

SEP 24 2013

Gilbert Rodriguez
J R Simplot Company
P.O. Box 128
Helm, CA 93627

RE: Final – Authority to Construct/Certificate of Conformity (Minor Mod)
Facility Number: C-705
Project Number: C-1123368

Dear Mr. Rodriguez:

The Air Pollution Control Officer has issued the Authority to Construct permit to J R Simplot Company for the conversion of the NOx emission factor from a concentration limit to a mass limit, at 12688 S. Colorado Ave in Helm.

Enclosed are the Authority to Construct permit and invoice. The District's analysis of the proposal was sent to US EPA Region IX on April 3, 2013. All comments received have been addressed by the District. A summary of the comments and the District's response to each comment is enclosed.

Prior to operating with modifications authorized by the Authority to Construct, you must submit an application to modify the Title V permit as an administrative amendment in accordance with District Rule 2520, Section 11.5.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Jim Swaney at (559) 230-6000.

Sincerely,



David Warner
Director of Permit Services

DW:jag

Enclosures

cc: Gerardo C. Rios, EPA (w/enclosure) via email

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
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Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
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EPA Comments and District Responses

EPA comments regarding the preliminary notice for a Title V Minor Modification to issue an ATC with COC

1. EPA Comment:

The evaluation provides no data or discussion to support this statement of no exceedances. In fact, without the development of an appropriate “conversion factor” as discussed below, it is not possible to determine compliance with the NSPS emission standard by only using CEM data reported in ppm. EPA also notes that the proposed emission limit in lb/ton of HNO₃ is 4 times higher than the highest emission rate determined from reference source tests. EPA suspects that this is the primary reason that there have not been any exceedances on a mass basis.

The evaluation then proceeds to convert the 180 ppm limit to a lb NO_x/ton of HNO₃ produced, using the maximum air flow rate and production rate to calculate a new emission limit of 2.9 lb-NO_x/ton-HNO₃.

The District made this conversion assuming that the change in concentration is linear to the flow rate of the stack, but the evaluation does not provide any information or data to support this assumption, let alone acknowledge that an assumption is being made. EPA notes that for permit unit C-705-3-8, condition 9 requires the owner or operator to establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (lb/ton of 100% HNO₃ produced). The conversion factor shall be obtained according to procedures and methods specified in 40 CFR 60.73 (b) and shall be reestablished during any performance test under 40 CFR 60.8 or any continuous emission monitoring system performance evaluation under 40 CFR 60.13 (c). The fact that the applicable NSPS for this facility requires the development of a “conversion factor” from monitoring data (in ppm) to the applicable standard units of lb/ton of 100% HNO₃ produced, indicates that emissions from this process are not linear with production rates. Thus the proposed method for converting the existing 180 ppm emission limit is not appropriate.

EPA also notes that the permit does not contain this conversion factor or a requirement that the source provide this conversion factor to the District or maintain it on site for use in determining compliance. The permit must be revised to ensure that the source has in fact established and updates the emission factor as prescribed by 40 CFR 60.73(b), since this is an applicable requirement of this NSPS. The permit must include a condition requiring the source to use the measured CEM data in ppm and the established “conversion factor” to ensure compliance with the applicable NSPS limit of 3.0 lb per ton of acid being produced, with the production expressed as 100 percent nitric acid.

District Response

The comment appears to be several comments under one header; therefore, the response will be broken down into several sections and addressed respectively as follows:

- (a) The evaluation provides no data or discussion to support the statement of no excess emissions.

Large amounts of data are available, but have not been presented with the application review as it is secondary to the request in the application. A mass emission factor currently exists and the applicant requests to have the emission factor changed from a concentration limit to a mass limit.

- (b) Production of NO_x is assumed to linear with production of acid on a mass basis. Interpretation of 40 CFR 60.13 (c) indicates that process emissions are not linear with production of acid on a mass basis. The proposed method of conversion from concentration to mass emission measurement is not appropriate.

When converting from a mass limit to a concentration limit, the only variability in the production of NO_x is the effect of ambient temperature on the catalyst and on the process gas flow is air density. The effects of ambient temperature on the catalyst are accounting for in the concentration reading and the effect of air density on the process gas flow is accounted for by using units of Standard Cubic Feet when calculating volumetric stack flow. Therefore, the variability of ambient temperature and air density is accounted for in the following calculation used in the application review to convert the concentration limit to a mass limit:

$$\frac{180 \text{ scf} - \text{NO}_x}{10^6 \text{ scf exhaust}} \times \frac{\text{lb} - \text{mol}}{379.5 \text{ scf} - \text{NO}_x} \times \frac{46 \text{ lb} - \text{NO}_x}{\text{lb} - \text{mol}} \times \frac{26,000 \text{ scf} - \text{exhaust}}{\text{min}} \\ \times \frac{1440 \text{ min}}{\text{day}} \div \frac{280 \text{ ton} - \text{HNO}_3}{\text{day}} = \frac{2.9 \text{ lb} - \text{NO}_x}{\text{ton} - \text{HNO}_3}$$

Furthermore, the facility currently continuously measures the NO_x concentration in the stack with a CEMS system and proposes to continue measuring NO_x concentration. The facility proposes to continuously measure the volumetric stack flow with a proposed stack flow meter. When demonstrating compliance with 40 CFR 60.72(a)(1), the facility utilizes a similar calculation as the one provided above to convert monitoring data into units of applicable standard (lb/ton of 100% HNO₃ produced).

- (c) The permit does not contain the conversion factor or the requirement that the facility provide the factor to determine compliance.

Condition #12 satisfies the requirements of 40 CFR 60.73 (b)

40 CFR 60.73 (b) The owner or operator shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (kg/metric ton, lb/ton). The conversion factor shall be established by measuring emissions with the continuous monitoring system concurrent with measuring emissions with the applicable reference method tests. Using only that portion of the continuous monitoring emission data that represents emission measurements concurrent with the reference method test periods, the conversion factor shall be determined by dividing the reference method test data averages by the monitoring data averages to obtain a ratio expressed in units of the applicable standard to units of the monitoring data, i.e., kg/metric ton per ppm (lb/ton per ppm). The conversion factor shall be reestablished during any performance test under § 60.8 or any continuous monitoring system performance evaluation under § 60.13(c).

In addition, the following condition will be included on the permit:

- The owner or operator shall maintain a copy of the source test data, calculations and all other data used to determine the most recent conversion factor required by 40 CFR.73(b). Records shall be retained and provided to the District upon request. [District Rules 1070 and 2520]

- (d) The permit must require the facility to use CEMS data in ppm and the “conversion factor” to determine compliance.

Condition #5 will be revised to read as follows:

- NO₂ emissions shall not exceed 2.9 lb/ton-100% HNO₃ three-hour average as determined by continuous monitor and recording equipment certified to 40 CFR 60, Appendix B Performance Specification 6 and the conversion factor established pursuant to 40 CFR 60.73(b). [District Rules 2201 and 1080, 40 CFR 60.72 (a), and 40 CFR 60.73]

2. EPA Comment:

EPA notes that the standard in is in terms of the mass of production being expressed as 100 percent nitric acid. By definition, this NSPS applies to manufacturers of weak acid (30-70% in strength), so an adjustment must be made to the amount of weak acid produced to ensure it correlates to the amount as if the acid was at 100% strength. The permit currently contains no provisions to ensure compliance with the NSPS standard, using the stated units of the standard. Please revise the permit to include such a standard and for the source to calculate emissions in terms of the NSPS standard.

District Response

Condition #5 will be revised as shown above and condition #7 will be revised to read as follows:

- Permittee shall record hourly production rate (in tons 100% HNO₃) and emission data. Records shall be retained and provided to the District upon request. [District Rule 2520 and 40 CFR 60.73 (c)]

3. EPA Comment:

Condition 2 states that the basis of the NO₂ emission limit of 180 ppm is based on the following requirements: District NSR Rule, District Rule 1080, 40 CFR 60.72(a) and 40 CFR 60.73. Source test data for this facility (submitted to EPA for this facility) shows that emissions are in the range of 10 ppm, which looks more like a NSR related emission limit, rather than the 180 ppm limit that looks like a NSPS emission limit. However the evaluation does not contain sufficient information to make this determination. Please verify that the emission limit is actually based on an NSR action and/or remove the citation that NSR is the basis of this condition. If the permit unit is subject to NSR, then EPA suggests that the District review the CEM QA/QC requirements in the permit, as they appear to only apply to initial installation and not ongoing control, i.e., no RATA requirements or frequency of source testing is specified in the permit, even though it appears the source is performing periodic RATA tests, as evidenced by the source test results they have submitted to EPA. As a source subject to NSR, EPA would expect there to be a RATA condition in the permit requiring annual source testing, but the permit does not require any RATA testing.

District Response

The emission limit is an NSPS limit and was incorrectly made an NSR limit during the Initial Title V permitting process. The NSR reference for the condition will be removed.

4. EPA Comment:

EPA notes that this plant was first built in 1977 and there appears to be no modifications to the nitric acid plant. However, under Section VI. Emission Control Technology Evaluation, it states that the emission control device is described in the engineering evaluation for project number C-1113102 and therefore no further discussion is necessary. We checked our records for both NSR and Title V actions and could not locate a project with this number. Please provide EPA with a copy of the engineering evaluation for Project Number C-1113102, prior to submitting response to EPA's comments.

District Response

The reference to project C-1113102 on page 3 in Section VI. Emission Control Technology Evaluation of the Engineering Evaluation shall be revised to C- 950479.

AUTHORITY TO CONSTRUCT

PERMIT NO: C-705-3-10

ISSUANCE DATE: 09/18/2013

LEGAL OWNER OR OPERATOR: J R SIMPLOT COMPANY

MAILING ADDRESS: RT 1100-0023
PO BOX 9168
BOISE, ID 83707

LOCATION: 12688 S COLORADO AVE
HELM, CA 93627

EQUIPMENT DESCRIPTION:

MODIFICATION OF A NITRIC ACID PLANT CONSISTS OF: ONE AMMONIA VAPORIZER WITH SUPERHEATER, ONE NH3 TO NO CONVERTER, ONE 50.3 MMBTU/HR WASTE HEAT BOILER, ONE TAIL GAS HEATER, ONE STEAM TURBINE, ONE AIR COMPRESSOR, ONE NO TO HNO3 ABSORBER, ONE 6.87 MMBTU/HR NATURAL GAS FIRED CATALYST PREHEATER, ONE NO2 TO N2 BUTANE FIRED COMBUSTOR FOR EMISSIONS, AND ONE 17,000 GALLON TANK FOR COLLECTION OF WEAK ACID: CHANGE NOX EMISSION FACTOR FROM 180 PPM TO 3.0 LB/TON NITRIC ACID PRODUCED

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The exhaust stack from the nitric acid plant shall be equipped with a District-approved monitor which shall measure and record the exhaust flow rate on an hourly basis. [District Rule 1080] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO



DAVID WARNER, Director of Permit Services

C-705-3-10 Sep 18 2013 4:32PM - GARCIAJ - Joint Inspection NOT Required

5. NO₂ emissions shall not exceed 2.9 lb/ton-100% HNO₃ three-hour average as determined by continuous monitor and recording equipment certified to 40 CFR 60, Appendix B Performance Specification 6 and the conversion factor established pursuant to 40 CFR 60.73(b). [District Rule 1080, 40 CFR 60.72 (a), and 40 CFR 60.73] Federally Enforceable Through Title V Permit
6. When the plant is operating, the monitors shall be inspected for zero drift and span drift per 40 CFR 60.13d. Reanalyze zero and span gases per 40 CFR 60.13d (July 1, 1977). [40 CFR 60.13 (d) and 60.73 (a)] Federally Enforceable Through Title V Permit
7. Permittee shall record hourly production rate (in tons 100% HNO₃) and emission data. Records shall be retained and provided to the District upon request. [District Rule 2520 and 40 CFR 60.73 (c)] Federally Enforceable Through Title V Permit
8. Permittee shall submit quarterly reports to the District and EPA, Region IX, no later than 30 days following the end of each calendar quarter, on excess emissions and monitor failures. The periods of excess emissions shall be defined in accordance with 40 CFR 60.73 (e). The report shall comply with all of the requirements of the District rules. [40 CFR 60.73 (e) and District Rule 1080] Federally Enforceable Through Title V Permit
9. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
10. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [County Rule 406 (Fresno) and District Rule 4801] Federally Enforceable Through Title V Permit
11. Except during periods of startup, shutdown, and malfunction, any gases discharged from this unit shall not exhibit 10% opacity, or greater. [40 CFR 60.72 (a) and 40 CFR 60.11 (c)] Federally Enforceable Through Title V Permit
12. The owner or operator shall establish a conversion factor for the purpose of converting monitoring data into units of applicable standard (lb/ton of 100% HNO₃ produced). The conversion factor shall be obtained according to procedures and methods specified in 40 CFR 60.73 (b) and shall be reestablished during any performance test under 40 CFR 60.8 or any continuous emission monitoring system performance evaluation under 40 CFR 60.13 (c). [40 CFR 60.73 (b)] Federally Enforceable Through Title V Permit
13. A violation of emission standards of this permit, as shown by the stack-monitoring system, shall be reported to the district within 96 hours. [District Rule 1080] Federally Enforceable Through Title V Permit
14. The operator shall notify the district at least 24 hours prior to the shutting down of monitoring equipment. In the event of breakdown of monitoring equipment, the owner or the operator shall notify the district within 1 hour after the breakdown is detected. [District Rule 1080] Federally Enforceable Through Title V Permit
15. The continuous NO_x monitor shall meet the applicable performance specification requirements in 40 CFR Part 51, Appendix P, and Part 60, Appendix B or shall meet equivalent specifications established by mutual agreement of District, ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit
16. Visible emission inspection shall be performed weekly. If visible emissions are observed, corrective action shall be taken to eliminate visible emissions. If visible emissions cannot be correct within 24 hours, a visible emissions test using USEPA Method 9 shall be conducted. [District Rule 2520] Federally Enforceable Through Title V Permit
17. The owner or operator shall maintain a copy of the source test data, calculations and all other data used to determine the most recent conversion factor required by 40 CFR.73(b). Records shall be retained and provided to the District upon request. [District Rules 1070 and 2520]
18. Records of inspection shall be maintained, kept, and made available to the District upon request. The record shall at least include equipment description, date and time of inspection, any corrective action taken, and identification of the individual performing an inspection. [District Rule 2520] Federally Enforceable Through Title V Permit