in Permit Condition 16.27. The maximum production during the following year shall not exceed 105% of the rate achieved or 789,579 tons of 100% sulfuric acid produced in any consecutive 12-month period, whichever is lower, during the tests unless the following conditions are met:~~

- ~~The SO_2 monitor is calibrated at least once every 24 hours using certified test gases, one of which has an SO_2 concentration equal to or less than the expected stack gas SO_2 concentration, and one of which has an SO_2 concentration greater than the expected stack gas SO_2 concentration.~~
- ~~The calibrated SO_2 monitor is cross-checked and agrees with the initial compliance test, which demonstrates SO_2 emission limit compliance.~~
- ~~Prior written approval by DEQ is received.~~
- ~~An emission test is performed at the requested increased emission rate, and the test demonstrates that the continuous emission monitor is accurate at the increased rate.~~
- ~~The PM_{10}, NO_X, SO_2, and acid mist emission limits will not be violated at the requested increased emission rates.~~

~~[U.S. EPA Consent Decree, 12/3/2015; PTC No. P-2016.0055, 05/16/2022]~~

~~16.16 Consent Decree (CD) Production Rate~~

~~The maximum production rate of Sulfuric Acid Plant No. 400 shall not exceed 789,579 tons of 100% sulfuric acid produced in any consecutive 12-month period until no earlier than 364 days before the 1.2 lb/T of 100% sulfuric acid produced (for the converter replacement) on a rolling 365-day average basis including periods of startup, shutdown, and malfunction.~~

~~[U.S. EPA Consent Decree, 12/3/2015; PTC No. P-2016.0055, 05/16/2022]~~

~~16.17 Air Pollution Control Practices~~

~~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 in accordance with 40 CFR 60.11(d).~~

~~[PTC No. P-2016.0055, 05/16/2022; 40 CFR 60.11(d)]~~

~~16.18 Operation and Maintenance Plan~~

~~In accordance with the CD, the permittee shall prepare and implement an operations and maintenance plan that describes the operating and maintenance procedures necessary to: minimize the frequency of sulfuric acid plant shutdowns and maintain and operate the sulfuric acid plant, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions, including during periods of startup, shutdown, or malfunction. No less frequently than once every three years, the facility shall review, an update as necessary, the O&M plan for each sulfuric acid plant.~~

~~[U.S. EPA Consent Decree, 12/3/2015; PTC No. P-2016.0055, 05/16/2022]~~

Monitoring and Recordkeeping Requirements

16.19 Compliance with SO_2 Emission Limit

Compliance with the SO_2 emissions limit from the consent decree shall be determined in accordance with Simplot's CEMS (Continuous Emission Monitoring System) plan. A copy of the CEMS plan must be kept at the Don Plant site for the Department's inspection and review.

[U.S. EPA Consent Decree, 12/3/2015; PTC No. P-2016.0055, 05/16/2022]

16.20 Continuous Emission Monitoring

In accordance with 40 CFR §60.13(i), and paragraph 17 of the CD, the provisions of 40 CFR § 60.84(a) are an approved alternative with the following requirement. A continuous monitoring system for the measurement of sulfur dioxide emissions from the sulfuric acid plant shall be installed, calibrated, maintained, and operated to demonstrate compliance on a continual basis with the applicable standard for sulfur dioxide capable of directly measuring the SO_2 emissions rate expressed as lb/ton of 100% sulfuric acid produced. The pollutant gas used to prepare calibration gas mixtures under 40 CFR part 60, Appendix B, Performance Specification 2 and for calibration checks under §60.13(d), shall be sulfur dioxide (SO_2).

Method 8 shall be used for conducting monitoring system performance evaluations under §60.13(c) except that only the sulfur dioxide portion of the Method 8 results shall be used. The CEMS shall have a dual range with span values set at 500 ppm of sulfur dioxide for periods of normal operation and 3,600 ppm of sulfur dioxide for periods of startup, shutdown, or malfunction operation.

[U.S. EPA Consent Decree, 12/3/2015; 40 CFR 60.13(i), PTC No. P-2016.0055, 05/16/2022]

16.21 Hourly SO_2 Emissions Rate

In accordance with 40 CFR §60.13(i), and paragraph 17 of the CD, the provisions of 40 CFR §§ 60.84(b) and (c) are not applicable and the provisions of 40 CFR §60.84(d) are replaced with the following requirements. The 1-hour SO_2 emission rate shall be calculated as follows:

$$E_{\frac{lb}{ton}} = \frac{Cs \cdot S}{(0.264 - 0.0126 \cdot \%O_2 - 7.61 \cdot Cs)}$$

Where:

$P_{H_2SO_4}$ = 100% sulfuric acid production, tons per unit of time

M_{SO_2Stack} = Mass SO_2 stack emission rate, lb per unit of time

$\%O_2$ = Stack O_2 concentration, percent by volume dry basis

Cs = Stack SO_2 concentration, lb/DSCF (to convert parts per million by volume, dry basis (ppmvd) to lb/DSCF, multiply by 1.661×10^{-7}.

$E_{\frac{lb}{ton}}$ = lb SO_2 per ton 100% sulfuric acid produced

S = the acid production rate factor, 11,800 DSCF/ton of 100% sulfuric acid produced

The 3-hour rolling average SO_2 emission rate shall be calculated as follows:

$$E_{3hravg} = \frac{\sum_i^3 E_{1hravg\ i}}{3}$$

Where:

E_{1hravg} = 1-hour average lb SO_2 per ton 100% sulfuric acid produced for hour i

E_{3hravg} = 3-hour rolling average lb SO_2 per ton 100% sulfuric acid produced, rounded to the nearest tenth

[U.S. EPA Consent Decree, 12/3/2015; 40 CFR 60.13(i), PTC No. P-2016.0055, 05/16/2022]

16.22 Daily SO_2 Emissions Rate

In accordance with 40 CFR §60.13(i), and paragraph 17 of the CD, the provisions of 40 CFR §§ 60.84(b) and (c) are not applicable and the provisions of 40 CFR §60.84(d) are replaced with the following requirements. The daily mass SO_2 emissions *(M_{SO2Day})* (which are based on a calendar day) shall be calculated for each Sulfuric Acid Plant using the hourly values of the estimated 100% Sulfuric Acid Production rate, and the following equation:

$$M_{SO_2Day} = \sum_{i}^{n} \left(E_{1hravg\ i} \cdot P_{H_2SO_4Hour\ i} \right)$$

Where:

$E_{1hravg\ i}$ = 1-hour average lb SO_2 per ton 100% sulfuric acid produce during hour i

$P_{H_2SO_4Hour\ i}$ = 100% sulfuric acid produced during hour i, tons

M_{SO_2Day} = Mass emissions of SO_2 during a calendar day, lb

n = Number of operating hours in the day

For the purposes of calculating a 365-day rolling average lb/ton SO2 emission rate, the system will maintain an array of M_{SO_2Day} and $P_{TonsH2O4}$ each day for 365 days. Every day, the system will add the values from that day to the array and exclude the readings from the oldest day.

The 365-day rolling average lb/ton SO2 emission rate ($E_{365-Day\ Avg}$) will be calculated as follows:

$$E_{365-Day\ Avg} = \frac{\sum_{i}^{n} M_{SO_2Day\ i}}{\sum_{i}^{n} P_{H_2SO_4Day\ i}}$$

Where:

$M_{SO_2Day\ i}$= Mass emissions of SO_2 during a calendar day i, lb

$P_{H_2SO_4Day\ i}$= 100% sulfuric acid produced during day i, tons

$E_{365-Day\ Avg}$ = 365-day rolling average lb SO_2 per ton 100% sulfuric acid produced, rounded to the nearest hundredth.

[U.S. EPA Consent Decree, 12/3/2015; 40 CFR 60.13(i), PTC No. P-2016.0055, 05/16/2022]

~~16.23 Alternative Continuous Emission Monitoring~~

~~In accordance with 40 CFR §§ 60.84(d), alternatively, a source that processes elemental sulfur or an ore that contains elemental sulfur and uses air to supply oxygen may use the following continuous emission monitoring approach and calculation procedures in determining SO_2 emission rates in terms of the standard. This procedure is not required but is an alternative that would alleviate problems encountered in the measurement of gas velocities or production rate. Continuous emission monitoring systems for measuring SO_2, O_2, and CO_2 (if required) shall be installed, calibrated, maintained, and operated by the owner or operator and subjected to the certification procedures in Performance Specifications 2 and 3. The calibration procedure and span value for the SO_2 monitor shall be as specified in paragraph (b) of this section. The span value for CO_2 (if required) shall be 10% and for O_2 shall be 20.9% (air). A conversion factor based on process rate data is not necessary. Calculate the SO_2 emission rate as follows:~~

~~Es = (CsS) / [0.265 - (0.126 $\%O_2$) - (A $\%CO_2$)]~~

Where:

E_2 = emission rate of SO_2, kg/metric ton (lb/ton) of 100% of H_2SO_4 produced.

C_s = concentration of SO_2, kg/dscm (lb/dscf).

S = acid production rate factor, 368 dscm/metric ton (11,800 dscf/ton) of 100% H_2SO_4 produced.

$\%O_2$ = oxygen concentration, percent dry basis.

A = auxiliary fuel factor.

= 0.00 for no fuel.

= 0.0226 for methane.

= 0.0217 for natural gas.

= 0.0196 for propane.

= 0.0172 for No 2 oil.

= 0.0161 for No 6 oil.

= 0.0148 for coal.

= 0.0126 for coke.

$\%CO_2$ = carbon dioxide concentration, percent dry basis.

Note: It is necessary in some cases to convert measured concentration units to other units for these calculations:

Use the following table for such conversions:

From	To	Multiply by
g/scm	kg/scm	10^{-3}
mg/scm	kg/scm	10^{-6}
ppm (SO_2)	kg/scm	2.660×10^{-6}
ppm (SO_2)	lb/scf	1.660×10^{-7}

For the purpose of reports under 40 CFR 60.7(c), periods of excess emissions shall be all three-hour periods (or the arithmetic average of three consecutive one-hour periods) during which the integrated average sulfur dioxide emissions exceed the applicable standards.

[40 CFR 60.84(d); PTC No. P-2016.0055, 05/16/2022]

16.24 Opacity

Opacity shall be determined using the Method 9 procedures contained in IDAPA 58.01.01.625. On a monthly basis, the permittee shall monitor and record the visible emissions observations complete with conditions at the time of observation. The records shall be kept at the facility for the most recent five-year period and shall be made available to DEQ representatives upon request.

[PTC No. P-2016.0055, 05/16/2022]

~~**16.25 Production Rate Monitoring**~~

~~The permittee shall monitor and record the production rate of the No. 400 sulfuric acid plant in tons per hour, tons per rolling 24-hour period, and tons per any consecutive 12-month period.~~

~~**[PTC No. P-2016.0055, 05/16/2022]**~~

Performance Testing Requirements

16.26 PM_{10} and NO_x Performance Test

At least once every five years, the permittee shall conduct a performance test to demonstrate compliance with the emissions limits specified in Permit Conditions 16.6 and 16.8. Future testing shall be performed according to the following schedule. If the emissions rate measured in the most recent test is less than or equal to 75% of the emission standard in the permit, the next test shall be conducted within five years of the test date. If the emission rate measured during the most recent performance test is greater than 75%, but less than or equal to 90%, of the emission standard in the permit, the next test shall be conducted within two years of the test date. If the emission rate measured during the most recent performance test is greater than 90% of the emission standard in the permit, the next test shall be conducted within 13 months of the test date.

[PTC No. P-2016.0055, 05/16/2022]

16.27 SO_2 and Sulfuric Acid Mist Performance Tests

Annual SO_2 and H_2SO_4 mist emissions tests shall be performed. All emission tests shall be performed at the process equipment's maximum operating rate.

In accordance with the CD, in conducting the performance tests, the owner or operator shall use as reference methods and procedures the test methods in Appendix A of 40 CFR 60, Reference Method 8, or an alternative method approved by U.S. EPA. Acceptable alternative methods and procedures are given in paragraph (c) of the section. This test may serve as the NSPS performance test required under 40 CFR 60.8. The permittee shall take all steps necessary to assure accurate measurements of 100% sulfuric acid produced during each test run. The permittee shall conduct the first test no later than October 12, 2016. Thereafter, the permittee shall conduct annual stack tests by December 31 of each calendar year and will submit the results of each test within 60 days.

In accordance with 40 CFR 60.85(b), the owner or operator shall determine compliance with the SO_2, acid mist, and visible emission standards as follows:

(1) The emission rate (E) of acid mist shall be computed for each run using the following equation:

$$E = (CQ_{sd}) / (PK)$$

Where:

E = emission rate of acid mist kg/metric ton (lb/ton) of 100% H_2SO_4 produced.
C = concentration of acid mist, g/dscm (lb/dscf).
Q_{sd} = volumetric flow rate of the effluent gas, dscm/hr (dscf/hr).
P = production rate of 100% H_2SO_4, metric ton/hr (ton/hr).
K = conversion factor, 1000 g/kg (1.0 lb/lb).

(2) Method 8 shall be used to determine the acid mist and SO_2 concentrations (C's) and the volumetric flow rate (Qsd) of the effluent gas. The moisture content may be considered to be zero. The sampling time and sample volume for each run shall be at least 60 minutes and 1.15 dscm (40.6 dscf).

(3) Suitable methods shall be used to determine the production rate (P) of 100% H_2SO_4 for each run. Material balance over the production system shall be used to confirm the production rate.

(4) Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity.

(c) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) If a source processes elemental sulfur or an ore that contains elemental sulfur and uses air to supply oxygen, the following procedure may be used instead of determining the volumetric flow rate and production rate:

(i) The integrated technique of Method 3 is used to determine the O_2 concentration and, if required, CO_2 concentration.

(ii) The SO_2 or acid mist emission rate is calculated as described in Permit Condition 17.23, substituting the acid mist concentration for C's as appropriate.

[U.S. EPA Consent Decree, 12/3/2015; 40 CFR 60.85; 40 CFR 52.670(d); PTC No. P-2016.0055, 05/16/2022]

~~**16.28 $PM_{2.5}$ Performance Tests**~~

~~In accordance with the CD, compliance with the $PM_{2.5}$ emission limit is to be demonstrated using EPA Methods 201A and 202, except that Method 5 may be substituted for Method 201A provided that Method 202 is also used for condensable particulate matter and the test results consider all particulate matter to be $PM_{2.5}$. The permittee shall conduct the first test no later than October 12, 2016. Thereafter, the permittee shall conduct annual stack tests by December 31 of each calendar year and will submit the results of each test within 60 days. Upon demonstrating through at least five annual tests that the $PM_{2.5}$ emission limit is not being exceeded, the permittee may request EPA and IDEQ approval to conduct tests less frequently than annually.~~

~~**[U.S. EPA Consent Decree, 12/3/2015; PTC No. P-2016.0055, 05/16/2022]**~~

~~**16.29 Increase in $PM_{2.5}$ Emission Limit through Performance Testing**~~

~~If during the first five years following the effective date of the CD, performance testing results using EPA Method 201A and Method 202 show that $PM_{2.5}$ emissions exceed 0.08 lb/T of sulfuric acid produced, despite best efforts at design, installation, operation, and maintenance of controls, the permittee may submit a request to U.S. EPA and IDEQ to increase the $PM_{2.5}$ emission limit, not to exceed 0.11 lb/T of 100% sulfuric acid produced. Such request shall include all available $PM_{2.5}$ emissions data for the #400 sulfuric acid plant using the controls existing at the plant as of April 12, 2016, as well as a description of any efforts taken by the permittee or its technology vendors, contractors, or consultants to achieve compliance with that emission limit, along with any supporting documentation.~~

~~The increased limit shall be calculated by using all available, but no less than five, performance test results that used EPA Methods 201A and 202 for the #400 sulfuric acid plant using the controls existing at the plant as of April 12, 2016 and in accordance with the following formula. If the calculation exceeds 0.11 lb/T of 100% sulfuric acid produced, then the increased limit would be set at 0.11 lb/T of 100% sulfuric acid produced.~~

Pages 171 - 178redacted -- outside the scope of the SIP

Periodic Compliance Certification

18.22 The permittee shall submit compliance certifications during the term of the permit for each emissions unit to DEQ and the EPA as follows:

- The compliance certifications for all emissions units shall be submitted annually from January 1 to December 31 or more frequently if specified by the underlying applicable requirement or elsewhere in this permit by DEQ.
- The initial compliance certification for each emissions unit shall address all of the terms and conditions contained in the Tier I operating permit that are applicable to such emissions unit, including emissions limitations, standards, and work practices;
- The compliance certification shall be in an itemized form providing the following information (provided that the identification of applicable information may cross-reference the permit or previous reports as applicable):
  - The identification of each term or condition of the Tier I operating permit that is the basis of the certification;
  - The identification of the method(s) or other means used by the permittee for determining the compliance status with each term and condition during the certification period. Such methods and other means shall include, at a minimum, the methods and means required under Subsections 322.06, 322.07, and 322.08;
  - The status of compliance with the terms and conditions of the Tier I operating permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the method or means designated in Subsection 322.11.c.ii above. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR Part 64 occurred; and
  - Such information as DEQ may require to determine the compliance status of the emissions unit.

18.23 All original compliance certifications shall be submitted to DEQ and a copy of all compliance certifications shall be submitted to the EPA.

[IDAPA 58.01.01.322.11; 40 CFR 70.6(c)(5)(iii) as amended, 62 Fed. Reg. 54900, 54946 (10/22/1997); 40 CFR 70.6(c)(5)(iv)]

~~False Statements~~

~~18.24~~ ~~No person shall knowingly make any false statement, representation, or certification in any form, notice, or report required under this permit or any applicable rule or order in force pursuant thereto.~~

~~[IDAPA 58.01.01.125]~~

~~No Tampering~~

~~18.25~~ ~~No person shall knowingly render inaccurate any monitoring device or method required under this permit or any applicable rule or order in force pursuant thereto.~~

~~[IDAPA 58.01.01.126]~~

Semiannual Monitoring Reports

18.26 In addition to all applicable reporting requirements identified in this permit, the permittee shall submit reports of any required monitoring at least every six months. The permittee's semiannual reporting periods shall be from January 1 to June 30 and July 1 to December 31. All instances of deviations from this operating permit's requirements must be clearly identified in the report. The semiannual reports shall be submitted to DEQ within 30 days of the end of the specified reporting period.

{IDAPA 58.01.01.322.15.q; IDAPA 58.01.01.322.08.c; 40 CFR 70.6(a)(3)(iii)}

Reporting Deviations and Excess Emissions

18.27 The permittee shall promptly report all deviations from permit requirements including upset conditions, their probable cause, and any corrective actions or preventive measures taken. For excess emissions, the report shall be made in accordance with IDAPA 58.01.01.130–136. For all other deviations, the report shall be made in accordance with IDAPA 58.01.01.322.08.c, unless otherwise specified in this permit.

{IDAPA 58.01.01.322.15.q; IDAPA 58.01.01.135; 40 CFR 70.6(a)(3)(iii)}

Permit Revision Not Required

18.28 No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the permit.

{IDAPA 58.01.01.322.05.b; 40 CFR 70.6(a)(8)}

Emergency

18.29 In accordance with IDAPA 58.01.01.332, an "emergency", as defined in IDAPA 58.01.01.008, constitutes an affirmative defense to an action brought for noncompliance with such technology-based emissions limitation if the conditions of IDAPA 58.01.01.332.02 are met.

{IDAPA 58.01.01.332.01; 40 CFR 70.6(g)}