San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

SEP 0 3 2015

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

Re: Proposed Authority to Construct/Certificate of Conformity (Minor Mod)
District Facility # C-705
Project # C-1151612

Dear Mr. Rodriguez:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. This project authorizes the replacement of the existing absorber and cooler condenser with a new absorber and cooler condenser.

After addressing all comments made during the 45-day EPA comment period, the District intends to issue the Authority to Construct with a Certificate of Conformity. Prior to operating with modifications authorized by the Authority to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Jim Swaney, Permit Services Manager, at (559) 230-5900.

Thank you for your cooperation in this matter.

Sincerely,

Arnaud Marjollet
Director of Permit Services

Enclosures

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

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San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

Replace Existing Absorber and Cooler Condenser

Facility Name:	J R Simplot Company	Date:	September 1, 2015
Mailing Address:	P.O. Box 128 Helm, CA 93627	Engineer:	Jesse A. Garcia
		Lead Engineer:	Joven Refuerzo
Location Address:	12688 S Colorado Ave Helm, CA		
Contact Person:	Gilbert Rodriquez or Beth Ryder (Trinity Consultants)		
Telephone:	(559) 392-6902 or (505) 266-6611		
Application #(s):	C-705-3-19		
Project #:	C-1151612		
Deemed Complete:	July 29, 2015		

I. Proposal

J R Simplot Company (Simplot) owns and operates a fertilizer manufacturing facility. Simplot has requested an Authority to Construct (ATC) permit for the modification of the nitric acid plant listed on permit C-705-3. The modification consists of replacing the existing absorber tower used to produce nitric acid and the cooler condenser.

The existing absorber is approximately 35 years old and the facility is experiencing operational and safety issues due to enlarged holes and other deteriorating conditions of the weak acid trays and bleacher section walls. This issue has become visible due to a threefold increase in the recirculation rate of weak acid in order to maintain production of 57% nitric acid and is a clear indication of tray failure. Additionally, during the last scheduled maintenance, the bottom trays of the tower were visually inspected which confirmed the deteriorating condition of this tower. To address the operation and safety issued associated with the existing tower, a new tower will be designed to be installed and tied in to the plant near the existing tower. The old tower will then be removed after tie-in is complete and the plant will start operating a safe and efficient tower.

In order to maintain the mechanical integrity of the operation, the facility is also proposing to replace the cooler condenser on a predetermined frequency. This replacement does not constitute a New and Modified Stationary Source Review Rule (NSR) modification and can be considered an off permit change to the Title V permit pursuant to District Rule 2520, Section 6.4.4; however, the applicant has elected to include the change in this permitting action.

The facility currently has outstanding ATC permits for various modifications. The proposed modifications in this project are independent of the modifications authorized in the outstanding ATC permits; therefore, no further discussion is required.

Simplot has received their Title V Permit. This modification can be classified as a Title V minor modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that

manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. Simplot must apply to administratively amend their Title V permit.

II. Applicable Rules

Rule 1080 Stack Monitoring (12/17/92)
Rule 2201 New and Modified Stationary Source Review Rule (4/21/11)
Rule 2520 Federally Mandated Operating Permits (6/21/01)
Rule 4001 New Source Performance Standards (4/14/99)
Rule 4002 National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101 Visible Emissions (2/17/05)
Rule 4102 Nuisance (12/17/92)
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location

The project is located 12688 S. Colorado Ave in Helm, California. The District has verified that the equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

The plant produces nitric acid. The nitric acid plant feeds vaporized anhydrous ammonia and atmospheric air, mixed under high pressure, to a converter containing a platinum catalyst. In the converter, the ammonia is oxidized to creates NOx and heat. The heat is removed via a waste heat boiler and non-contact process cooling water equipment. The cooled process gas is sent to an absorption tower where NOx is absorbed into water to generate nitric acid. 57% strength nitric acid (HNO_3) is removed from the bottom of the absorption tower as product and a low NOx concentration process gas stream exits the top of the tower where makeup water enters. The tail gas is fed to a non-selective catalytic reduction (NSCR) system where the concentration is reduced to an acceptable level before exiting to the atmosphere. A process flow diagram for the nitric acid plant is included Appendix D.

With the new absorption tower, Simplot is expecting a decrease or no change in NOx emissions due to the increased absorption efficiency.

The potential nitric acid throughput of 280 ton of 100% HNO_3 per day, as established in Project C-1080713, will remain unchanged as this project does not eliminate associated upstream and downstream bottlenecks at the waste heat boiler, the air compressor and the converter.

V. Equipment Listing

Pre-Project Equipment Description

C-705-3-15: 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 PREHEATER, 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/NATURAL GAS-FIRED COMBUSTOR FOR EMISSIONS, 4 NITRIC ACID STORAGE TANKS, TRUCK LOADING STATION, DRIP PAD SUMPS AND SCRUBBER

Proposed Modification

C-705-3-19: MODIFICATION OF NITRIC ACID PLANT CONSISTS OF: ONE AMMONIA VAPORIZER WITH SUPERHEATER, ONE NH3 TO NO CONVERTER, ONE WASTE HEAT BOILER, ONE TAIL GAS PREHEATER, 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/NATURAL GAS- FIRED COMBUSTOR FOR EMISSIONS, 4 NITRIC ACID STORAGE TANKS, TRUCK LOADING STATION, DRIP PAD SUMPS AND SCRUBBER: REPLACE ABSORPTION TOWER WITH A BUBBLE CAP DESIGN ABSORPTION TOWER AND COOLING CONDENSER WITH LIKE-KIND

Post Project Equipment Description

C-705-3-18: NITRIC ACID PLANT CONSISTS OF: ONE AMMONIA VAPORIZER WITH SUPERHEATER, ONE NH3 TO NO CONVERTER, ONE WASTE HEAT BOILER, ONE TAIL GAS PREHEATER, 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/NATURAL GAS-FIRED COMBUSTOR FOR EMISSIONS, 4 NITRIC ACID STORAGE TANKS, TRUCK LOADING STATION, DRIP PAD SUMPS AND SCRUBBER

VI. Emission Control Technology Evaluation

NOx is created in the first stages of the process and the gas stream is sent through the absorber. In the absorber the NOx is absorbed in water to generate HNO_3. The proposal is to replace the existing sieve tray design absorber with a taller bubble cap design absorber which will increase residence time and allow NOx to be more efficiently absorbed. A proper functioning absorber helps to reduce NOx emissions. It is in the facility's economic interest to have minimal NOx emissions from the absorber being sent to the NSCR.

Process emissions are passed through a catalytic converter along with butane fuel (NSCR) to reduce NOx to N_2 and O_2. This reaction takes place at about 1000 °F. The incoming process air is raised from 100 °F to 500 °F in the tail gas heater, after which the butane fuel is injected. As the butane encounters the catalyst, it is oxidized, releasing heat, water, and carbon dioxide. The catalyst is heated to 1200 °F by the butane combustion, enabling the NOx reduction to take place. Excess heat from this process is recovered and used elsewhere.

The catalyst must be hot enough to accomplish the desired reduction in emissions. At startup, the catalyst is too cold to support the reaction. A natural gas preheater is installed between the butane injector and the catalyst. This preheater is ignited prior to startup to raise the catalyst temperature to 700 °F. This is sufficient to eliminate the excess NOx emissions within 5 minutes of startup.

VII. General Calculations

The absorber potentially only has an effect on NOx emissions, since the emissions unit, the nitric acid plant, only generates NOx; however, since this is the first time the permit unit is subject to New Source Review, the pre-project emission factors and emissions (except for NOx) are being established in this project. Also, other than the NOx emission factor and emissions, the applicant is not proposing any modifications that would affect the pre-project emission factors or emissions.

To be conservative, this project will not claim any reduction in potential NOx emissions; therefore, the EF1 = EF2 and PE1 = PE2.

A. Assumptions

- The pre and post project exhaust air flow rate = 26,000 scfm (per project C-1123368)
- Maximum daily throughput = 280 tons-100% HNO_3/day (per Project C-1080713)
- Preheater operates 24 hrs/day and 365 days/year (worst case)
- Although, there is no expected increase or change in emissions, emission calculations are established and presented for reference purposes only.

B. Emission Factors

Pre-Project:

Pre–Project Emission Factors for Nitric Acid Production & NSCR		
Pollutant	lb/ton-100% HNO_3	Source
NO_X	2.92	From Project C-1123368[1]
	0.72	Proposed by Applicant based off of historical average annual emissions including a margin of compliance
SO_X	0.004	Taken from source test performed on 11/15/05. Since source tests only provide a "snapshot" of what the operation is doing, to be conservative, the applicant has proposed to double the source test results for the proposed emission factors.
PM_{10}	0.13	
CO	52.7	
VOC	3.19*	

* Taken as the total non-methane hydrocarbon (TNMHC) emission rate from source test.

Pre–Project Emission Factors for Preheater		
Pollutant	lb/MMBtu	Source
NO_X	0.10	AP-42, Table 1.4-1 & -2 (7/98)
SO_X	0.00285	APR-1720 (12/01)
PM_{10}	0.0076	AP-42, Table 1.4-1 & -2 (7/98)
CO	0.084	AP-42, Table 1.4-1 & -2 (7/98)
VOC	0.0055	AP-42, Table 1.4-1 & -2 (7/98)

Post-Project:

As discussed above, EF2 = EF1.

C. Calculations

1. Pre-Project Potential to Emit (PE1)

The potential to emit for the operation is calculated as follows, and summarized in the table below:

NOx

$PE1_{Daily}$ = EF (lb/ton-100% HNO_3) * Maximum production limit (tons-100% HNO_3/day)

$PE1_{Annual}$ = EF (lb/ton-100% HNO_3) * Maximum production limit (tons-100% HNO_3/day)* 365 days/year

SOx, PM10, CO, VOC

$PE1_{Daily}$ = EF (lb/ton-100% HNO_3) * Maximum production limit (tons-100% HNO_3/day)

[1] 180 scf-NO_X/10^6 scf exhaust x lb-mol/379.5 scf-NO_X x 46 lb-NO_X/lb-mol x 26,000 scf-exhaust/min x 1440 min/day÷ 280 ton-HNO3/day = 2.92 lb-NOx/ton-HNO3

$PE1_{Annual}$ = Daily $PE1_{Daily}$ * 365 days/year

PE1 for Nitric Acid Production & NSCR				
	EF (lb/ton 100% HNO_3)	Maximum Throughput Limit (tons-100% HNO_3/day)	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO_X	2.92	280	817.6	
	0.72			73,584
SO_X	0.004		1.1	402
PM_{10}	0.13		36.4	13,286
CO	52.7		14,756.0	5,385,940
VOC	3.19		893.2	326,018

$PE1_{Daily}$ = EF (lb/MMBtu) * 6.87 MMBtu/hr * hrs/day
$PE1_{Annual}$ = Daily $PE1_{Daily}$ * 365 days/year

PE1 from Natural Gas Combustion from Preheater						
	EF (lb/MMBtu)	Heat Input (MMBtu/hr)	Daily Operation (hrs/day)	Annual Operation (days/year)	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO_X	0.10	6.87	24	365	16.5	6,023
SO_X	0.00285				0.5	183
PM_{10}	0.0076				1.3	475
CO	0.084				13.8	5,037
VOC	0.0055				0.9	329

2. Post-Project Potential to Emit (PE2)

The PE2 = PE1, and is summarized in the tables below:

PE2 for Nitric Acid Production & NSCR				
	EF (lb/ton 100% HNO_3)	Maximum Throughput Limit (tons-100% HNO_3/day)	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO_X	2.92	280	817.6	
	0.72			73,584
SO_X	0.004		1.1	402
PM_{10}	0.13		36.4	13,286
CO	52.7		14,756.0	5,385,940
VOC	3.19		893.2	326,018

PE2 from Natural Gas Combustion from Preheater						
	EF (lb/MMBtu)	Heat Input (MMBtu/hr)	Daily Operation (hrs/day)	Annual Operation (days/year)	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO_X	0.10	6.87	24	365	16.5	6,023
SO_X	0.00285				0.5	183
PM_{10}	0.0076				1.3	475
CO	0.084				13.8	5,037
VOC	0.0055				0.9	329

3. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to District Rule 2201, the SSPE1 is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions (AER) that have occurred at the source, and which have not been used on-site.

The SSPE2 from project C-1133045 is taken as the SSPE1 and summarized below. The emissions unit being modified in this project only involves NOx emissions; therefore, only NOx SSPE is presented.

Pre Project Stationary Source Potential to Emit (SSPE1) [lb/year]					
Permit Unit #	NOx	SOx	PM_{10}	CO	VOC
C-705-1-9	56	5	68	1,323	50
C-705-2-2	2,908	35	206	627	232
C-705-3-15*	73,584	402	13,286	5,385,940	326,018
C-705-3-15**	6,023	183	475	5,037	329
C-705-4-9	0	0	767	0	0
C-705-5-4	0	0	8,067	0	0
C-705-6-2	0	0	4,125	0	0
C-705-10-2	973	12	69	210	78
C-705-11-2	0	0	7,629	0	0
C-705-12-2	0	0	11,279	0	0
C-705-13-2	0	0	1,789	0	0
C-705-14-4	907	1	20	1,124	128
C-705-15-1	0	0	1,169	0	0
ERC C-1039-4	0	0	5,235	0	0
SSPE1 (lb/yr)	**84,451**	**638**	**54,184**	**5,394,261**	**326,835**

* Nitric acid production and NSCR emissions
**Preheater emissions

4. Post Project Stationary Source Potential to Emit (SSPE2)

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site.

Post Project Stationary Source Potential to Emit (SSPE2) [lb/year]					
Permit Unit #	NOx	SOx	PM_{10}	CO	VOC
C-705-1-9	56	5	68	1,323	50
C-705-2-2	2,908	35	206	627	232
C-705-3-19*	73,584	402	13,286	5,385,940	326,018
C-705-3-19**	6,023	183	475	5,037	329
C-705-4-9	0	0	767	0	0
C-705-5-4	0	0	8,067	0	0
C-705-6-2	0	0	4,125	0	0
C-705-10-2	973	12	69	210	78
C-705-11-2	0	0	7,629	0	0
C-705-12-2	0	0	11,279	0	0
C-705-13-2	0	0	1,789	0	0
C-705-14-4	907	1	20	1,124	128
C-705-15-1	0	0	1,169	0	0
ERC C-1039-4	0	0	5,235	0	0
SSPE2 (lb/yr)	**84,451**	**638**	**54,184**	**5,394,261**	**326,835**

* Nitric acid production and NSCR emissions
**Preheater emissions

5. Major Source Determination

Rule 2201 Major Source Determination:

Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. For the purposes of determining major source status the following shall not be included:

- any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

Since the only pollutant potentially affected by the modification in this project is NOx, only NOx emissions are shown in the Major Source determination in the following table:

Rule 2201 Major Source Determination (lb/year)	
	NO_X
SSPE1	84,451
SSPE2	84,451
Major Source Threshold	20,000
Major Source?	Yes

As seen in the table above, the facility is an existing Major Source for NOx and will remain a Major Source.

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). Therefore the PSD Major Source threshold is 100 tpy for any regulated NSR pollutant.

PSD Major Source Determination (tons/year)						
	NO2	VOC	SO2	CO	PM	PM10
Estimated Facility PE before Project Increase	42	163	0	2,697	27	27
PSD Major Source Thresholds	100	100	100	100	100	100
PSD Major Source ? (Y/N)	N	Y	N	Y	N	N

As shown above, the facility is an existing PSD major source for at least one pollutant.

6. Baseline Emissions (BE)

The BE calculation (in lb/year) is performed pollutant-by-pollutant for each unit within the project to calculate the QNEC, and if applicable, to determine the amount of offsets required.

Pursuant to District Rule 2201, BE = PE1 for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, located at a Major Source.

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to District Rule 2201.

BE NO_X

Unit Located at a Non-Major Source
As shown in Section VII.C.5 above, the facility is a major source for NO_X emissions.

Clean Emissions Unit, Located at a Major Source
Pursuant to Rule 2201, a Clean Emissions Unit is defined as an emissions unit that is "equipped with an emissions control technology with a minimum control efficiency of at least 95%; or the unit is equipped with emission control technology that meets the requirements for achieved-in-practice BACT as accepted by the APCO during the five years immediately prior to the submission of the complete application."

As determined in Appendix B, the unit is equipped with a non-selective catalytic reduction system capable of reducing NOx emissions by at least 95%. Therefore, BE = PE1.

BE = PE1 = 73,584 lb NO_X/year as calculated in Section VII.C.1.

7. SB 288 Major Modification

SB 288 Major Modification is defined in 40 CFR Part 51.165 as "any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act."

Since this source is included in the 28 specific source categories specified in 40 CFR 51.165, the, increases in fugitive emissions are included in the SB 288 Major Modification calculation.

Since this facility is a major source for NOx, the project's PE2 is compared to the SB 288 Major Modification Threshold in the following table in order to determine if the SB 288 Major Modification calculation is required.

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO_x	> 50,000	50,000	Yes

Since the project's PE2 surpasses the SB 288 Major Modification Threshold for NOx, the Net Emissions Increase (NEI) will be compared to the SB 288 Major Modification thresholds in order to determine if this project constitutes an SB 288 Major Modification.

The NEI is the total of emission increases for every permit unit addressed in this project and is calculated as follows:

NEI = PE2 – BAE

Where: PE2 = the sum of all the PE2s for each permit unit in this project
BAE = for units that are fully offset, the BAE = the PE1 for every unit, otherwise, the BAE is the actual annual emissions averaged over the baseline period for every unit.

The baseline period is the two year period preceding the application (or another time period within the previous 5 or 10 yrs determined by the District to be more representative of normal operation. The applicant has supplied the historical operating and emissions data for the unit(s) in this project, and the total BAE is calculated in Section C.II of Appendix C.

The BAE is used to calculate the NEI and make the SB 288 Major Modification determination in the following table.

SB 288 Major Modification Calculation and Determination					
Pollutant	PE2 (lb/yr)	BAE (lb/yr)	NEI (lb/yr)	Thresholds (lb/yr)	SB 288 Major Modification?
NO_x	79,607	29,671	49,936	50,000	No

As demonstrated in the preceding table, this project does not constitute an SB 288 Major Modification.

8. Federal Major Modification

District Rule 2201 states that a Federal Major Modification is the same as a "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.

The determination of Federal Major Modification is based on a two-step test. For the first step, only the emission *increases* are counted. Emission decreases may not cancel out the increases for this determination.

Step 1

For existing emissions units, the increase in emissions is calculated as follows.

Emission Increase = PAE – BAE - UBC

Where: PAE = Projected Actual Emissions, and
BAE = Baseline Actual Emissions
UBC = Unused baseline capacity as described in 40 CFR 51.165 (a)(1)(xxviii)(B)(3)

BAE = Baseline Actual Emissions which are the actual emissions created by the project during the baseline period. The baseline period for this project is the two-year period just prior to the year in which the application for this project was deemed complete.

PAE = Projected Actual Emissions which are the post-project projected actual emissions of the existing units in this project pursuant to 40 CFR 51.165 (a)(1)(xxviii).

To produce nitric acid, vaporized anhydrous ammonia and atmospheric air are mixed under high pressure and fed to a converter containing a platinum catalyst. The converter oxidizes the ammonia and creates NOx and heat. The gas stream is cooled via a waste heat boiler and non-contact process cooling water equipment. The cooled process gas is sent to an absorption tower where NOx is absorbed into water to generate nitric acid. 57% strength nitric acid (HNO_3) is removed from the bottom of the absorption tower as product and a low NOx concentration process gas stream exits the top of the tower where makeup water enters. The tail gas is fed to a butane –fired non-selective catalytic reduction (NSCR) system where the concentration is reduced to an acceptable level before exiting to the atmosphere.

Bottlenecks at the waste heat boiler, air compressor and the converter limit the NOx production upstream of the absorber. Therefore, this proposed project will not result in an increase in potential NOx emissions, or an increase in design capacity of the nitric acid plant, and it does not impact the ability of the nitric acid plant to operate at a higher utilization rate.

Since this project does not result in an increase in design capacity or potential to emit, and it does not impact the ability of the emission unit to operate at a higher utilization rate, the UBC is the portion of PAE that the emission units could have accommodated during the baseline period.

Using the PAE, BAE and UBC as calculated in Appendix C, the net emission increase is summarized in the table below:

Federal Major Modification Emission Increase				
Pollutant	PAE	BAE	UBC	NEI
	lb/year			
NO_X	32,195	29,671	4,329	-1,805

As shown in the table above, the emission increase from the project does not exceed the Federal Major Modification threshold. Therefore the project does not result in a Federal Major Modification and no further discussion is required.

9. Rule 2410 – Prevention of Significant Deterioration (PSD) Applicability Determination

Rule 2410 applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. The pollutants which must be addressed in the PSD applicability determination for sources located in the SJV and which are emitted in this project are: (See 52.21 (b) (23) definition of significant)

- NO2 (as a primary pollutant)

I. Project Location Relative to Class 1 Area

As demonstrated in the "PSD Major Source Determination" Section above, the facility was determined to be a existing PSD Major Source. Because the project is not located within 10 km (6.2 miles) of a Class 1 area – modeling of the emission increase is not required to determine if the project is subject to the requirements of Rule 2410.

II. Project Emission Increase – Significance Determination

a. Evaluation of Calculated Post-project Potential to Emit for New or Modified Emissions Units vs PSD Significant Emission Increase Thresholds

As a screening tool, the post-project potential to emit from all new and modified units is compared to the PSD significant emission increase thresholds, and if the total potentials to emit from all new and modified units are below the applicable thresholds, no futher PSD analysis is needed.

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)	
	NO2
Total PE from New and Modified Units	39
PSD Significant Emission Increase Thresholds	40
PSD Significant Emission Increase?	No

As demonstrated above, because the project has a total potential to emit from all new and modified emission units below the PSD significant emission increase thresholds, this project is not subject to the requirements of Rule 2410 due to a significant emission increase and no further discussion is required.

10. Quarterly Net Emissions Change (QNEC)

The Quarterly Net Emissions Change is used to complete the emission profile screen for the District's PAS database. The QNEC shall be calculated as follows:

QNEC = PE2 - PE1, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.
PE2 = Post Project Potential to Emit for each emissions unit, lb/qtr.
PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr.

Using the values in Sections VII.C.2 and VII.C.6 in the evaluation above, quarterly PE2 and quarterly PE1 can be calculated as follows:

$PE2_{quarterly}$ = $PE2_{annual}$ ÷ 4 quarters/year
= 79,607 lb/year ÷ 4 qtr/year
= 19,902 lb PM10/qtr

$PE1_{quarterly}$ = $PE1_{annual}$ ÷ 4 quarters/year
= 79,607 lb/year ÷ 4 qtr/year
= 19,902 lb PM10/qtr

Quarterly NEC [QNEC]			
	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO_X	19,902	19,902	0

VIII. Compliance

Rule 1080 Stack Monitoring

This Rule grants the APCO the authority to request the installation and use of continuous emissions monitors (CEMs), and specifies performance standards for the equipment and administrative requirements for record keeping, reporting, and notification. The facility is currently equipped with operational CEMs for NO_X. Provisions included in the operating permit are consistent with the requirements of this Rule. Compliance with the requirements of this Rule is anticipated.

Proposed Rule 1080 Conditions:

- The owner or operator shall certify, maintain, operate, and quality-assure a Continuous Emissions Monitoring System (CEMS) which continuously measures and records the exhaust gas NOx concentrations. The CEMS shall be capable of monitoring emissions during startups and shutdowns, as well as during normal operating conditions. [District Rules 1080 and 2201]

- When the plant is in operation, the monitoring system shall perform a daily calibration drift test in accordance with 40 CFR 60.13d. [40 CFR 60.13 (d) and 60.73 (a) and District Rule 1080]

- When the plant is in operation, the CEMS shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. [40 CFR 60.13(e)(2) and District Rule 1080].

- The NOx CEMS shall meet the requirements in 40 CFR Part 60, Appendix B Performance Specifications 2. [District Rule 1080]

- The owner or operator shall maintain CEMS records that contain the following: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance, duration of any periods during which a continuous monitoring system or monitoring device is inoperative, and emissions measurements. [40 CFR 60.7(b) and District Rule 1080]

- The owner/operator shall perform a relative accuracy test as specified by 40 CFR Part 60, Appendix B, at least once every four calendar quarters. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix B. [District Rule 1080]

- The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1]

- The owner or operator shall submit a written report of CEM operations for each calendar quarter to the APCO. The report is due on the 30th day following the end of the calendar quarter and shall include the following: Time intervals, data and magnitude of excess NOx emissions, nature and the cause of excess (if known), corrective actions taken and preventative measures adopted; Averaging period used for data reporting corresponding to the averaging period specified in the emission test period and used to determine compliance with an emissions standard; Applicable time and date of each period during which the CEM was inoperative (monitor downtime), except for zero and span checks, and the nature of system repairs and adjustments; A negative declaration when no excess emissions occurred. [District Rule 1080 and 40 CFR 60.73(e)]

- The continuous NOx monitor shall meet the applicable performance specification requirements in 40 CFR Part 60, Appendix B or shall meet equivalent specifications established by mutual agreement of District, ARB, and the EPA. [District Rule 1080, 6.5]

- APCO or an authorized representative shall be allowed to inspect, as determined to be necessary, the required monitoring devices to ensure that such devices are functioning properly. [District Rule 1080]

- 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. Such a notice is not required for any maintenance or QA/QC activity on th esytem if the operator expects the down dtime to be less than four hours, but the opeator must still report these periods in their quarterly report.[District Rule 1080]

- A violation of emissions standards indicated by the CEM system shall be reported to the APCO within 96 hours. [District Rule 1080, 9.0]

Rule 1081 – Source Sampling

This Rule requires adequate and safe facilities for use in sampling to determine compliance with emissions limits, and specifies methods and procedures for source testing and sample collection.

The following conditions will be placed on the permit:

- Compliance demonstration (source testing) shall be District witnessed, or authorized and samples shall be collected by a California Air Resources Board certified testing laboratory. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. The

results of each source test shall be submitted to the District within 60 days of source testing. [District Rule 1081]

- Permittee shall comply with all applicable source sampling requirements of District Rule 1081. [District Rule 1081]

- The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx analyzer during District inspections. [District Rule 1081]

Rule 1100 – Equipment Breakdown Rule

This Rule defines a breakdown condition and the procedures to follow if one occurs. The corrective action, the issuance of an emergency variance, and the reporting requirements are also specified.

The requirements of this Rule will be included in the facility-wide operating permit. Compliance with this Rule is anticipated.

- Permittee shall notify the District of any breakdown condition as soon as reasonably possible, but no later than one hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100]

- The District shall be notified in writing within ten days following the correction of any breakdown condition. The breakdown notification shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the methods utilized to restore normal operations. [District Rule 1100]

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions*:

a. Any new emissions unit with a potential to emit exceeding two pounds per day,
b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or

d. Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

a. New emissions units – PE > 2 lb/day

As discussed in Section I above, there are no new emissions units associated with this project. Therefore BACT for new units with PE > 2 lb/day purposes is not triggered.

b. Relocation of emissions units – PE > 2 lb/day

As discussed in Section I above, there are no emissions units being relocated from one stationary source to another; therefore BACT is not triggered.

c. Modification of emissions units – AIPE > 2 lb/day

AIPE = PE2 – HAPE

Where,

AIPE = Adjusted Increase in Permitted Emissions, (lb/day)
PE2 = Post-Project Potential to Emit, (lb/day)
HAPE = Historically Adjusted Potential to Emit, (lb/day)

HAPE = PE1 x (EF2/EF1)

Where,

PE1 = The emissions unit's PE prior to modification or relocation, (lb/day)
EF2 = The emissions unit's permitted emission factor for the pollutant after modification or relocation. If EF2 is greater than EF1 then EF2/EF1 shall be set to 1
EF1 = The emissions unit's permitted emission factor for the pollutant before the modification or relocation

AIPE = PE2 – (PE1 * (EF2 / EF1))

<u>NOx:</u>

AIPE = 817.6 – (817.6 * (2.92/2.92))
= 817.6 – (817.6 * 1)
= 0.0 lb/day

As demonstrated above, the AIPE is not greater than 2.0 lb/day for NOx emissions. Therefore BACT is not triggered.

d. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 and VII.C.8 above, this project does not constitute an SB 288 and/or Federal Major Modification for NO_X emissions. Therefore BACT is not triggered for any pollutant.

B. Offsets

1. Offset Applicability

Offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The SSPE2 is compared to the offset thresholds in the following table.

Offset Determination (lb/year)	
	NO_X
SSPE2	84,451
Offset Thresholds	20,000
Offsets triggered?	Yes

2. Quantity of Offsets Required

As seen above, the facility is an existing Major Source for NO_X and the SSPE2 is greater than the offset thresholds. Therefore offset calculations will be required for this project.

The quantity of offsets in pounds per year for NO_X is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

Offsets Required (lb/year) = $(\Sigma[PE2 - BE] + ICCE) \times DOR$, for all new or modified emissions units in the project,

Where,
PE2 = Post Project Potential to Emit, (lb/year)
BE = Baseline Emissions, (lb/year)
ICCE = Increase in Cargo Carrier Emissions, (lb/year)
DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,

- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, Located at a Major Source.

otherwise,

BE = HAE

As calculated in Section VII.C.6 above, the BE from this unit are equal to the PE1 since the unit is a Clean Emissions Unit.

Also, there is only one emissions unit associated with this project and there are no increases in cargo carrier emissions. Therefore offsets can be determined as follows:

Offsets Required (lb/year) = ([PE2 – BE] + ICCE) x DOR

PE2 (NO_X) = 73,584 lb/year
BE (NO_X) = 73,584 lb/year
ICCE = 0 lb/year

Offsets Required (lb/year) = ([73,584 – 73,584] + 0) x DOR
= 0 lb NO_X/year

As demonstrated in the calculation above, the amount of offsets is zero. Therefore, offsets will not be required for this project.

C. Public Notification

1. Applicability

Public noticing is required for:
a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
c. Any project which results in the offset thresholds being surpassed, and/or
d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications

New Major Sources are new facilities, which are also Major Sources. Since this is not a new facility, public noticing is not required for this project for New Major Source purposes.

As demonstrated in Sections VII.C.7 and VII.C.8, this project does not constitute an SB 288 or Federal Major Modification; therefore, public noticing for SB 288 or Federal Major Modification purposes is not required.

b. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There are no new emissions units associated with this project. Therefore public noticing is not required for this project for PE > 100 lb/day.

c. Offset Threshold

The SSPE1 and SSPE2 are compared to the offset thresholds in the following table.

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO_X	84,451	84,451	20,000 lb/year	No

As detailed above, there were no thresholds surpassed with this project; therefore public noticing is not required for offset purposes.

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE = SSPE2 – SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table.

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO_x	84,451	84,451	0	20,000 lb/year	No

As demonstrated above, the SSIPEs for all pollutants were less than 20,000 lb/year; therefore public noticing for SSIPE purposes is not required.

2. Public Notice Action

As discussed above, this project will not result in emissions, for any pollutant, which would subject the project to any of the noticing requirements listed above. Therefore, public notice will not be required for this project.

D. Daily Emission Limits (DELs)

DELs and other enforceable conditions are required by Rule 2201 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the

maximum design capacity. The DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

For the purpose of stating a DEL on the permit, the total permit emissions are combined and expressed as one emission limit. See footnote for calculations.

Proposed Rule 2201 (DEL) Conditions; DELs include emissions from Nitric Acid Production, NSCR and Preheater:

- NOx emissions (expressed as NO2) shall not exceed 2.98 lbs/ton of 100% HNO3 on a three-hour average as determined by continuous monitor and recording equipment certified to 40 CFR 60, Appendix B Performance Specification 2. [District Rules 1080 and 2201, 40 CFR 60.72 (a), and 40 CFR 60.73][2]

- NOx emissions (expressed as NO2) shall not exceed 0.78 lbs/ton of 100% HNO3 on a 12 month rolling average as determined by continuous monitor and recording equipment certified to 40 CFR 60, Appendix B Performance Specification 2 and compliance testing conducted within 60 days of implementation of this Authority to Construct and at least once every twelve months thereafter utilizing USEPA Method 7. [District Rules 1080 and 2201][3]

- Nitric acid production shall not exceed 280 tons-100% HNO_3/day, calculated on a 12 month rolling average. [District Rule 2201]

- Daily emission rates from the nitric acid plant including the butane/natural gas-fired combustor (non-selective catalytic reduction system) and the natural gas-fired catalyst preheater shall not exceed any of the following limits: 0.006 lb-SOx/ ton-100% HNO_3, 0.13 lb-PM10/ ton-100% HNO_3, 52.7 lb-CO/ ton-100% HNO_3, or 3.19 lb-VOC/ ton-100% HNO_3. Compliance is demonstrated with the firing of approved fuels. [District Rule 2201]

[2] Total emissions = Converted Preheater Daily Emissions (lb/ton 100% HNO3) + Nitric Acid Production & NSCR Daily Emissions (lb/ton 100% HNO3)

Converted Preheater Daily Emissions = Daily Emissions (lb/day) ÷ 280 tons-HNO3/day

Pollutant	Preheater Daily Emissions (lb/day)	Converted Preheater Daily Emissions (lb/ton 100% HNO3)	Nitric Acid Production & NSCR Daily Emissions (lb/ton 100% HNO3)	Total Daily Emissions (lb/ton 100% HNO3)
NOx	16.5	0.059	2.92	2.98
SOx	0.5	0.0018	0.004	0.006
PM10	1.3	0.005	0.13	0.13
CO	13.8	0.049	52.7	52.7
VOC	0.9	0.0032	3.19	3.19

[3] Total emissions = Converted Preheater Annual Emissions (lb/ton 100% HNO3) + Nitric Acid Production & NSCR Annual Emissions (lb/ton 100% HNO3)

Converted Preheater Annual Emissions = Annual Emissions (lb/year) ÷ (280 tons-HNO3/day x 365 days/year)

Pollutant	Preheater Annual Emissions (lb/year)	Converted Preheater Annual Emissions (lb/ton 100% HNO3)	Nitric Acid Production & NSCR Daily Emissions (lb/ton 100% HNO3)	Total Daily Emissions (lb/ton 100% HNO3)
NOx	6,023	0.059	0.72	0.78

E. Compliance Assurance

1. Source Testing

Pursuant to District Policy APR 1705, since the most stringent emission limit is due to District Rule 2201, initial and annual source testing is required to measure the NOx concentrations controlled by the NSCR system. The following previously proposed conditions will be listed on the permit:

- NOx emissions (expressed as NO2) shall not exceed 2.98 lbs/ton of 100% HNO3 on a three-hour average as determined by continuous monitor and recording equipment certified to 40 CFR 60, Appendix B Performance Specification 2. [District Rules 1080 and 2201, 40 CFR 60.72 (a), and 40 CFR 60.73]

- NOx emissions (expressed as NO2) shall not exceed 0.78 lbs/ton of 100% HNO3 on a 12 month rolling average as determined by continuous monitor and recording equipment certified to 40 CFR 60, Appendix B Performance Specification 2 and compliance testing conducted within 60 days of implementation of this Authority to Construct and at least once every twelve months thereafter utilizing USEPA Method 7. [District Rules 1080 and 2201]

Since the emissions for SOx, PM10, CO, and VOC are solely from the combustion of clean fuels (i.e. natural gas and butane) and the emission factors are established from source test results including a margin of compliance, source testing is not required to ensure compliance with those limits.

2. Monitoring

The applicant currently uses a Continuous Emissions Monitoring System to monitor NOx. The following condition will included on the permit.

- The owner or operator shall certify, maintain, operate, and quality-assure a Continuous Emissions Monitoring System (CEMS) which continuously measures and records the exhaust gas NOx concentrations. The CEMS shall be capable of monitoring emissions during startups and shutdowns, as well as during normal operating conditions. [District Rules 1080 and 2201]

3. Recordkeeping

The permittee shall maintain records in accordance with Section 3.0 of District Rule 1070 as required by permit condition. Therefore, the following conditions will be included on the permit:

- The owner or operator shall maintain CEMS records that contain the following: the occurrence and duration of any start-up, shutdown or malfunction,

performance testing, evaluations, calibrations, checks, adjustments, maintenance, duration of any periods during which a continuous monitoring system or monitoring device is inoperative, and emissions measurements. [40 CFR 60.7(b) and District Rules 1070 and 1080]

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

- Permittee shall maintain records to demonstrate compliance with the 12 month rolling average NOx emission rate. [District Rule 1070]

4. Reporting

The facility is required to provide reports to the District. Therefore, the following conditions will be listed on each permit:

- The owner or operator shall submit a written report of CEM operations for each calendar quarter to the APCO. The report is due on the 30th day following the end of the calendar quarter and shall include the following: Time intervals, data and magnitude of excess NOx emissions, nature and the cause of excess (if known), corrective actions taken and preventative measures adopted; Averaging period used for data reporting corresponding to the averaging period specified in the emission test period and used to determine compliance with an emissions standard; Applicable time and date of each period during which the CEM was inoperative (monitor downtime), except for zero and span checks, and the nature of system repairs and adjustments; A negative declaration when no excess emissions occurred. [District Rule 1080]

Rule 2410 Prevention of Significant Deterioration

As shown in Section VII. C. 9. above, this project does not result in a new PSD major source or PSD major modification. No further discussion is required.

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. The proposed modification is a Minor Modification to the Title V Permit.

In accordance with Rule 2520, these modifications:

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;
2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;

3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
   a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and
   b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(I)(5) of the Federal Clean Air Act; and
5. Are not Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and
6. Do not seek to consolidate overlapping applicable requirements.

As discussed above, the facility has applied for a Certificate of Conformity (COC). Therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility may construct/operate under the ATC upon submittal of the Title V administrative amendment/minor modification application.

Rule 4001 New Source Performance Standards (NSPS)

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60. 40 CFR Part 60, Subpart G applies to Nitric Acid Plants (construction, modification or, reconstruction post-8/17/71 and pre 10/14/11) since the proposed equipment to be replaced is not considered a modification pursuant to 40 CFR Part 60, Subpart A.

Section 60.72(a)(1) and (2) require that any gases discharged into the atmosphere from the nitric acid plant shall not contain nitrogen oxides (NO2) in excess of 3.0 lb/ton of 100% nitric acid produced and shall not exhibit 10% opacity or greater. Compliance with these requirements is ensured by the following existing conditions:

- NOx emissions (expressed as NO2), excluding startup, shutdown and malfunction, shall not exceed 2.98 lbs/ton of 100% HNO3 on a three-hour average as determined by continuous monitor and recording equipment certified to 40 CFR 60, Appendix B Performance Specification 2. [District Rules 1080 and 2201, 40 CFR 60.72 (a), and 40 CFR 60.73]
- 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)]

Section 60.73(a) requires that a continuous monitoring system for measuring nitrogen oxides shall be installed, operated, and maintained. Compliance with these requirements is ensured by the following existing conditions:

- NOx emissions (expressed as NO2), excluding startup, shutdown and malfunction, shall not exceed 2.98 lbs/ton of 100% HNO3 on a three-hour average as determined by continuous monitor and recording equipment certified to 40 CFR 60, Appendix B Performance Specification 2. [District Rules 1080 and 2201, 40 CFR 60.72 (a), and 40 CFR 60.73]
- When the plant is in operation, the monitoring system shall perform a daily calibration drift test in accordance with 40 CFR 60.13d. [40 CFR 60.13 (d) and 60.73 (a)]

Section 60.73(b) requires the owner or operator to establish the conversion factor in order to convert monitoring data into unit of applicable standard. Compliance with this requirement is ensured by the following existing condition:

- 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)]

Section 60.73(c) requires that the daily production rate and hours of operation shall be recorded and kept for inspection. Compliance with this requirement is ensured by the following existing condition:

- Permittee shall record daily production rate and emission data. Records shall be retained and provided to the District upon request. [District Rule 2520, 9.4 and 40 CFR 60.73 (c)]

Section 60.73(e) defines the periods of excess emissions that shall be reported as any 3-hour period during which the average nitrogen oxides emissions (arithmetic average of three contiguous 1-hour periods) as measured by a continuous monitoring system that exceeds the standard under Section 60.72(a). Compliance with this requirement is ensured by the following existing condition:

- The owner or operator shall submit a written report of CEM operations for each calendar quarter to the APCO. The report is due on the 30th day following the end of the calendar quarter and shall include the following: Time intervals, data and magnitude of excess NOx emissions, nature and the cause of excess (if known), corrective actions taken and preventative measures adopted; Averaging period used for data reporting corresponding to the averaging period specified in the emission test period and used to determine compliance with an emissions standard; Applicable time and date of each period during which the CEM was inoperative (monitor downtime), except for zero and

span checks, and the nature of system repairs and adjustments; A negative declaration when no excess emissions occurred. [District Rule 1080 and 40 CFR 60.73(e)]

Compliance with this subpart is expected.

Rule 4002 National Emission Standards for Hazardous Air Pollutants (NESHAPs)

This rule incorporates NESHAPs from Part 61, Chapter I, Subchapter C, Title 40, CFR and the NESHAPs from Part 63, Chapter I, Subchapter C, Title 40, CFR; and applies to all sources of hazardous air pollution listed in 40 CFR Part 61 or 40 CFR Part 63. However, no subparts of 40 CFR Part 61 or 40 CFR Part 63 apply to nitric acid plants.

Rule 4101 Visible Emissions

Per Section 5.0, no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 or 20% opacity. The following condition is listed on the facility-wide permit to ensure compliance:

- {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]

Rule 4102 Nuisance

Rule 4102 states that no air contaminant shall be released into the atmosphere which causes a public nuisance. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, the following condition will is listed on the facility-wide permit to ensure compliance:

- {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

California Health & Safety Code 41700 (Health Risk Assessment)

District Policy APR 1905 – *Risk Management Policy for Permitting New and Modified Sources* specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

As demonstrated above, there are no increases in emissions associated with this project, therefore a health risk assessment is not necessary and no further risk analysis is required.

Rule 4201 Particulate Matter Concentration

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot.

Natural Gas Combustion:

F-Factor for NG: 8,578 dscf/MMBtu at 60 °F
PM10 Emission Factor: 0.0076 lb-PM10/MMBtu
Percentage of PM as PM10 in Exhaust: 100%
Exhaust Oxygen (O_2) Concentration: 3%
Excess Air Correction to F Factor = $\frac{20.9}{(20.9 - 3)} = 1.17$

$$GL = \left(\frac{0.0076\ lb - PM}{MMBtu} \times \frac{7{,}000\ grain}{lb - PM} \right) / \left(\frac{8{,}578\ ft^3}{MMBtu} \times 1.17 \right)$$

$$GL = 0.0053\ grain/dscf < 0.1\ grain/dscf$$

Butane Combustion:

5 lb-s/1000 gal per CARB Emissions Inventory Database for LPG/Propane-fired IC engines.

$$5\ \frac{lb - PM10}{1000\ gal} \times \frac{gal}{94{,}000\ Btu} \times \frac{453.6\ g}{lb} \times \frac{10^6\ Btu}{8{,}578\ dscf} \times \frac{15.43\ grain}{g} = 0.0433\ \frac{grain - PM}{dscf}$$

Therefore, compliance with District Rule 4201 requirements is expected and a permit condition will be listed on the permit as follows:

- {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

Rule 4801 - Sulfur Compounds

Section 3.1 states that a person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding a concentration of two-tenths (0.2) percent by volume calculated as sulfur dioxide (SO2) at the point of discharge on a dry basis averaged over 15 consecutive minutes.

Using the ideal gas equation and the emission factors presented in Section VII, the sulfur compound emissions are calculated as follows:

Volume $SO_2 = \frac{n\ RT}{P}$

With:

N = moles SO_2
T (Standard Temperature) = 60°F = 520°R
P (Standard Pressure) = 14.7 psi
R (Universal Gas Constant) = $\frac{10.73\ psi \cdot ft^3}{lb \cdot mol \cdot °R}$

Natural Gas Combustion:
EPA F-Factor for Natural Gas = 8,578 dscf/MMBtu at 60 °F

$$\frac{0.00285lb-SOx}{MMBtu}\times\frac{MMBtu}{8{,}578dscf}\times\frac{1lb\cdot mol}{64lb}\times\frac{10.73\,psi\cdot ft^3}{lb\cdot mol\cdot{}^\circ R}\times\frac{520^\circ R}{14.7\,psi}\times\frac{1{,}000{,}000\cdot parts}{million}=2.0\frac{parts}{million}$$

Sulfur Concentration = 2.0 ppmv < 2,000 ppmv (or 0.2%)

Butane Combustion:
0.35 lb-s/1000 gal per CARB Emissions Inventory Database for LPG/Propane-fired IC engines.

Fuel heating value: 94,000 Btu/gal (AP-42, Appendix A, pg. 5, dated 9/85)

$$0.35\quad\frac{lb-S}{1{,}000\,gal}\times\frac{1gal}{0.094\,MMBtu}\times\frac{1\,MMBtu}{8{,}578scf}\times\frac{lb-mol}{64lb-S}\times\frac{10.73\,psi-ft^3}{lb-mol-{}^\circ R}\times\frac{520^\circ R}{14.7\,psi}\times 1{,}000{,}000=\quad 2.57\quad ppmv$$

Therefore, compliance with District Rule 4801 requirements is expected.

California Health & Safety Code 42301.6 (School Notice)

The District has verified that this site is not located within 1,000 feet of a school. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is not required.

California Environmental Quality Act (CEQA)

CEQA requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The District adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities;
- Identify the ways that environmental damage can be avoided or significantly reduced;
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The District performed an Engineering Evaluation (this document) for the proposed project and determined that all project specific emission unit(s) are exempt from Best Available Control Technology (BACT) requirements. Furthermore, the District has

determined that potential emission increases would have a less than significant health impact on sensitive receptors.

Issuance of permits for emissions units not subject to BACT requirements and with health impact less than significant is a matter of ensuring conformity with applicable District rules and regulations and does not require discretionary judgment or deliberation. Thus, the District concludes that this permitting action constitutes a ministerial approval. Section 21080 of the Public Resources Code exempts from the application of CEQA those projects over which a public agency exercises only ministerial approval. Therefore, the District finds that this project is exempt from the provisions of CEQA.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Issue Authority to Construct permit C-705-3-19 subject to the permit conditions on the attached draft Authority to Construct permit in Appendix E.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
C-705-3-19	3020-02-G	6.87 MMBtu/hr Nitric Acid Plant*	$855.00

* Annual billing schedule is being revised since the current schedule utilizes a heat input rating for the waste heat boiler that utilizes heat generated from the process and does not burn fuel: pursuant to Rule 3020, schedule 2 is for fuel burning equipment. The only fuel burning equipment with a heat input rating is the preheater.

Appendices

A: Current PTO Permit
B: Clean Unit Determination
C: Major Modification Calculations
D: Process Flow Diagram
E: Draft ATC
F: Emission Profile

APPENDIX A

Current PTO Permit

CONDITIONS FOR PERMIT C-705-3-15

EXPIRATION DATE: 11/30/2014

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

INSPECT PROGRAM PARTICIPANT: NO

EQUIPMENT DESCRIPTION:
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 PREHEATER, 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, 4 NITRIC ACID STORAGE TANKS, TRUCK LOADING STATION, DRIP PAD SUMPS AND SCRUBBER

CONDITIONS

1. 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
2. NO2 emissions shall not exceed 180 ppm three-hour average as determined by continuous monitor and recording equipment certified to 40 CFR 60, Appendix B Performance Specification 2. [District Rules 1080 and 2201, 40 CFR 60.72 (a), and 40 CFR 60.73] Federally Enforceable Through Title V Permit
3. 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
4. Permittee shall record daily production rate 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
5. 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
6. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
7. 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
8. 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
9. 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
10. 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
11. 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

12. The continuous NOx 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

13. 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

14. 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

APPENDIX B

Clean Unit Determination

Clean Unit Determination

The facility provided data that demonstrates that the non-selective catalytic reduction (NSCR) system achieves a minimum control efficiency of 95% control. Simplot provided an expected emission rate from the existing nitric acid plant absorber which was obtained from the absorber's manufacturer, Weatherly, Inc. The expected emissions rate was simulated using Weatherly, Inc.'s proprietary software (the same software used to design new absorbers). The following operating parameters were used as inputs:

Production rate:	245 tons/day
Production concentration:	57.0% HNO_3
Cooling water temperature:	80°F
Chilled water temperature:	68°F
Absorber inlet pressure:	108 psig

The calculated tail gas NOx emissions from the absorber (provided by Weatherly, Inc.) that are being sent to the NSCR system = 1,587 ppm.

If the NSCR system has a minimum control efficiency of 95%, the CEMS measurements shall be less than 79.4 ppm for a throughput of 245 tons/day. A review of the CEMS data from the unit from January 2010 – June 2014 indicates that when operating at 245 tons/day, the NOx emissions are less than 79.4 ppm (see table below); therefore, the NSCR system is proven to have a minimum control efficiency of 95%.

Day	Uncontrolled NOx (ppm)	95% Controlled NOx Limit (ppm)	Actual 24-hr avg NOx as Measured by CEMS (ppm)	Production Rate (tons-HNO3/day)
8/6/2012	1,587	79.4	51.9	245
5/1/2012	1,587	79.4	46.8	245
7/22/2012	1,587	79.4	45.8	245
7/26/2012	1,587	79.4	36.8	245
10/6/2011	1,587	79.4	34.0	245
12/2/2012	1,587	79.4	27.9	245
7/8/2012	1,587	79.4	25.3	245
9/18/2011	1,587	79.4	24.4	245
2/6/2012	1,587	79.4	23.6	245
5/14/2011	1,587	79.4	21.4	245
5/31/2012	1,587	79.4	20.5	245
5/14/2012	1,587	79.4	19.4	245
6/21/2010	1,587	79.4	19.3	245
12/6/2011	1,587	79.4	19.2	245
5/24/2012	1,587	79.4	17.8	245
8/19/2011	1,587	79.4	17.1	245
9/26/2011	1,587	79.4	16.4	245
7/12/2013	1,587	79.4	15.6	245
11/3/2010	1,587	79.4	15.4	245

Day	Uncontrolled NOx (ppm)	95% Controlled NOx Limit (ppm)	Actual 24-hr avg NOx as Measured by CEMS (ppm)	Production Rate (tons-HNO3/day)
4/26/2011	1,587	79.4	11.1	245
8/2/2010	1,587	79.4	10.9	245
4/6/2011	1,587	79.4	10.9	245
5/18/2010	1,587	79.4	8.4	245
4/5/2013	1,587	79.4	8.0	245
6/8/2013	1,587	79.4	6.4	245
8/19/2013	1,587	79.4	5.7	245
8/15/2013	1,587	79.4	5.3	245
8/12/2013	1,587	79.4	5.1	245
9/16/2013	1,587	79.4	4.3	245
11/5/2013	1,587	79.4	3.0	245
6/9/2013	1,587	79.4	2.7	245
9/20/2013	1,587	79.4	2.7	245
10/7/2013	1,587	79.4	2.3	245

APPENDIX C

Major Modification Calculations

A. Assumptions

- Actual nitric acid production for baseline period = 82,414 tons/year (see Table C-12 in Attachment I)
- Projected nitric acid production = 89,425 tons100% HNO_3/year based off of an average production of 245 tons100% HNO_3/day. (see Table C-12 in Attachment I)
- Unused baseline capacity production = 94,438 tons100% HNO_3/year based off of the highest monthly throughput during the baseline period x 11.5 months (0.5 month allowed maintenance). (see Table C-12 in Attachment I)
- Catalyst preheater operates once every 10-12 weeks for 45-60 minutes. Conservatively, it is assumed that the preheater operation once every 12 weeks for 45 minutes, or conservatively 3 hours/year.

B. Emission Factors

Emission Factors for Nitric Acid Production		
Pollutant	lb/ton-100% HNO_3	Source
NO_X	0.36	Calculated from 2 years' worth of CEMS data provided by applicant in Table C-12 (see Attachment I)

Emission Factors for Natural Gas Combustion from Preheater		
Pollutant	lb/MMBtu	Source
NO_X	0.10	AP-42, Table 1.4-1 & -2 (7/98)

C. Calculations

I. Baseline Actual Emissions

The baseline actual emissions for the operation is calculated as follows, and summarized in the table below:

BAE = EF (lb/ton-100% HNO_3) * Actual Production (tons-100% HNO_3/year)

Baseline Actual Emissions from Nitric Acid Production			
	EF (lb/ton 100% HNO_3)	Actual Production (tons-100% HNO_3/year)	BAE (lb/year)
NO_X	0.36	82,414	29,669

BAE = EF (lb/MMBtu) * 6.87 MMBtu/hr * hrs/year

Baseline Actual Emissions from Natural Gas Combustion from Preheater				
	EF (lb/MMBtu)	Heat Input (MMBtu/hr)	Annual Operation (hrs/year)	BAE (lb/year)
NO_X	0.10	6.87	3	2

Total Baseline Actual Emissions	
	BAE (lb/year)
NO_X	29,671

II. Projected Actual Emissions

The projected actual emissions for the operation is calculated as follows, and summarized in the table below:

PAE = EF (lb/ton-100% HNO_3) * Projected Production (tons-100% HNO_3/year)

Projected Actual Emissions from Nitric Acid Production			
	EF (lb/ton 100% HNO_3)	Projected Production (tons-100% HNO_3/year)	PAE (lb/year)
NO_X	0.36	89,425	32,193

PAE = EF (lb/MMBtu) * 6.87 MMBtu/hr * hrs/year

Projected Actual Emissions from Natural Gas Combustion from Preheater				
	EF (lb/MMBtu)	Heat Input (MMBtu/hr)	Annual Operation (hrs/year)	PAE (lb/year)
NO_X	0.10	6.87	3	2

Total Projected Actual Emissions	
	PAE (lb/year)
NO_X	32,195

III. Unused Baseline Capacity

Unused baseline capacity is the portion of PAE that the emission units could have accommodated (CHA) during the baseline period.

The emissions the unit could have accommodated is calculated as follows, and summarized in the table below:

CHA = EF (lb/ton-100% HNO_3) * Production that could have been accommodated (tons-100% HNO_3/year)

CHA Emissions from Nitric Acid Production			
	EF (lb/ton 100% HNO_3)	CHA Production (tons-100% HNO_3/year)	PAE (lb/year)
NO_X	0.36	94,438	33,998

CHA = EF (lb/MMBtu) * 6.87 MMBtu/hr * hrs/year

CHA Emissions from Natural Gas Combustion from Preheater				
	EF (lb/MMBtu)	Heat Input (MMBtu/hr)	Annual Operation (hrs/year)	CHA (lb/year)
NO_X	0.10	6.87	3	2

Total CHA Emissions	
	CHA (lb/year)
NO_X	34,000

UBC = CHA - BAE

UBC Emissions from Nitric Acid Production			
	CHA (lb/year)	BAE (lb/year)	UBC (lb/year)
NO_X	34,000	29,671	4,329

Attachment I

Applicant Provided Data

Table C-12. NO_x BAE, CHA Emissions, and PAE for the Nitric Acid Plant

Month/ Year	Actual Throughput (ton 100% HNO_3/month)	Actual Operating Hours (hr/month)	Average NO_x Concentration[1] (ppm)	Average Air Flow Rate[2] (dscfm)	NO_x[3] (ton/month)	Emission Factor (lbs/ton 100% HNO_3)
Mar-11	8,212	744	14.51	18,925	0.74	0.18
Apr-11	7,070	670	12.78	16,883	0.56	0.16
May-11	7,664	744	25.68	17,662	1.23	0.32
Jun-11	5,573	545	24.72	14,588	0.97	0.35
Jul-11	7,304	744	30.12	16,832	1.37	0.38
Aug-11	7,031	712	28.18	16,388	1.28	0.36
Sep-11	6,325	635	25.87	15,904	1.02	0.32
Oct-11	3,664	366	19.02	8,879	0.73	0.40
Nov-11	6,002	603	29.29	14,799	0.92	0.31
Dec-11	7,968	744	32.59	18,363	1.62	0.41
Jan-12	7,932	744	25.64	18,280	1.23	0.31
Feb-12	6,885	658	16.20	17,130	0.67	0.20
Mar-12	7,967	744	32.43	18,360	1.61	0.40
Apr-12	7,259	688	39.97	17,427	1.86	0.51
May-12	7,593	734	26.12	17,743	1.22	0.32
Jun-12	6,610	647	25.29	16,766	1.07	0.32
Jul-12	7,494	734	32.24	17,515	1.50	0.40
Aug-12	6,983	744	61.38	16,093	2.66	0.76
Sep-12	6,744	696	43.77	16,060	1.83	0.56
Oct-12	2,941	298	13.02	8,547	0.53	0.36
Nov-12	7,471	713	16.84	17,945	0.73	0.21
Dec-12	7,599	696	27.57	18,044	1.37	0.36
Jan-13	7,914	715	31.74	18,364	1.54	0.39
Feb-13	6,623	607	23.87	17,158	1.03	0.32
BAE:	82,414 tpy				14.72 tpy	0.36
CHA[4]	94,438 tpy				16.95 tpy	0.36
PAE[5]	89,425 tpy				15.98 tpy	0.36

1. The Nitric Acid Plant features a CEMS unit that measures and records NO_x concentration. In this analysis, the daily 24-hour average NO_x concentration is used for calculation of NO_x emissions. A summary of the daily 24-hour average concentrations is depicted for illustrative purposes in this table in the form of monthly average NO_x concentrations.

2. The CEMS unit at the Nitric Acid Plant only measures NO_x concentration (ppm). For BAE, the air flow rate is estimated using daily 100% HNO_3 production data, scaled by the minimum "Flow to Production Ratio" as determined in Table C-11. In this analysis, a daily estimated air flow rate is used for calculation of NO_x emissions. A summary of the daily estimated flow rate is depicted for illustrative purposes in this table in the form of monthly average estimated air flow rates.

3. Monthly NO_x emissions are calculated as the sum of daily NO_x emissions. Daily NO_x emissions are calculated using the daily average NO_x concentration, the daily average air flow rate, daily hours of operation, and conversion factors at standard temperature (60 °F).

4. Per 51.21(b)(41)(ii)(c), increases in emissions shall exclude the portion of the units' emissions that an existing unit could have accommodated during the consecutive 24-month period. Therefore, this value is calculated as the highest throughput in any given month during the baseline period annualized assuming 11.5 months/year of nitric acid plant operation multiplied by the average emission factor during the baseline period. This methodology is consistent with the methodology outlined in the March 18, 2010 letter from Gregg M. Worley (US EPA Region 4) to Georgia-Pacific Wood Products LLC.

5. The proposed project does not increase the design capacity of the Nitric Acid Plant due to the remaining bottlenecks at the waste heat boiler, the air compressor, and the converter. As such, PAE are calculated based on a projected annual average production of 245 tons 100% Nitric Acid /day. This value is annualized to 89,425 tpy and is the projected maximum annual production of the nitric acid plant in any 12-month period within the five year timeframe following the date the unit resumes regular operation after the project, per 40 CFR 52.21(b)(41)(i). Please note that this value is separate and different from the potential throughput of the nitric acid plant. The projected NO_x emission factor is the average emission factor during the baseline period.

Table C-13. Pre-Project Potential Emissions

Attachment II

Source Test

J.R. SIMPLOT COMPANY

Helm, CA

Engineering Emissions Test Report

Nitric Acid Plant
Particulate Matter, SO_2, NH_3, CO & VOC Outlet &
Pre-Combustor NOx-Emission Results

Test Date(s): November 15, 2005 & March 1, 2006
Report Date: April 20, 2006

Performed and Reported by:

BEST ENVIRONMENTAL (BE)
6261 Southfront Road
Livermore, CA 94551
Phone: (925) 455-9474
Fax: (925) 455-9479

Prepared For:

J.R. Simplot Company
12688 S. Colorado Ave
Helm, CA 93627
Attn: Keith Gaines

REVIEW AND CERTIFICATION

Team Leader

The work performed herein was conducted under my supervision, and I certify that the details and results contained within this report are to the best of my knowledge an authentic and accurate representation of the test program. If this report is submitted for Compliance purposes it should only be reproduced in its entirety. If there are any questions concerning this report, please call the Team Leader or Reviewer at (925) 455-9474

Bobby Asfour
Project Manager

Reviewer.

I have reviewed this report for presentation and accuracy of content, and hereby certify that to the best of my knowledge the information is complete and correct.

Regan Best
Source Test Manager

TABLE of CONTENTS

SECTION 1. INTRODUCTION

1.1. Test Purpose

Best Environmental was contracted by J.R. Simplot Company to perform Particulate Matter (PM), Sulfur Dioxide (SO_2), Ammonia (NH_3), Carbon Monoxide (CO), Volatile Organic Compounds (VOC) at the outlet and pre-combustor Nitrogen Oxide (NOx) emissions testing on Acid Plant Outlet for engineering purposes. The test results for J.R. Simplot's Acid Plant test program are presented in Table 2-1.

1.2. Test Location, Type of Process

The testing was conducted on the exhaust outlet and Combustor Inlet of the Nitric Acid Plant located at J.R. Simplot Company, 12688 S. Colorado Ave, Helm, CA.

The Nitric Acid (HNO_3) plant produces Nitric Acid used in the production of various industrial and commercial products.

1.3. Test Date(s)

Testing was conducted on November 15, 2005 & March 1, 2006

1.4. Pollutants Tested

The following emission parameters were measured:

Parameter	Monitoring & Analytical Protocols
Volumetric Flow Rate	EPA Methods 1-4
Total Particulate	EPA Method 5
NOx, CO, O_2 & CO_2	EPA Methods 7E, 10 & 3A
THC, CH_4 & VOC	CARB Method 100
SO_2	EPA Method 6
NH_3	BAAQMD Method ST-1B

1.5. Sampling and Observing Personnel

Sampling was performed by Bobby Asfour and Jeff Mesloh of BEST ENVIRONMENTAL (BE).

1.6. Other Important Background Information

The Nitric Acid Plant was tested in November 2005 for compliance emissions testing. The PM, SO_2, CO & VOC sampling was performed during this testing.

SECTION 2. SUMMARY OF RESULTS

2.1. Emission Results

Table 2.1:
CO, VOC, SO_2, NH_3 & Pre-combustor NOx-SUMMARY TABLE

Parameter	Average	Test Date
Pre-combustor NOx, ppm	1,090.31	3/1/06
CO, ppm	2,760.14	11/15/05
SO_2, ppm	<0.1	11/15/05
VOC, ppm	291.92	11/15/05
NH_3, ppm	447.62	3/1/06
Total Particulate Matter, gr/dscf	0.0034	11/15/05

A more extensive summary of the emissions is presented in Tables 1-3 following the text.

2.2. Description of Collected Samples

Following testing samples are recovered and/or sealed onsite and placed into pre-labeled containers for shipment. The Front Half particulate filter holders were sealed and recovered at the BE laboratory. The particulate probe was rinsed on site following each run and recovered into the appropriate labeled containers. The Method 5 impinger samples were also recovered onsite

A Chain of Custody (COC) was filled out for all samples to ensure proper handling and analysis.

2.3. Comments: Discussion of Quality Assurance and Errors

Quality assurance procedures listed in the above referenced test methods and referenced in the Source Test Plan are performed and documented. The QA/QC procedures are described in Section 4.4 of the report. Documentation of the QA/QC is provided in Appendix A, E & F.

The NOx analyzer experienced an interference at the pre-combustor. A concentration of ~3,500ppm was read, however when the sample was read as NO then a concentration of 1,100ppm was found. BE believes this to be an interference as the NO_2 converter was contaminated following the testing. The converter required cleaning prior to the next use.

A methane interference at the outlet was found as the analyzer's methane cutter quickly became contaminated and could not be used to measure methane. Activated charcoal was used to remove VOC and measure only methane. the charcoal removed over 90% of the sample showing only 20 to 30 ppm of methane. However due to the poisoning affect of the sample gas, methane could not be accurately measured and was not subtracted from THC. All THC is assumed as VOC.

SECTION 3. SOURCE OPERATION

3.1. Process Description

J.R. Simplot produces Nitric Acid (HNO_3) at their Helm, California facility. The HNO_3 plant produces Nitric Acid used in the production of various industrial and commercial products. The 50.3 MMBtu/hr nitric acid plant consists of a steam turbine, air compressor, tailgas expander, ammonia vaporizer, superheater, NH_3 to NO converter, tailgas heater, NO to HNO_3 absorber, and NO_2 to N_2 combustor for emissions control. Process and Control Equipment Flow Diagram.

A digital image of the sampling locations can be found in Appendix G of the report

3.2. Process and control Device Operating Parameters During the Test as Compared to Normal Operations

The Plant was operating normally during the test series'. On November 15, 2005 the Production Rate was 10.3 Tons per Hour. On March 1, 2006 the production rate was 9.9 Tons per Hour

3.3. Testing or Process Interruptions and Changes

There were no process interruptions during the testing.

SECTION 4. SAMPLING AND ANALYSIS PROCEDURES

4.1. Port location

Emissions from the exhaust outlet were sampled through two 3-inch ports on the circular stack, the ports are located >8 stack diameters downstream and >2 stack diameters upstream from the nearest disturbance. Access to the ports was provided by the platform on top of the baghouse. A ¾" stainless steal tube leading down from the combustor inlet duct at ground level was used to access the pre-combustor NOx Emissions.

The dimensional cross section of the outlet stack is 29-inches (Area SQFT = 4.587)

4.2. Point description/Labeling – ports/stack

The ports were not labeled but were designated as facing Northwest and Southwest. 12-points were selected to be used for particulate sampling according to EPA Method 1, 6 per port. The first CEM run included a 16-point traverse check (eight per port). Stratification was not found, therefore the CEM Probe was designated at a single point for the remainder of the testing at the outlet.

4.3. Brief Description of Sampling Procedures, with Discussion of Deviations from Standard Methods

The purpose of the test program was to evaluate the PM, CO, SO_2, NH_3 and VOC emissions of a nitric acid plant outlet as well as the pre-combustor NOx concentration. Triplicate tests were performed using EPA Methods 1-5, 7E, 10, 3A, 6, CARB Method 100 and BAAQMD Method ST-1B. Each test run was performed at the plants normal production rate

Stack temp, moisture and flow rate (EPA 1-4) were determined as part of the Particulate (EPA 5) sampling train on November 15, 2006 and also for the volumetric flow rate on March 1, 2006. These results were used to determine the emission rates and emission factors at the outlet.

All calculations can be found on Tables 1 & 2 and in Appendix A

There were no deviations from the reference standard methods

4.4. Brief Description of Analytical Procedures, with discussions of Deviations from Standard Methods

Sampling and analytical procedures of the EPA< CARB & BAAQMD Methods are followed as published in the "Quality Assurance Handbook for Air Pollution Measurement Systems" Volume III, US EPA 600/4-77-027b. There were no deviations from the original proposed standard methods.

The following is an overview of the Testing Performed

Parameter	Location	Method(s)	Duration	# of Runs
NO_x, CO, O_2 & CO_2	Exhaust	EPA Methods 7E, 10 & 3A	30 mins	3
THC, CH_4 & VOC	Exhaust	CARB Method 100	30 mins	3
SO_2	Exhaust	EPA Method 6	30 mins	3
NH_3	Exhaust	BAAQMD Method ST-1B	30 mins	3
Flow Rate, DSCFM	Exhaust	EPA Methods 1-4	60 mins	3
PM_{10}	Exhaust	EPA Method 5/202	60 mins	3

EPA Method 1. This method is used to determine the duct of stack area and appropriate traverse points that represent equal areas of the duct for sampling and velocity measurements. The point selection is made based on the type of test (particulate or velocity), the stack diameter and port location distance from flow disturbance.

EPA Method 2 is used to determine stack gas velocity using a standard or S-type pitot tube and inclined manometer or magnahelic. Temperature is monitored using a K-type thermocouple and calibrated Omega temperature meter. Leak checks are performed before and after each traverse to validate the results. Thermometer calibrations are performed using an Omega Model CL-300 calibrator. Geometric calibrations of S-type pitots are performed and records are submitted with the report.

EPA Method 3 is used to determine the molecular weight of the stack gas. The $\%O_2$ and $\%CO_2$ concentrations are used and are measured with EPA Method 3A.

EPA Method 4 is used to determine the moisture content in the gas stream by extracting a sample and condensing the moisture in the impingers and the silica gel trap of the Method 5 sample trains. The moisture gained is determined volumetrically and gravimetrically. Results are recorded on the field data sheet. A sample is pulled using a leak tight pump. Volume is measured with a calibrated dry gas meter. Pre-and post-test leak checks are performed for each run.

EPA Method 5/202 is used to determine the filterable and condensable Particulate emissions. The sampling equipment consists of a stainless steal nozzle, a BE constructed heated stainless steal probe w/stainless steal liner, heated filter box and filter holder with glass fiber filter followed by a Teflon line and umbilical to four Greenburg-Smith impingers, a pump and a meter control module. The first, second and third impingers are filled with 100 mL of DI water. A fourth impinger is left empty and the fifth impinger contains silica gel desiccant to dry the gas before entering the pump and gas meter. The entire system must be leak free before pulling stack gas though at a rate suitable for the stack flow rate. Following the testing, the samples are collected and sent to the BE laboratory for analysis. Filterable particulate is determined gravimetrically from the probe/nozzle acetone rinse and filter, following evaporation and desiccation of these fractions. Condensable gaseous particulate emissions that pass through the filter (rated at 99.95% efficient for 0.3μm particulates) are collected and recovered from the sample line and back-half of the filter holder and from the first three impingers containing de-ionized water. The organic condensable particulate fraction is separated from the inorganic (aqueous) fraction using a dichloromethane rinse, which is evaporated in a beaker, desiccated and weighed. The remaining aqueous fraction is also evaporated, desiccated and weighed to determine the inorganic condensable particulate fraction.

Sampling QA/QC consists of pitot leak checks per EPA Method 2. Sampling system leak checks are performed before and after each test run. The sampling system leak checks are performed per EPA Method 4. The impingers are kept in ice to maintain the temperature of the gas exiting the last impinger to

below 68°F. No silicone grease is used in the components of the sampling train. The dry gas meter, pitot, thermocouples, gauges and nozzles are all calibrated according to the methods and with a frequency of between 6 to 12 months as specified in EPA QA/QC Volume VI, Table 3. Nozzles are calibrated to within 0.001" diameter and are inspected for damage prior to each test. Reagent blanks are collected using the same lot reagents, same proportions and techniques as the test samples. Analytical QA/QC consisted of a reagent blank. All gravimetric work is performed on calibrated analytical balances.

EPA Method 6 is used to determine the emissions of SO_2. The sampling equipment consists of a stainless steel or glass probe assembly, followed by Teflon® line and umbilical to one Greenburg-Smith Gel Impinger/Moisture Trap, a pump and a meter control module. The sampling is performed non-isokinetically. All mandatory data is recorded on a BE data sheet. SO_3/H_2SO_4 gaseous emissions are collected and recovered from the sample line and first impinger (containing 80% IPA). At the end of the test the IPA are discarded. The H_2O_2 impinger contents are recovered for SO_2 analysis and the fourth impinger is used to dry the gas before the meter and determine the moisture gain. Sampling system leak checks are performed before and after each test run. The impinger solutions are analyzed using the barium-thorin titration method.

Ammonia by BAAQMD Method ST-1B. This method was used to determine the ammonia content in the gas stream by extracting a sample via a Teflon® or stainless steel probe and condensing/adsorbing the ammonia in two Greenburg-Smith impingers containing 200ml of 0.1N HCl, followed by an empty knock-out impinger and a fourth impinger containing 200g of pre-weighed silica gel. The moisture gained is determined volumetrically and gravimetrically. A minimum of 20 cubic feet of sample is pulled using a leak tight pump and sampling assembly and the volume is measured with a calibrated dry gas meter. Ammonia is determined at the laboratory by analysis using specific Ion Electrode. Results are recorded on the field data sheet. Sampling QA/QC consists of performing sampling system leak checks before and after each test run. Reagent blanks were collected onsite. All the sampling equipment is calibrated according to CARB schedules and documentation is included in the report. Analytical QA/QC consisted of a reagent blank, and laboratory blanks, and duplicates.

EPA Method 7E, 10 & 3A are all continuous monitoring techniques using instrumental analyzers. Sampling is performed by extracting exhaust flue gas from the stack, conditioning the sample and analyzing the flue gas using continuous monitoring gas analyzers in a CEM test van. The sampling system consists of a stainless steel sample probe, Teflon sample line, glass-fiber particulate filter, glass moisture-knockout condensers in ice, Teflon sample transfer tubing, diaphragm pump and a stainless steel/Teflon manifold and flow control/delivery system. A constant sample and calibration gas supply pressure of 5 PSI is provided to each analyzer to avoid pressure variable response differences. The entire sampling system is leak checked prior to and at the end of the sampling program.

The BE sampling and analytical system is checked for linearity with zero, mid and high level span calibration gases, and is checked for system bias at the beginning of the test day. System bias is determined by pulling calibration gas through the entire sampling system. Individual test run calibrations uses the calibration gas, which most closely matches the stack gas effluent. The calibration gases are selected to fall approximately within the following instrument ranges: 80 to 95 percent for the high calibration, 40 to 60 percent for the mid range and zero. Zero and calibration drift values are determined for each test.

All BE calibration gases are EPA Protocol # 1. The analyzer data recording system consists of Hewlett Packard Model 7132 dual channel or Omega 3 channel strip chart recorders, which can be supported by BE's Data Acquisition System (DAS). The NO_2 converter is checked and confirmed to be > 90% efficient. NO was sampled during the third run of each test series for the determination of the stack gas NO_2. Those results could be found on Tables 1 & 3.

System Criteria

Instrument Linearity	≤2% Full Scale
Instrument Bias	≤5% Full Scale

Test Criteria

Instrument Zero Drift	<3% Full Scale
Instrument Span Drift	<3% Full Scale
NO_2 Converter Efficiency	≥90%

The following continuous monitoring analyzers were used:

Parameter	Make	Model	Principle
NO_x	TECO	10S	Chemiluminescence
CO	TECO	48C	GFC IR analyzer
CO_2	Summit	7021D	IR
O_2	Siemens	5F	Paramagnetic
VOC	CAI	300M	FID

CARB Method 100 (THC as methane by FID) is an accepted method for the determination of THC. A flame ionization detector (FID) total hydrocarbon continuous monitor is used for the sampling. The sampling and calibrations are performed externally through an all heated sample line. The FID analyzer is heated to 175 °C. The calibration gases are selected to fall within the following instrument ranges. 80 to 90 percent for the high calibration, 45 to 55 percent for the mid range calibration and zero. Zero and mid external calibration drift values are determined for each test run. In this case an activated charcoal tube and/or a CH_4 methane cutter heated to ~280°C may be used for the testing. At this temperature, all VOC's are destroyed and methane is allowed to pass freely. During each run methane can be measured and used to subtract from the THC concentration to determine VOC.

The following Tables present the tabulated data for each parameter tested. Manually measured flow rates were used for the all emission rate and factor calculations. All calculations can be found below each table and in Appendix A.

TABLE #1
JR Simplot-Helm
Nitric Acid Plant
Pre-Combustor NOx Emissions

TEST	1	2	3	AVG	LIMIT
Test Location	Outlet	Outlet	Outlet		
Test Date	3/1/06	3/2/06	3/1/06		
Test Start Time	13:43	14:46	15:46		
Standard Temp., °F	60	60	60		
O_2, %	2.45	2.45	2.48	2.46	
CO_2, %	2.00	1.97	1.97	1.98	
NOx, ppm	1078.60	1054.86	1137.47	1090.31	

WHERE:

DSCFM = Dry Standard Cubic Feet Per Minute

ppm = Parts Per Million Concentration

MW = Molecular Weight

CO = Carbon Monoxide (MW = 28)

NOx = Oxides of Nitrogen as NO_2 (MW = 46)

lbs/hr = pounds per hour emission rate

lbs/day = pounds per day emission rate

lbs/MMBtu = Pounds per million Btu emission factor

CALCULATIONS:

% FGR = (Tw - Ta) / (Ts - Ta); * 100

lbs/hr = ppm * DSCFM * MW * 60 / 379 x 10^6

lbs/day = lbs/hr * 24

ppm @ 3% O_2 = ppm * 17.9 / (20.9-stack O_2)

lbs/MMBtu = Fd * M.W.* ppm * 2.59E-9 * (20.9/(20.9-%O_2))

Fd = 8710

TABLE #2

NH_3, CO & TNMHC Emission Results

JR Simplot-Helm

Nitric Acid Plant (C-705-3-3)

Normal Load

TEST	1	2	4	AVERAGE	LIMIT
Test Location	Outlet	Outlet	Outlet		
Test Date	11/15/05	11/15/05	11/15/05		
Test Start Time	10:36	11:16	11:55		
Standard Temp., °F	60	60	60		
Flow Rate, DSCFM	22,376	22,158	22,115	22,216	
O_2, %	0.50	0.48	0.39	0.46	
NH_3, ppm 3/1/06	439.29	454.92	457.64	447.62	
CO, ppm	2708.78	2709.42	2862.23	2760.14	
CO, ppm @ 15% O_2	783.46	782.71	823.46	796.55	
CO, lbs/hr	268.375	265.822	280.270	271.489	
CO, lbs/day	6440.99	6379.73	6726.48	6515.74	
TNMHC, ppm	292.90	284.78	298.08	291.92	
TNMHC, ppm @ 15% O_2	84.72	82.27	85.76	84.25	
TNMHC, lbs/hr	16.583	15.965	16.679	16.409	
TNMHC, lbs/day	397.98	383.17	400.29	393.82	

WHERE:

CO = Carbon Monoxide (MW = 28)

O_2 = Oxygen

ppm = Parts Per Million Concentration

DSCFM = Dry Standard Cubic Feet per Minute

lbs/hr = Pound Per Hour Emission Rate

Std. = Standard Temp., °R = °F + 460

TNMHC = Total Non-methane Hydrocarbons as CH_4 (MW = 16)

TABLE #3

J.R. Simplot-Helm

SO_2 & Total Particulate Emission Results

Nitric Acid Plant

C-705-3-3

RUN #	1	2	3	AVERAGE	LIMITS
TEST DATE	11/15/05	11/15/05	11/15/05		
TEST TIME	1050-1155	1252-1358	1431-1546		
SAMPLE VOLUME (DSCF)	39.883	37.539	37.861		
ISOKINETIC (%)	98.7	95.2	96.1		
DUCT TEMP., (°F)	356.3	355.9	356.9	356.4	
VELOCITY (ft/sec)	129.66	127.81	128.05	128.51	
FLOW RATE (ACFM)	35,685	35,176	35,406	35,422	
FLOW RATE (DSCFM)	22,375	22,158	22,135	22,216	
H_2O (volume %)	2.59	1.46	1.92	1.82	
O_2 (volume %)	0.48	0.43	0.42	0.43	
CO_2 (volume %)	1.78	1.77	1.80	1.79	
SO_2 (ppm)	<0.09	<0.11	<0.11	**<0.10**	**2000**
SO_2 (lbs/hr)	<0.021	<0.024	<0.024	<0.023	
F.H. Particulate Conc. (gr/DSCF)	0.0029	0.0019	0.0009	0.0019	
F.H. Particulate Emissions (Lbs/hr)	0.55	0.35	0.17	0.36	
Organic Particulate Conc. (gr/DSCF)	0.0008	0.0004	0.0003	0.0005	
Organic Particulate Emissions (Lbs/hr)	0.15	0.07	0.05	0.09	
Inorganic Particulate Conc. (gr/DSCF)	0.0020	0.0006	0.0005	0.0010	
Inorganic Particulate Emissions (Lbs/hr)	0.37	0.11	0.09	0.19	
Tot. Particulate Conc. (gr/DSCF)	0.0056	0.0028	0.0017	**0.0034**	**0.1000**
Tot. Particulate Emissions (Lbs/hr)	1.0749	0.5339	0.3190	0.6425	
Tot. Particulate Emissions (Lbs/day)	25.7987	12.8142	7.6559	15.4196	

WHERE

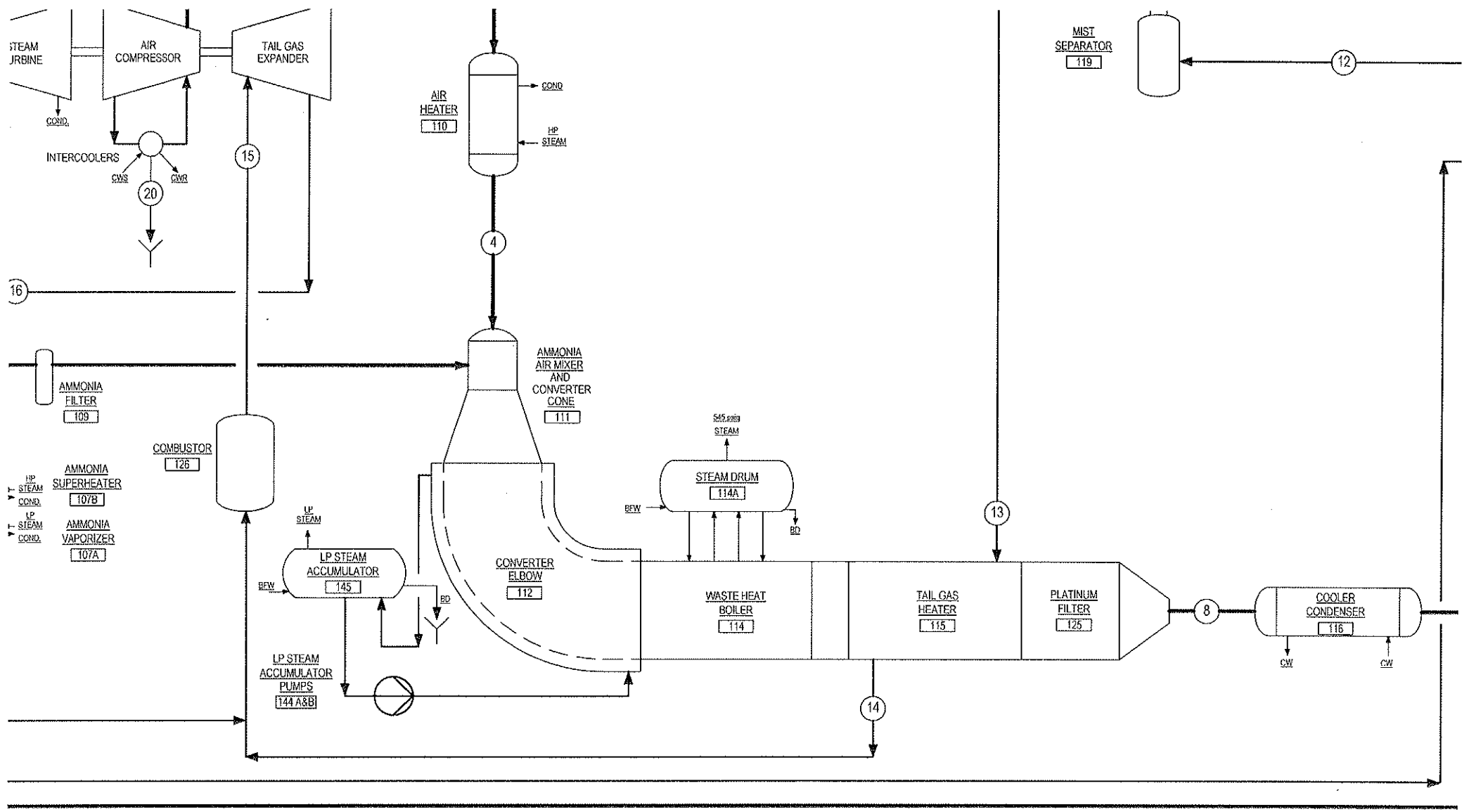
DSCF = Sample Volume in Dry Standard Cubic Feet
ACFM = Actual Cubic Feet per Minute
DSCFM = Dry Standard Cubic Feet per Minute
H_2O, volume % = Stack gas percent water vapor
MW = Molecular Weight
SO_2 = Sulfur Dioxide (MW = 64.1)
gr/DSCF = Particulate concentration in grains per DSCF
F.H. Particulate = Filterable Particulate
Organic Particulate = Condensable Organic Particulate (solvent extract)
Inorganic Particulate = Condensable Inorganic Particulate (Acids & Sulfates)
TPH = Tons per Hour

CALCULATIONS

Lbs/hr Emission Rate (gaseous) = ppm * DSCFM * MW * 60 / 379 * 10^6
Lbs/hr Emission Rate (Particulate) = 0.00857 * gr/DSCF * DSCFM
Lbs/ton Emission Factor = lbs/hr / TPH
Emission Rate, lbs/day = lbs/hr * 24
Emission Rate, tons/year = [(lbs/ton) * (tons/year limit)] / 2000

APPENDIX D

Process Flow Diagram



3		4		5		6		7		8		9		10		11	
Process		Process		Bleach		Liquid		Vapor		Process		Process		Product		Weak	
Air		Air		Air		Ammonia		Ammonia		Gas		Gas		Acid		Acid	
mol/h	lb/h	lb-mol/h	lb/h	lb-mol/h	lb/h	lb-mol/h	lb/h	lb-mol/h	lb/h	lb-mol/h	lb/h	lb-mol/h	lb/h	lb-mol/h	lb/h	lb-mol/h	lb/h
730.4	23373	684.0	21888	46.4	1485					165.1	5282.4	111.5	3569				
2747.8	76976	2573.2	72084	174.6	4892					2591.4	72594	2591.4	72594				
										327.6	12457	225.2	8636	0.2	11	5.0	228
												578.4	10420	324.0	20417	118.3	7455
87.4	1574	81.8	1474	5.6	100	1.7	31	1.7	31	629.7	11343	102.5	6459	854.4	15391	620.6	11181
						364.1	6201	364.1	6201								
3565.6	101923	3339.0	95446	226.6	6477	365.8	6232	365.8	6232	3713.8	101678	3609.0	101678	1178.6	35819	743.9	18864
380		450		250		77		345		524		126		140		100	
115		113		114		200		190		109		104		104		140	

14	15	16	17	18	19	20	
Tail	Tail	Tail	Tail	Butane	Absorber	Condensate	
Gas	Gas	Gas	Gas		FW		

Issue	Date	

NOTICE

THIS DRAWING SHALL NOT BE USED FOR CONSTRUCTION PURPOSES UNLESS IT IS APPROPRIATELY SIGNED AND DATED BELOW

APPENDIX E

Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: C-705-3-19

ISSUANCE DATE: DRAFT

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 NITRIC ACID PLANT CONSISTS OF: ONE AMMONIA VAPORIZER WITH SUPERHEATER, ONE NH3 TO NO CONVERTER, ONE WASTE HEAT BOILER, ONE TAIL GAS PREHEATER, 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/NATURAL GAS FIRED COMBUSTOR FOR EMISSIONS, 4 NITRIC ACID STORAGE TANKS, TRUCK LOADING STATION, DRIP PAD SUMPS AND SCRUBBER: REPLACE ABSORPTION TOWER WITH A BUBBLE CAP DESIGN ABSORPTION TOWER AND COOLING CONDENSER WITH LIKE-KIND

CONDITIONS

1. {1830} 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. {1831} 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. Permittee shall comply with all applicable source sampling requirements of District Rule 1081. [District Rule 1081] 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

Arnaud Marjollet, Director of Permit Services

C-705-3-19 : Sep 3 2015 2:52PM -- GARCIAJ : Joint Inspection NOT Required

5. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx analyzer during District inspections. [District Rule 1081] Federally Enforceable Through Title V Permit

6. NOx emissions (expressed as NO2), excluding startup, shutdown and malfunction, shall not exceed 2.98 lbs/ton of 100% HNO3 on a three-hour average as determined by continuous monitor and recording equipment certified to 40 CFR 60, Appendix B Performance Specification 2. [District Rules 1080 and 2201, 40 CFR 60.72 (a), and 40 CFR 60.73] Federally Enforceable Through Title V Permit

7. Total NOx emissions from this permit unit shall not exceed 834.4 lbs/day. [District Rule 2201] Federally Enforceable Through Title V Permit

8. NOx emissions (expressed as NO2) shall not exceed 0.78 lbs/ton of 100% HNO3 on a 12 month rolling average as determined by continuous monitor and recording equipment certified to 40 CFR 60, Appendix B Performance Specification 2 and compliance testing conducted within 60 days of implementation of this Authority to Construct and at least once every twelve months thereafter utilizing USEPA Method 7. [District Rules 1080 and 2201] Federally Enforceable Through Title V Permit

9. Nitric acid production shall not exceed 280 tons-100% HNO3/day, calculated on a 12 month rolling average. [District Rule 2201] Federally Enforceable Through Title V Permit

10. Daily emission rates from the nitric acid plant including the butane/natural gas-fired combustor (non-selective catalytic reduction system) and the natural gas-fired catalyst preheater shall not exceed any of the following limits: 0.006 lb-SOx/ ton-100% HNO3, 0.13 lb-PM10/ ton-100% HNO3, 52.7 lb-CO/ ton-100% HNO3, or 3.19 lb-VOC/ ton-100% HNO3. Compliance shall be demonstrated with the firing of approved fuels. [District Rule 2201] Federally Enforceable Through Title V Permit

11. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit

12. 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

13. 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

14. 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

15. Compliance demonstration (source testing) shall be witnessed or authorized by the District and the samples shall be collected by a California Air Resources Board certified testing laboratory. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. The results of each source test shall be submitted to the District within 60 days of source testing. [District Rule 1081] Federally Enforceable Through Title V Permit

16. The owner or operator shall certify, maintain, operate, and quality-assure a Continuous Emissions Monitoring System (CEMS) which continuously measures and records the exhaust gas NOx concentrations. The CEMS shall be capable of monitoring emissions during startups and shutdowns, as well as during normal operating conditions. [District Rules 1080 and 2201] Federally Enforceable Through Title V Permit

17. The continuous NOx monitor shall meet the applicable performance specification requirements in 40 CFR 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

18. When the plant is in operation, the monitoring system shall perform a daily calibration drift test in accordance with 40 CFR 60.13d. [40 CFR 60.13 (d) and 60.73 (a)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

19. When the plant is operating, the CEMS shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. [40 CFR 60.13(e)(2) and District Rule 1080] Federally Enforceable Through Title V Permit

20. The NOx CEMS shall meet the requirements in 40 CFR Part 60, Appendix B Performance Specification 2. [District Rule 1080] Federally Enforceable Through Title V Permit

21. The owner/operator shall perform a relative accuracy test as specified by 40 CFR Part 60, Appendix B, at least once every four calendar quarters. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix B. [District Rule 1080] Federally Enforceable Through Title V Permit

22. The facility shall maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit

23. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit

24. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. this summary shall be in the form and the manner prescribed by the APCO. [District Rule 1080] Federally Enforceable Through Title V Permit

25. The owner or operator shall submit a written report of CEM operations for each calendar quarter to the APCO. The report is due on the 30th day following the end of the calendar quarter and shall include the following: Time intervals, data and magnitude of excess NOx emissions, nature and the cause of excess (if known), corrective actions taken and preventative measures adopted; Averaging period used for data reporting corresponding to the averaging period specified in the emission test period and used to determine compliance with an emissions standard; Applicable time and date of each period during which the CEM was inoperative (monitor downtime), except for zero and span checks, and the nature of system repairs and adjustments; A negative declaration when no excess emissions occurred. [District Rule 1080] Federally Enforceable Through Title V Permit

26. 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

27. 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. Such a notice is not required for any maintenance or QA/QC activity on the system if the operator expects the down time to be less than four hours, but the operator must still report these periods in their quarterly report. [District Rule 1080] Federally Enforceable Through Title V Permit

28. APCO or an authorized representative shall be allowed to inspect, as determined to be necessary, the required monitoring devices to ensure that such devices are functioning properly. [District Rule 1080] Federally Enforceable Through Title V Permit

29. The owner or operator shall maintain CEMS records that contain the following: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance, duration of any periods during which a continuous monitoring system or monitoring device is inoperative, and emissions measurements. [40 CFR 60.7(b) and District Rules 1070 and 1080] Federally Enforceable Through Title V Permit

30. 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

31. Permittee shall record daily production rate 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

32. Permittee shall maintain records to demonstrate compliance with the total daily NOx emission limit and the 12 month rolling average NOx emission rate. [District Rule 1070] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. Records of the visible emissions 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

APPENDIX F

Emission Profile

Application Emissions

Permit #: C-705-3-19	**Last Updated**
Facility: J R SIMPLOT COMPANY	09/01/2015 GARCIAJ

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	79607.0	585.0	13761.0	5390977.0	326347.0
Daily Emis. Limit (lb/Day)	554.1	1.6	37.7	14769.8	894.1
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					