

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT

1947 Galileo Court, Suite 103; Davis, CA 95618

Emission Evaluation and Statement of Basis Addendum

ENGINEER:	Kyle Rohlfing	<table border="1" style="margin-left: auto; margin-right: 0;"> <tr> <td>ATC #</td> <td>C-12-128</td> </tr> <tr> <td>SIC Code #</td> <td>2873</td> </tr> <tr> <td>UTM E</td> <td>624.0 km</td> </tr> <tr> <td>UTM N</td> <td>4268.8 km</td> </tr> </table>	ATC #	C-12-128	SIC Code #	2873	UTM E	624.0 km	UTM N	4268.8 km
ATC #	C-12-128									
SIC Code #	2873									
UTM E	624.0 km									
UTM N	4268.8 km									
FACILITY NAME:	Agrum U.S. Inc.									
LOCATION:	The equipment is located at 3961 Channel Drive in West Sacramento. The equipment is not located within 1,000 feet of a K-12 school and is not subject to the requirements of H&S 42301.6									
PROPOSAL:	The source is proposing to modify PTO P-70-78(a1) to replace one refrigeration condenser with a unit similar to an existing condenser. The permit equipment inventory will also be updated to reflect the removal of two ammonia tanker truck loading racks.									
PROCESS:	<p>Bulk Ammonia (NH3) Warehousing and Transfer</p> <p>The facility receives, stores, and ships anhydrous (without water) ammonia. Ammonia is received via ship, stored in three above ground tanks, and shipped via rail and/or truck tankers.</p> <p>The facility is equipped with a flare that is used to combust ammonia vapors that are released during the handling/storage of the liquid ammonia, or an emergency situation. The flare is equipped with a set of two pilots which can be fired either on natural gas or propane. The facility utilizes two condensers to compress and reclaim as much ammonia as possible before routing the remaining vapors to the flare.</p>									
FLOW DIAGRAM:	None									
EQUIPMENT:	Two (2) 7,500,000 gallon bulk ammonia storage tanks (F-250A & F-250B); one (1) 45,000 gallon bullet tank (F-350); two (2) tanker truck loadout racks; one (1) railcar tanker loadout rack; and all associated process lines, compressors, heaters, condensers, and refrigerator units.									
CONTROL EQUIPMENT*:	One (1) Zeeco flare, Model UF-12W, and associated header; two (2) two-stage compressor trains (Train A: 1st Stage GC-250A, 2nd Stage GC-251A; Train B: 1st Stage GC-250B, 2nd Stage GC-251B); one (1) vent condenser (E-251); one (1) vapor return header connected to the loading racks and small relief valves; two (2) ammonia refrigeration condensers, (E-250A and E-250B); and one(1) ammonia accumulator (F-251).									

* Per current District practice, descriptions of compressor trains and ammonia refrigeration condensers do not include manufacturer name or model number.

APPLICATION DATA:

<u>NH3 Warehoused & Transferred</u>	<u>Units</u>	<u>Formula Symbol</u>	<u>Reference</u>
Daily Throughput =	28,000 tons	-	Current Limits of P-70-78(a1) *
1st Quarter Throughput =	200,000 tons	-	Current Limits of P-70-78(a1) *
2nd Quarter Throughput =	200,000 tons	-	Current Limits of P-70-78(a1) *
3rd Quarter Throughput =	200,000 tons	-	Current Limits of P-70-78(a1) *
4th Quarter Throughput =	200,000 tons	-	Current Limits of P-70-78(a1) *
Yearly Throughput =	200,000 tons	-	Current Limits of P-70-78(a1) *

* Permitted throughput listed here for reference only.

<u>Continuous NH3 to Flare</u>	<u>Units</u>	<u>Formula Symbol</u>	<u>Reference</u>
Hourly Throughput =	5.6 lbs	BH	Applicant
Daily Throughput =	134 lbs	BD	BD * (24 hours/day)
1st Quarter Throughput =	12,053 lbs	B1	BD * (90 days/quarter)
2nd Quarter Throughput =	12,187 lbs	B2	BD * (91 days/quarter)
3rd Quarter Throughput =	12,321 lbs	B3	BD * (92 days/quarter)
4th Quarter Throughput =	12,321 lbs	B4	BD * (92 days/quarter)
Yearly Throughput =	48,881 lbs	BY	BD * (365 days/year)

* Continuous purge gas, vent condenser, and doghouse vents routed to flare.

<u>Maintenance/Upset of NH3 to Flare</u>	<u>Units</u>	<u>Formula Symbol</u>	<u>Reference</u>
Hourly Throughput =	6,000 lbs	CH	Applicant
Daily Throughput =	144,000 lbs	CD	CD * (24 hours/day)
1st Quarter Throughput =	720,000 lbs	C1	CD * (5 days/quarter)
2nd Quarter Throughput =	720,000 lbs	C2	CD * (5 days/quarter)
3rd Quarter Throughput =	720,000 lbs	C3	CD * (5 days/quarter)
4th Quarter Throughput =	720,000 lbs	C4	CD * (5 days/quarter)
Yearly Throughput =	2,880,000 lbs	CY	SUM(C1,C2,C3,C4)

* Maximum amount of ammonia that could be vented to the flare during a 5 day upset occurrence (or planned maintenance event).

<u>Flare Information</u>	<u>Units</u>	<u>Formula Symbol</u>	<u>Reference</u>
Rated Input on Natural Gas =	0.500 MMBtu/hr *	BR1	Applicant

Rated Input on Propane =	0.602 MMBtu/hr **	BR2	Applicant
Rated Input for Ammonia Venting =	58.062 MMBtu/hr	BR3	(BH+CH) * HH3 * (1 MMBtu/10^6 Btu)
Ammonia Control Efficiency =	99.5 %	CE	Previous Eval. C-01-162 (9/17/2002)

* Two (2) 0.250 MMBtu/hr pilot burners operating in concert.

** Two (2) 0.301 MMBtu/hr pilot burners operating in concert.

<u>Flare Firing Natural Gas *</u>	<u>Units</u>	<u>Formula Symbol</u>	<u>Reference</u>
Daily Throughput =	24 hours	SD	Rated
1st Quarter Throughput =	2,160 hours	S1	SD * (90 days/quarter)
2nd Quarter Throughput =	2,184 hours	S2	SD * (91 days/quarter)
3rd Quarter Throughput =	2,208 hours	S3	SD * (92 days/quarter)
4th Quarter Throughput =	2,208 hours	S4	SD * (92 days/quarter)
Yearly Throughput =	8,760 hours	SY	SD * (365 days/year)

* Based on a maximum operational schedule of 24 hours per day and 365 days per year.

<u>Flare Firing Propane *</u>	<u>Units</u>	<u>Formula Symbol</u>	<u>Reference</u>
Daily Throughput =	24 hours	TD	Rated
1st Quarter Throughput =	168 hours	T1	TD * (7 days/quarter)
2nd Quarter Throughput =	168 hours	T2	TD * (7 days/quarter)
3rd Quarter Throughput =	168 hours	T3	TD * (7 days/quarter)
4th Quarter Throughput =	168 hours	T4	TD * (7 days/quarter)
Yearly Throughput =	672 hours	TY	TD * (28 days/year)

* Based on a maximum operational schedule of 24 hours per day, 7 days per quarter, and 28 days per year.

ASSUMPTIONS:

<u>Fuel Data</u>	<u>Units</u>	<u>Formula Symbol</u>	<u>Reference</u>
Natural Gas - Higher Heat Value =	1,000 Btu/scf	HH1	District
Propane - Higher Heat Value =	91,500 Btu/gal	HH2	District
Ammonia - Higher Heat Value =	9,668 Btu/lbm	HH3	District
Ammonia - F-Factor =	8,970 scf/MMBtu	FF1	Previous Eval. C-01-162 (9/17/2002)
Propane - F-Factor =	8,710 scf/MMBtu	FF2	District
Natural Gas - Sulfur Content =	5.0 gr/100 scf	SC1	District *
Propane - Sulfur Content =	15.0 gr/100 scf	SC2	District **

* Public Utility Commission - General Order 58-8, Section 7(b) (12/16/1992).

** Marks Handbook & ASTM D1835.

<u>Misc. Data</u>	<u>Units</u>	<u>Formula Symbol</u>	<u>Reference</u>
Propane Conversion Factor =	36.0 cubic feet/gallon liquid	PC	District
Molar Volume =	385 scf/lb-mole	MV	District
NOx Molar Weight =	46.0 lb/lb-mole	NW	District
SOx Molar Weight =	64.0 lb/lb-mole	SW	District

EMISSION FACTORS:

<u>Pilot Fuel Combustion</u>	<u>Units</u>	<u>Formula Symbol</u>	<u>Reference</u>
VOC =	0.0051 lbs/million Btu	EFvoc	Santa Barbara Flare Study
CO =	0.019 lbs/million Btu	EFco	Santa Barbara Flare Study
NOx =	0.0952 lbs/million Btu	EFn1	Santa Barbara Flare Study
Natural Gas - SOx =	14.3 lbs/million cubic feet	EFs1	Mass Balance *
Propane - SOx =	42.9 lbs/million cubic feet	EFs2	Mass Balance **
PM10 =	0.0048 lbs/million Btu	EFp1	Santa Barbara Flare Study ***

* The SOx emission factor for natural gas combustion is calculated using the following mass balance equation:

Sample Equation: [EFs1, lb, MMScf] = [SC1, gr/100Scf] * (1 lb/7,000 gr) * (2 lbs SO2/1 lb S) * (1,000,000 Scf/MMScf)

** The SOx emission factor for propane combustion is calculated using the following mass balance equation:

Sample Equation: [EFs2, lb, MMScf] = [SC2, gr/100 Scf] * (1 lb/7,000 gr) * (2 lbs SO2/1 lb S) * (1,000,000 Scf/MMScf)

*** All particulate is assumed to be less than 1 micrometer aerodynamic diameter.

<u>Combustion of Ammonia</u>	<u>Units</u>	<u>Formula Symbol</u>	<u>Reference</u>
NOx =	1.002 lb/MMBtu	EFn2	Santa Barbara Flare Study *
TSP/PM10 =	0.0202 lb/MMBtu	EFp2	Santa Barbara Flare Study **

* According to the Santa Barbara study, the combustion of only NH3 will result in the negligible emissions of VOC or CO emissions because NH3 does not contain any organics or sources of carbon. Similarly, the only sources of sulfur to be fired in the flare are the pilot fuel natural gas and propane. Therefore, the SOx emissions from the NH3 flaring are considered negligible. The study recommends the NOx emission factor be calculated using the following equation:

Sample Equation: EFn2 = 0.0725 + (0.1345 * [BR3, MMBtu/hr]^0.4759)

** All particulate is assumed to be less than 1 micrometer aerodynamic diameter.

CALCULATIONS:

1. Determine the Permitted Fuel Usage Limits:

Maximum Natural Gas Limit:

Max. Daily Fuel Usage = BR1 * SD / HH1 =	0.012 million cubic feet/day
1st Quarter Fuel Usage = BR1 * S1 / HH1 =	1.080 million cubic feet/quarter
2nd Quarter Fuel Usage = BR1 * S2 / HH1 =	1.092 million cubic feet/quarter
3rd Quarter Fuel Usage = BR1 * S3 / HH1 =	1.104 million cubic feet/quarter
4th Quarter Fuel Usage = BR1 * S4 / HH1 =	1.104 million cubic feet/quarter
Max Yearly Fuel Usage = BR1 * SY / HH1 =	4.380 million cubic feet/year

Maximum Propane Limit:

Max. Daily Fuel Usage = BR2 * TD / HH2 * C1 =	0.006 million cubic feet/day
1st Quarter Fuel Usage = BR2 * T1 / HH2 * C1 =	0.040 million cubic feet/quarter

2nd Quarter Fuel Usage = $BR2 * T2 / HH2 * C1 =$ 0.040 million cubic feet/quarter
 3rd Quarter Fuel Usage = $BR2 * T3 / HH2 * C1 =$ 0.040 million cubic feet/quarter
 4th Quarter Fuel Usage = $BR2 * T4 / HH2 * C1 =$ 0.040 million cubic feet/quarter
 Max Yearly Fuel Usage = $BR2 * T Y / HH2 * C1 =$ 0.159 million cubic feet/year

2. Determine the Permitted Ammonia to Flare Limits:

Maximum Continuous Ammonia to Flare:

Daily Throughput = $BD * (1 \text{ ton}/2,000 \text{ lb}) =$ 0.067 tons/day
 1st Quarter Throughput = $B1 * (1 \text{ ton}/2,000 \text{ lb}) =$ 6.026 tons/quarter
 2nd Quarter Throughput = $B2 * (1 \text{ ton}/2,000 \text{ lb}) =$ 6.093 tons/quarter
 3rd Quarter Throughput = $B3 * (1 \text{ ton}/2,000 \text{ lb}) =$ 6.160 tons/quarter
 4th Quarter Throughput = $B4 * (1 \text{ ton}/2,000 \text{ lb}) =$ 6.160 tons/quarter
 Yearly Throughput = $BY * (1 \text{ ton}/2,000 \text{ lb}) =$ 24.440 tons/year

Maximum Maintenance/Upset Ammonia to Flare:

Daily Throughput = $CD * (1 \text{ ton}/2,000 \text{ lb}) =$ 72.0 tons/day
 1st Quarter Throughput = $C1 * (1 \text{ ton}/2,000 \text{ lb}) =$ 360.0 tons/quarter
 2nd Quarter Throughput = $C2 * (1 \text{ ton}/2,000 \text{ lb}) =$ 360.0 tons/quarter
 3rd Quarter Throughput = $C3 * (1 \text{ ton}/2,000 \text{ lb}) =$ 360.0 tons/quarter
 4th Quarter Throughput = $C4 * (1 \text{ ton}/2,000 \text{ lb}) =$ 360.0 tons/quarter
 Yearly Throughput = $CY * (1 \text{ ton}/2,000 \text{ lb}) =$ 1,440.0 tons/year

EMISSION CALCULATIONS:

1. Determine VOC Emissions (Firing on Pilot Fuels):

Max. Daily VOC Emissions = $MAX[BR1*SD, BR2*TD] * EFvoc =$ 0.1 lb/day
 1st Quarter VOC Emissions = $MAX[BR1*S1, BR2*T1] * EFvoc =$ 6 lb/quarter
 2nd Quarter VOC Emissions = $MAX[BR1*S2, BR2*T2] * EFvoc =$ 6 lb/quarter
 3rd Quarter VOC Emissions = $MAX[BR1*S3, BR2*T3] * EFvoc =$ 6 lb/quarter
 4th Quarter VOC Emissions = $MAX[BR1*S4, BR2*T4] * EFvoc =$ 6 lb/quarter
 Max. Yearly VOC Emissions = $MAX[BR1*SY, BR2*TY] * EFvoc * (1 \text{ ton}/2,000 \text{ lb}) =$ 0.01 tons/year

2. Determine CO Emissions (Firing on Pilot Fuels):

Max. Daily CO Emissions = $MAX[BR1*SD, BR2*TD] * EFco =$ 0.3 lb/day
 1st Quarter CO Emissions = $MAX[BR1*S1, BR2*T1] * EFco =$ 21 lb/quarter
 2nd Quarter CO Emissions = $MAX[BR1*S2, BR2*T2] * EFco =$ 21 lb/quarter
 3rd Quarter CO Emissions = $MAX[BR1*S3, BR2*T3] * EFco =$ 21 lb/quarter
 4th Quarter CO Emissions = $MAX[BR1*S4, BR2*T4] * EFco =$ 21 lb/quarter
 Max. Yearly CO Emissions = $MAX[BR1*SY, BR2*TY] * EFco * (1 \text{ ton}/2,000 \text{ lb}) =$ 0.04 tons/year

3. Determine NOx Emissions (Firing on Pilot Fuels and Ammonia):

Firing on Pilot Fuel (Natural Gas or Propane):

Max. Daily NOx Emissions = $MAX[BR1*SD, BR2*TD] * EFn1 =$ 1.4 lb/day
 1st Quarter NOx Emissions = $MAX[BR1*S1, BR2*T1] * EFn1 =$ 103 lb/quarter
 2nd Quarter NOx Emissions = $MAX[BR1*S2, BR2*T2] * EFn1 =$ 104 lb/quarter
 3rd Quarter NOx Emissions = $MAX[BR1*S3, BR2*T3] * EFn1 =$ 105 lb/quarter
 4th Quarter NOx Emissions = $MAX[BR1*S4, BR2*T4] * EFn1 =$ 105 lb/quarter
 Max. Yearly NOx Emissions = $MAX[BR1*SY, BR2*TY] * EFn1 * (1 \text{ ton}/2,000 \text{ lb}) =$ 0.21 tons/year

Firing on All Ammonia Vented to Flare:

Max. Daily NOx Ems. = $(BD + CD) * HH3 * EFn2 * (1 \text{ MMBtu}/10^6 \text{ Btu}) =$ 1,396.0 lb/day
 1st Quarter NOx Ems. = $(B1 + C1) * HH3 * EFn2 * (1 \text{ MMBtu}/10^6 \text{ Btu}) =$ 7,090 lb/quarter
 2nd Quarter NOx Ems. = $(B2 + C2) * HH3 * EFn2 * (1 \text{ MMBtu}/10^6 \text{ Btu}) =$ 7,092 lb/quarter
 3rd Quarter NOx Ems. = $(B3 + C3) * HH3 * EFn2 * (1 \text{ MMBtu}/10^6 \text{ Btu}) =$ 7,093 lb/quarter
 4th Quarter NOx Ems. = $(B4 + C4) * HH3 * EFn2 * (1 \text{ MMBtu}/10^6 \text{ Btu}) =$ 7,093 lb/quarter
 Max. Yearly NOx Ems. = $(BH+CH) * HH3 * EFn2 * (1 \text{ MMBtu}/10^6 \text{ Btu}) * (1 \text{ ton}/2,000 \text{ lb}) =$ 14.18 tons/year

Total NOx Emissions:

Max. Hourly NOx Emissions = $SUM [Pilot Ems. + Ammonia Comb.] * (1 \text{ day}/24 \text{ hour}) =$ 58.2 lb/hour
 Max. Daily NOx Emissions = $SUM [Pilot Ems. + Ammonia Comb.] =$ 1,397.4 lb/day
 1st Quarter NOx Emissions = $SUM [Pilot Ems. + Ammonia Comb.] =$ 7,193 lb/quarter
 2nd Quarter NOx Emissions = $SUM [Pilot Ems. + Ammonia Comb.] =$ 7,196 lb/quarter
 3rd Quarter NOx Emissions = $SUM [Pilot Ems. + Ammonia Comb.] =$ 7,198 lb/quarter
 4th Quarter NOx Emissions = $SUM [Pilot Ems. + Ammonia Comb.] =$ 7,198 lb/quarter
 Max. Yearly NOx Emissions = $SUM [Pilot Ems. + Ammonia Comb.] =$ 14.39 tons/year

4. Determine SOx Emissions (Firing on Pilot Fuels):

Max. Hourly SOx Ems. = $MAX[(BR1*EFs1/HH1), (BR2*EFs2*PC/HH2)] =$ 0.01 lb/hour
 Max. Daily SOx Ems. = $MAX[(BR1*SD*EFs1/HH1), (BR2*TD*EFs2*PC/HH2)] =$ 0.2 lb/day
 1st Quarter SOx Ems. = $(BR1*(S1-T1)*EFs1/HH1) + (BR2*T1*EFs2*PC/HH2) =$ 16 lb/quarter
 2nd Quarter SOx Ems. = $(BR1*(S2-T2)*EFs1/HH1) + (BR2*T2*EFs2*PC/HH2) =$ 16 lb/quarter
 3rd Quarter SOx Ems. = $(BR1*(S3-T3)*EFs1/HH1) + (BR2*T3*EFs2*PC/HH2) =$ 16 lb/quarter
 4th Quarter SOx Ems. = $(BR1*(S4-T4)*EFs1/HH1) + (BR2*T4*EFs2*PC/HH2) =$ 16 lb/quarter
 Max. Yearly Ems. = $[(BR1*(SY-TY)*EFs1/HH1)+(BR2*TY*EFs2*PC/HH2)] * (1 \text{ ton}/2000 \text{ lb}) =$ 0.03 tons/year

5. Determine TSP/PM10 Emissions:

Firing on Pilot Fuel (Natural Gas or Propane):

Max. Daily TSP/PM10 Ems. = $MAX[BR1*SD, BR2*TD] * EFP1 =$ 0.1 lb/day
 1st Quarter TSP/PM10 Ems. = $MAX[BR1*S1, BR2*T1] * EFP1 =$ 5 lb/quarter

2nd Quarter TSP/PM10 Ems. = MAX[BR1*S2, BR2*T2] * EFP1 = 5 lb/quarter
 3rd Quarter TSP/PM10 Ems. = MAX[BR1*S3, BR2*T3] * EFP1 = 5 lb/quarter
 4th Quarter TSP/PM10 Ems. = MAX[BR1*S4, BR2*T4] * EFP1 = 5 lb/quarter
 Max. Yearly TSP/PM10 Ems. = MAX[BR1*SY, BR2*TY] * EFP1 * (1 ton/2,000 lb) = 0.01 tons/year

Firing on All Ammonia Vented to Flare:

Max. Daily NOx Ems. = (BD + CD) * HH3 * EFP2 * (1 MMBtu/10⁶ Btu) = 28.1 lb/day
 1st Quarter NOx Ems. = (B1 + C1) * HH3 * EFP2 * (1 MMBtu/10⁶ Btu) = 143 lb/quarter
 2nd Quarter NOx Ems. = (B2 + C2) * HH3 * EFP2 * (1 MMBtu/10⁶ Btu) = 143 lb/quarter
 3rd Quarter NOx Ems. = (B3 + C3) * HH3 * EFP2 * (1 MMBtu/10⁶ Btu) = 143 lb/quarter
 4th Quarter NOx Ems. = (B4 + C4) * HH3 * EFP2 * (1 MMBtu/10⁶ Btu) = 143 lb/quarter
 Max. Yearly NOx Ems. = (BY+CY) * HH3 * EFP2 * (1 MMBtu/10⁶ Btu) * (1 ton/2,000 lb) = 0.29 tons/year

Total TSP/PM10 Emissions:

Max. Hourly NOx Emissions =SUM [Pilot Ems. + Ammonia Comb.] * (1 day/24 hours)= 1.2 lb/hour
 Max. Daily NOx Emissions =SUM [Pilot Ems. + Ammonia Comb.] = 28.2 lb/day
 1st Quarter NOx Emissions =SUM [Pilot Ems. + Ammonia Comb.] = 148 lb/quarter
 2nd Quarter NOx Emissions =SUM [Pilot Ems. + Ammonia Comb.] = 148 lb/quarter
 3rd Quarter NOx Emissions =SUM [Pilot Ems. + Ammonia Comb.] = 148 lb/quarter
 4th Quarter NOx Emissions =SUM [Pilot Ems. + Ammonia Comb.] = 148 lb/quarter
 Max. Yearly NOx Emissions =SUM [Pilot Ems. + Ammonia Comb.] = 0.30 tons/year

6. Determine PM Concentration Firing on All Fuels:

PM Conc. = [TSP, lb/day] * (1 day/24 hr) * (7,000 gr/lb) * (1/BR3) * (1/FF1) = 0.016 gr/scf

7. Determine SOx Concentration Firing on All Fuels:

SOx Conc. = [SOx, lb/day] * (1/SW) * MV * (1 day/24 hr) * (1/BR2) * (1/FF2) * 100% = 0.001 %

8. Determine the Permitted Ammonia Emission Limits:

Daily Ammonia = (BD + CD) * (100%-CE) = 721 lb/day
 1st Quarter Ammonia = (B1 + C1) * (100%-CE) = 3,660 lb/quarter
 2nd Quarter Ammonia = (B2 + C2) * (100%-CE) = 3,661 lb/quarter
 3rd Quarter Ammonia = (B3 + C3) * (100%-CE) = 3,662 lb/quarter
 4th Quarter Ammonia = (B4 + C5) * (100%-CE) = 3,662 lb/quarter
 Yearly Ammonia = (BY + CY) * (100%-CE) = 14,644 lb/year

RULE & REGULATION COMPLIANCE EVALUATION:

District Rule 2.3-Ringelmann

The version of the rule used in this evaluation is the rule adopted on October 1, 1971, and is part of the California State Implementation Plan (SIP).

Rule Requirement #1:

The Permit Holder shall not discharge into the atmosphere from any single source of emission whatsoever, any air contaminant for a period or periods aggregating more than three (3) minutes in any one (1) hour which is:

- a. As dark or darker in shade as that designated as No. 2 on the Ringelmann Chart as published by the United States Bureau of Mines; or
- b. Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subsection a. of this condition. [District Rule 2.3]

Subsuming Demonstration: The requirements of the rule can be streamlined by the more stringent opacity limit of Rule 3.4 (New Source Review).

Subsuming Permit Conditions:

The Permit Holder shall not discharge into the atmosphere from any single source of emissions whatsoever, any air contaminant for a period or periods aggregating more than three (3) minutes in any one (1) hour which is:

- a. As dark or darker in shade than No. 1 on the Ringelmann Chart; or
- b. Greater than 20% opacity. [District Rule 3.4] (ATC Condition 9 /Title V Permit Condition II.D.14)

District Rule 2.5-Nuisance

The rule applies to all emission units at the stationary source. The version of the rule used in this evaluation is the rule adopted on October 1, 1971, and is part of the California SIP. The source is currently in compliance with the requirements of the rule.

It should be noted that this permit condition is Federally enforceable because it derives from District Rule 2.5 (Nuisance) that is currently part of the California SIP. The District is taking steps to remove Rule 2.5 from the SIP. Once the U.S. Environmental Protection Agency (EPA) has taken final action to remove District Rule 2.5 from the SIP, this permit condition will become state-enforceable only.

Rule Requirement #1 (Facility Wide Permit Condition):

- The Permit Holder shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health, or safety of any such persons or the public or which cause to have a natural tendency to cause injury or damage to business or property. [District Rule 2.5] (Title V Permit Condition III.B.1)

District Rule 2.11-Particulate Matter

This rule was updated 1/13/10, however the rule has not yet been approved as part of the SIP, therefore the previous (SIP-approved) version was evaluated here.

Rule Requirement #1:

<u>Emission Rate (gr/dscf)</u>	<u>Allowable Rate (gr/dscf)</u>	<u>Compliance</u>
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0.016

0.1

Yes

Subsuming Demonstration: The emissions of particulate matter will be limited to the evaluated rates under Rule 3.4, New Source Review. The Rule 3.4 requirement of 0.016 gr/dscf will subsume the Rule 2.11 requirement of 0.1 gr/dscf.

Subsuming Permit Conditions:

The PM10 emissions from the ammonia warehousing and transfer equipment operating under P-70-78(a2) shall not exceed 28.2 lb/day, 148 lb/1st calendar quarter, 148 lb/2nd calendar quarter, 148 lb/3rd calendar quarter, 148 lb/4th calendar quarter, and 0.30 tons/calendar year. [District Rule 3.4] (ATC Emissions Limits/ Title V Permit Condition II.A.18)

District Rule 2.12, Section A-Sulfur Compounds

This rule was updated 1/13/10, however the rule has not yet been approved as part of the SIP, therefore the previous (SIP-approved) version was evaluated here.

Rule Requirement #1:

A person shall not discharge into the atmosphere from any single source of emission whatsoever, any one or more of the following contaminants, in any state or combination thereof, in excess of the following concentrations at the point of discharge:

- a. Sulfur compounds calculated as sulfur dioxide (SO2) 0.2%, by volume at standard conditions.

<u>Emission Rate (% SOx as SO2)</u>	<u>Allowable Rate (% SOx as SO2)</u>	<u>Compliance</u>
0.001	0.2	Yes

Subsuming Demonstration: The above emission rate was calculated using the daily SOx emission limit for Rule 3.4, New Source Review. The Rule 3.4 requirement of 0.001% will subsume the Rule 2.11 requirement of 0.2%.

Subsuming Permit Conditions:

The SOx emissions from the ammonia warehousing and transfer equipment operating under P-70-78(a2) shall not exceed 0.2 lb/day, 16 lb/1st calendar quarter, 16 lb/2nd calendar quarter, 16 lb/3rd calendar quarter, 16 lb/4th calendar quarter, and 0.03 tons/calendar year. [District Rule 3.4] (ATC Emissions Limits/ Title V Permit Condition II.A.17)

District Rule 2.16-Fuel Burning Heat or Power Generators

The rule applies to all fuel burning heat or power generating units operating at the stationary source. The version of the rule used in this evaluation is the rule adopted on October 1, 1971, and is part of the California SIP. The source is currently in compliance with the requirements of the rule.

Per Section (c)(1) of Rule 2.16, "fuel burning equipment serving primarily as air pollution control equipment by using combustion to destroy air contaminants shall be exempt from the provisions of (the) rule." Therefore, the process' flare under P-70-78(a1) is exempt from the mass emission limits of Rule 2.16 since it consumes natural gas and propane in order to control NOx emissions from the ammonia warehousing and transfer operation.

District Rule 2.17-Circumvention

The rule is applicable to all emission units at the facility. The version of the rule used in this evaluation is the rule adopted on October 1, 1971, and is part of the California SIP. The source is currently in compliance with the requirements of the rule.

Rule Requirement #1 (Facility Wide Permit Condition)

The Permit Holder shall not build, erect, install or use any article, machine, equipment, or other contrivance, the use of which, without resulting in a reduction in the total release of air contaminants to the atmosphere, reduces or conceals an emission which would otherwise constitute a violation of Division 26, Part 3 and Part 4 of the Health and Safety Code of the State of California or District Rules or Regulations. [District Rule 2.17] (Title V Permit Condition III.C.1)

District Rule 3.1 - General Permit Requirements

The source is currently in compliance with the rule. The version of the rule used in this evaluation is the rule adopted on February 23, 1994, and is part of the California SIP. For reference, Page 67068 of the Federal Register, Vol. 69, No. 220 documents that the SIP approved version of Rule 3.1 was "deleted without replacement Rule 3.1, paragraphs 403 and 406." No part of the proposed Title V permit has references to either Section 403 (dealing with Denial of Applications) or Section 406 (dealing with Appeals).

Requirement #1 (Facility Wide Permit Condition) - Authority to Construct

No person shall build, erect, alter, or replace any facility, article, machine, equipment, or other contrivance, the use of which may cause the issuance of air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants, without first obtaining an authorization to construct from the APCO as specified in Section 401 of District Rule 3.1. [District Rule 3.1, §301.1] (Title V Permit Condition III.D.1)

Requirements #2 & 3 (Facility Wide Permit Conditions) - Permit to Operate

No person shall operate any facility, article, machine, equipment, or other contrivance, for which an authorization to construct is required by District Rules and Regulations without first obtaining a written permit from the APCO. [District Rule 3.1, §302.1] (Title V Permit Condition III.D.2)

No person shall operate any facility, article, machine, equipment, or other contrivance, the use of which may cause the issuance of air contaminants or the use of which may eliminate or reduce or control the issuance of air contaminants, without obtaining a permit from the APCO or the Hearing Board. [District Rule 3.1, §302.2] (Title V Permit Condition III.D.3)

Rule Requirement #4 (Facility Wide Permit Condition) - Transfer of Permits to Operate

The Permits to Operate shall not be transferable, by operation of law or otherwise, from one location to another or from one piece of equipment to another. It shall be the transferee's responsibility to inform the District on assumption of ownership or operating control of any item under a Permit to Operate from the District and for which a Permit to Operate will be required. For any such transfer as hereinabove described, said transferee shall submit an application for authorization in accordance with applicable District Rules. [District Rule 3.1, §304] (Title V Permit Condition III.D.4)

Rule Requirement #5 (Facility Wide Permit Condition) - Renewal of Permits to Operate

All Permits to Operate shall be renewable annually on the individual permit's anniversary date, commencing one year after the date of issuance. The Permit Holder shall pay a fee for the annual permit renewal. If the annual renewal fee is not paid by the specified due date, the District shall assess a penalty of not more than 50% of the fee due. Non-payment of renewal fees is grounds for permit cancellation. [District Rule 3.1, §305 and District Rule 4.1, §303 and §401] (Title V Permit Condition III.D.5)

Rule Requirement #6 (Facility Wide Permit Condition) - Conditional Approval of Permits to Operate

Commencing work or operation under any Permits to Operate shall be deemed acceptance of all of the conditions so specified. [District Rule 3.1, §402] (Title V Permit Condition III.D.6)

Rule Requirement #7 (Facility Wide Permit Condition) - Permit to Operate Information

The Permit Holder shall submit an annual throughput/production report at the end of each calendar year for each Permit to Operate. These reports are due no later than March 31 for the previous year. This report must include actual operating hours and actual amounts of materials processed (for materials that have process limits listed on the Permit to Operate). Each type of material and each type of process must be listed separately. [District Rule 3.1, §405.1] (Title V Permit Condition III.D.7)

Requirement #8 (Facility Wide Permit Condition) - Breakdown, Malfunction, or Upset Notification

The owner or operator of any facility, article, machine, equipment, or other contrivance for which a permit to operate is in effect shall notify the District office whenever a breakdown, malfunction, or operational upset condition exists which would tend to increase emissions of air pollutants or whenever any operating condition contrary to any provision of the permit to operate exists. Such notice shall be given to the District no later than four hours after occurrence during regular workday hours or no later than two hours of the District workday following an occurrence not during regular District workday hours. The notice shall provide the District information as to causes and corrective action being taken, with a schedule for return to required operating conditions. [District Rule 3.1, §405.3] (Title V Permit Condition III.D.8)

Requirement #9 (Facility Wide Permit Condition) - Excess Emission Notification

The Permit Holder shall report all excess emissions to the District within ninety-six (96) hours of the occurrence of excess emissions. [District Rule 3.1, §405.4] (Title V Permit Condition III.D.10)

Rule Requirement #10 (Facility Wide Permit Condition) - Posting of Permits to Operate

The Permit Holder shall firmly affix all Permits to Operate, an approved facsimile, or other approved identification bearing the permit number upon the facility, article, machine, equipment, or other contrivance in such a manner as to be clearly visible and accessible. In the event that the facility, article, machine, equipment, or other contrivance is so constructed or operated that the Permit to Operate cannot be so placed, the Permit to Operate shall be mounted so as to be clearly visible in an accessible place within twenty-five (25) feet of the facility, article, machine, equipment, or other contrivance, or maintained readily available at all times on the operating premises. [District Rule 3.1, §408] (Title V Permit Condition III.D.9)

District Rule 3.4-New Source Review

PROPOSED EMISSION SUMMARY FOR NEW OR MODIFIED PERMIT

	<i>Daily</i>	<i>Yearly</i>	
VOC	0.1 lb	0.01 tons	Use for annual billing
CO	0.3 lb	0.04 tons	Use for annual billing
NOx	1,397.4 lb	14.39 tons	Use for annual billing
SOx	0.2 lb	0.03 tons	Use for annual billing
PM10	28.2 lb	0.30 tons	Use for annual billing

	<i>Quarterly</i>			
	<i>1st</i>	<i>2nd</i>	<i>3rd</i>	<i>4th</i>
VOC (lb)	6	6	6	6
CO (lb)	21	21	21	21
NOx (lb)	7,193	7,196	7,198	7,198
SOx (lb)	16	16	16	16
PM10 (lb)	148	148	148	148

Previous quarterly potential to emit for modified permit*

	<i>1st</i>	<i>2nd</i>	<i>3rd</i>	<i>4th</i>
VOC (lb)	6	6	6	6
CO (lb)	21	21	21	21
NOx (lb)	7,193	7,196	7,198	7,198
SOx (lb)	16	16	16	16
PM10 (lb)	148	148	148	148

* From PTO P-70-78(a1)

Historic potential emissions for modified permit*

	<i>1st</i>	<i>2nd</i>	<i>3rd</i>	<i>4th</i>
VOC (lb)	6	6	6	6
CO (lb)	21	21	21	21
NOx (lb)	7,193	7,196	7,198	7,198
SOx (lb)	16	16	16	16
PM10 (lb)	148	148	148	148

* Per the definition of "Historic Potential Emissions" in Section 220 of Rule 3.4, a unit's historical emissions are based on a unit's usual or typical operation. Since the flare's typical operation consists of the combustion of pilot fuel and a small amount of ammonia vented from the storage and compression systems, the two reported usages may be used to determine the process historic potential to emit. As such, the throughput 2011 report documents 4,248,000 cubic feet of natural gas fired by the flare's pilot burners (which was 97% of permitted throughput). Accordingly, because the historic emissions are over 80% in at least one year of out the last five, the historic potential equals the previous potential to emit.

BACT

<u>Pollutant</u>	<u>Trigger (lb/day)</u>	<u>Proposed (lb/day)</u>	<u>Quarterly Increase</u>	<u>BACT</u>
VOC	10	0	No	No
CO	250	0	No	No
NOx	10	1,397	No	No
SOx	80	0	No	No
PM10	80	28	No	No

OFFSETS

Quarterly permitted emissions for other permits at the stationary source*

	<u>1st</u>	<u>2nd</u>	<u>3rd</u>	<u>4th</u>
VOC (lb)	268	269	269	269
CO (lb)	93,743	94,773	95,804	95,804
NOx (lb)	25,398	25,552	25,906	25,906
SOx (lb)	44	45	45	45
PM10 (lb)	11,852	11,876	11,900	11,900

* See attached quarterly PTE determination

Quarterly permitted emissions for the stationary source including proposed emissions

	<u>1st</u>	<u>2nd</u>	<u>3rd</u>	<u>4th</u>
VOC (lb)	274	275	275	275
CO (lb)	93,764	94,794	95,825	95,825
NOx (lb)	32,591	32,848	33,104	33,104
SOx (lb)	60	61	61	61
PM10 (lb)	12,000	12,024	12,048	12,048

Offset triggers

	<u>1st</u>	<u>2nd</u>	<u>3rd</u>	<u>4th</u>
VOC (lb)	7,500	7,500	7,500	7,500
CO (lb)	49,500	49,500	49,500	49,500
NOx (lb)	7,500	7,500	7,500	7,500
SOx (lb)	13,650	13,650	13,650	13,650
PM10 (lb)	13,650	13,650	13,650	13,650

Quantity of offsets required

	<u>1st</u>	<u>2nd</u>	<u>3rd</u>	<u>4th</u>
VOC (lb)	0	0	0	0
CO (lb)	0	0	0	0
NOx (lb)	0	0	0	0
SOx (lb)	0	0	0	0
PM10 (lb)	0	0	0	0

MAJOR MODIFICATION

Facility Total Potential to Emit*

0.19 TPY VOC
174.78 TPY CO
58.44 TPY NOx
0.06 TPY SOx
8.44 TPY PM10

Major Source Thresholds

25 TPY VOC
100 TPY CO
25 TPY NOx
100 TPY SOx
100 TPY PM10

* See attached quarterly PTE determination

Last five year emission aggregate*

0.00 TPY VOC
0.00 TPY CO
0.00 TPY NOx
0.00 TPY SOx
3.47 TPY PM10

Major Modification Thresholds

25 TPY VOC
100 TPY CO
25 TPY NOx
40 TPY SOx
25 TPY PM10

* See attached 5 year determination

Result: The proposed modification is not a major modification

PUBLIC NOTICE

"Increase in historic potential to emit"

0 lb VOC/quarter
0 lb CO/quarter
0 lb NOx/quarter
0 lb SOx/quarter
0 lb PM10/quarter

Exemption level for notification

7,500 lb VOC/quarter
49,500 lb CO/quarter
7,500 lb NOx/quarter
13,650 lb SOx/quarter
13,650 lb PM10/quarter

Result: Public notice is not required

1. Requirement:

The VOC emissions from the ammonia warehousing and transfer equipment operating under P-70-78(a2) shall not exceed 0.1 lb/day, 6 lb/1st calendar quarter, 6 lb/2nd calendar quarter, 6 lb/3rd calendar quarter, 6 lb/4th calendar quarter, and 0.01 tons/calendar year. [District Rule 3.4/C-12-128]

2. Requirement:

The CO emissions from the ammonia warehousing and transfer equipment operating under P-70-78(a2) shall not exceed 0.3 lb/day, 21 lb/1st calendar quarter, 21 lb/2nd calendar quarter, 21 lb/3rd calendar quarter, 21 lb/4th calendar quarter, and 0.04 tons/calendar year. [District Rule 3.4/C-12-128]

3. Requirement:

The NOx emissions from the ammonia warehousing and transfer equipment operating under P-70-78(a2) shall not exceed 1,397.4 lb/day, 7,193 lb/1st calendar quarter, 7,196 lb/2nd calendar quarter, 7,198 lb/3rd calendar quarter, 7,198 lb/4th calendar quarter, and 14.39 tons/calendar year. [District Rule 3.4/C-12-128]

4. Requirement:

The SOx emissions from the ammonia warehousing and transfer equipment operating under P-70-78(a2) shall not exceed 0.2 lb/day, 16 lb/1st calendar quarter, 16 lb/2nd calendar quarter, 16 lb/3rd calendar quarter, 16 lb/4th calendar quarter, and 0.03 tons/calendar year. [District Rule 3.4/C-12-128]

5. Requirement:

The PM10 emissions from the ammonia warehousing and transfer equipment operating under P-70-78(a2) shall not exceed 28.2 lb/day, 148 lb/1st calendar quarter, 148 lb/2nd calendar quarter, 148 lb/3rd calendar quarter, 148 lb/4th calendar quarter, and 0.30 tons/calendar year. [District Rule 3.4/C-12-128]

6. Requirement:

The amount of ammonia transferred to the storage tanks under P-70-78(a2) shall not exceed 28,000 tons/day, 200,000 tons/1st calendar quarter, 200,000 tons/2nd calendar quarter, 200,000 tons/3rd calendar quarter, 200,000 tons/4th calendar quarter, and 200,000 tons/year. [District Rule 3.4/C-12-128]

7. Requirement:

The amount of ammonia continuously sent to the flare under P-70-78(a2) shall not exceed 0.067 tons/day, 6.026 tons/1st calendar quarter, 6.093 tons/2nd calendar quarter, 6.160 tons/3rd calendar quarter, 6.160 tons/4th calendar quarter, and 24.44 tons/year. [District Rule 3.4/C-12-128]

8. Requirement:

The amount of ammonia vented to the flare of P-70-78(a2) during a planned maintenance or an upset event shall not exceed 72.0 tons/day, 360.0 tons/1st calendar quarter, 360.0 tons/2nd calendar quarter, 360.0 tons/3rd calendar quarter, 360.0 tons/4th calendar quarter, and 1,440.0 tons/year. [District Rule 3.4/C-12-128]

9. Requirement:

The amount of natural gas combusted by the flare under P-70-78(a2) shall not exceed 0.012 million cubic feet/day, 1.080 million cubic feet/1st calendar quarter, 1.092 million cubic feet/2nd calendar quarter, 1.104 million cubic feet/3rd calendar quarter, 1.104 million cubic feet/4th calendar quarter, and 4.38 million cubic feet/year. [District Rule 3.4/C-12-128]

10. Requirement:

The amount of propane combusted by the flare under P-70-78(a2) shall not exceed 0.006 million cubic feet/day, 0.040 million cubic feet/1st calendar quarter, 0.040 million cubic feet/2nd calendar quarter, 0.040 million cubic feet/3rd calendar quarter, 0.040 million cubic feet/4th calendar quarter, and 0.159 million cubic feet/year. [District Rule 3.4/C-12-128]

11. Requirement:

The Permit Holder shall operate at least one (1) train of compressors, or the flare, or both control devices, at all times when the permitted equipment is in operation. [District Rule 3.4/C-12-128]

12. Requirement:

A non-resettable, totalizing fuel flow meter shall be installed and utilized to measure the quantity (in cubic feet) of natural gas and propane combusted in the flare. [District Rule 3.4/C-12-128]

13. Requirement:

The Permit Holder shall on a quarterly basis maintain and record the individual quantities of continuous and maintenance/upset ammonia vapors combusted in the flare. The individual quantities may be measured or calculated. [District Rule 3.4/C-12-128]

14. Requirement:

The Permit Holder shall on a quarterly basis maintain and record the individual quantities of natural gas and propane combusted in the flare. [District Rule 3.4/C-12-128]

15. Requirement:

All records shall be maintained for a period of five (5) years and shall be made available for District inspection upon request. [District Rule 3.4/C-12-128]

District Rule 3.8-Federal Operating Permits

This rule implements the requirements of Title V of the Federal Clean Air Act (CAA) as amended in 1990 for permits to operate. Title V provides for the establishment of operating permit programs for sources which emit regulated air pollutants, including attainment and non attainment pollutants at or above the major source levels. As requested by the source, ATC C-12-128 will be processed under the Enhanced New Source Review provisions of District Rule 3.4, Section 404 (see application). This emission evaluation will serve as the Statement of Basis documenting the proposed modifications to the federal operating permit.

Rule Requirement #1 - Minor Permit Modification

The District has determined that the proposed modifications to the permitted equipment and permit conditions are considered a minor modification since they do not meet the definition of either significant modifications (Section 222) or administrative modifications (Section 203). Specifically, the changes are not considered significant modifications since the proposed modifications to the federally-enforceable conditions do not involve any modifications that result in: the greater than de minimis increase in actual emissions of hazardous air pollutants; significant changes to monitoring conditions; relaxation of reporting or recordkeeping conditions; a permit condition that allows the source to avoid an applicable federal requirement; a case-by-case determination of any emission standard; or a source-specific determination for ambient impacts or visibility analysis. The proposed modifications do not

qualify as administrative permit amendments since the amendments do not correct typographical errors or an administrative change; require more frequent monitoring or reporting conditions; transfer ownership or operational control of the facility; or incorporate into the federal permit the conditions of a federally-enforceable preconstruction permit.

Rule Requirement #2 - Notification and Review of Proposed Decision

Per the requirements of Section 409.2, the District's proposed decision will be noticed to the U.S. EPA and CARB within five (5) days of issuing the ATC. Per convention, the District will provide both agencies copies of the emission evaluation and proposed permits.

Rule Requirement #3 (Facility Wide Permit Condition) - Right of Entry

The permit shall require that the source allow the entry of the District, ARB, or U.S. EPA officials for the purpose of inspection and sampling, including:

- a. Inspection of the stationary source, including equipment, work practices, operations, and emissions-related activity;
- b. Inspection and duplication of records required by the permit to operate; and
- c. Source sampling or other monitoring activities. [District Rule 3.8, §302.10] (*Title V Condition IV.A.1*)

Rule Requirements #4 through #9 (Facility Wide Permit Conditions) - Compliance with Permit Conditions

The Permit Holder shall comply with all Title V permit conditions. [District Rule 3.8, §302.11(a)] (*Title V Condition IV.B.1*)

The permit does not convey property rights or exclusive privilege of any sort. [District Rule 3.8, §302.11(b)] (*Title V Condition IV.B.2*)

Non-compliance with any permit condition is grounds for permit termination, revocation and reissuance, modification, enforcement action, or denial of permit renewal. [District Rule 3.8, §302.11(c)] (*Title V Condition IV.B.3*)

The Permit Holder shall not use the "need to halt or reduce a permitted activity in order to maintain compliance" as a defense for non-compliance with any permit condition. [District Rule 3.8, §302.11(d)] (*Title V Condition IV.B.4*)

A pending permit action or notification of anticipated non-compliance does not stay any permit condition. [District Rule 3.8, §302.11(e)] (*Title V Condition IV.B.5*)

Within a reasonable time period, the Permit Holder shall furnish any information requested by the APCO, in writing, for the purpose of determining:

- a. Compliance with the permit; or
- b. Whether or not cause exists for a permit or enforcement action. [District Rule 3.8, §302.11(f)] (*Title V Condition IV.B.6*)

Rule Requirements #10 (Facility Wide Permit Conditions) - Emergency Provisions

Within two (2) weeks of an emergency event, the owner or operator shall submit to the District a properly signed contemporaneous log or other relevant evidence demonstrating that:

- a. An emergency occurred;
- b. The Permit Holder can identify the cause(s) of the emergency;
- c. The facility was being properly operated at the time of the emergency;
- d. All steps were taken to minimize the emissions resulting from the emergency;
- e. Within two (2) working days of the emergency event, the Permit Holder provided the District with a description of the emergency and any mitigating or corrective actions taken; and

In any enforcement proceeding, the Permit Holder has the burden of proof for establishing that an emergency occurred. [District Rule 3.8, §302.12(b)] (*Title V Condition IV.C.1*)

Rule Requirement #11 (Facility Wide Permit Condition) - Severability

If any provision, clause, sentence, paragraph, section or part of these conditions for any reason is judged to be unconstitutional or invalid, such judgement shall not affect or invalidate the remainder of these conditions. [District Rule 3.8, §302.13] (*Title V Condition IV.D.1*)

Rule Requirements #12 through #14 (Facility Wide Permit Conditions) - Compliance Certification

The compliance certification shall identify the basis for each permit term or condition (e.g., specify the emissions limitation, standard, or work practice) and a means of monitoring compliance with the term or condition consistent with Sections 302.5, 302.6, and 302.7 of Rule 3.8. [District Rule 3.8, §302.14(b)] (*Title V Condition IV.E.2*)

The compliance certification shall include a statement of the compliance status, whether compliance was continuous or intermittent, and method(s) used to determine compliance for the current time period and over the entire reporting period. [District Rule 3.8, §302.14(c)] (*Title V Condition IV.E.3*)

The compliance certification shall include any additional inspection, monitoring, or entry requirement that may be promulgated pursuant to Sections 114(a) and 504(b) of the Federal CAA. [District Rule 3.8, §302.14(d)] (*Title V Condition IV.E.4*)

Rule Requirement #15 (Facility Wide Permit Condition) - Permit Life

The Title V permit shall expire five (5) years from the date of issuance. Title V permit expiration terminates the stationary source's right to operate unless a timely and complete Title V permit application for renewal has been submitted. [District Rule 3.8, §302.15] (*Title V Condition IV.F.1*)

Rule Requirement #16 (Facility Wide Permit Condition) - Payment of Fees

An owner or operator shall pay the appropriate Title V permit fees on schedule. If fees are not paid on schedule, the permit is forfeited. Operation without a permit subjects the source to potential enforcement action by the District and the U.S. EPA pursuant to Section 502(a) of the CAA. [District Rule 3.8, §302.16] (*Title V Condition IV.G.1*)

Rule Requirement #17 (Facility Wide Permit Condition) - Permit Revision Exemption

No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the permit. [District Rule 3.8, §302.22] (*Title V Condition IV.H.1*)

Rule Requirements #18 through #20 (Facility Wide Permit Conditions) - Application Requirements

An owner or operator shall submit a standard District application for renewal of the Title V permit, no earlier than 18 months and no

later than six (6) months before the expiration date of the current permit to operate. [District Rule 3.8, §402.2] (*Title V Condition IV.I.1*)

An owner or operator shall submit a standard District application for each emissions unit affected by a proposed permit revision that qualifies as a significant Title V permit modification. The application shall be submitted after obtaining any required preconstruction permits. Upon request by the APCO, the owner or operator shall submit copies of the latest preconstruction permit for each affected emissions unit. The emissions unit(s) shall not commence operation until the APCO approves the permit revision. [District Rule 3.8, §402.3] (*Title V Condition IV.I.2*)

An owner or operator shall submit a standard District application for each emissions unit affected by the proposed permit revision that qualifies as a minor permit modification. The application shall be submitted after obtaining any required preconstruction permits. The emissions unit(s) shall not commence operation until the APCO approves the permit revision. In the application, the owner or operator shall include the following:

- a. A description of the proposed permit revision, any change in emissions, and additional applicable federal requirements that will apply;
- b. Proposed permit terms and conditions; and
- c. A certification by a responsible official that the permit revision meets criteria for use of minor permit modification procedures and a request that such procedures be used. [District Rule 3.8, §402.4] (*Title V Condition IV.I.3*)

Rule Requirement #21 (Facility Wide Permit Condition) - Permit Reopening for Cause

Circumstances that are cause for reopening and revision of a permit include, but are not limited to, the following:

- a. The need to correct a material mistake or inaccurate statement;
- b. The need to revise or revoke a permit to operate to assure compliance with applicable federal requirements;
- c. The need to incorporate any new, revised, or additional applicable federal requirements, if the remaining authorized life of the permit is three (3) years or greater, no later than 18 months after the promulgation of such requirement (where less than three (3) years remain in the authorized life of the permit, the APCO shall incorporate the requirements into the permit to operate upon renewal); or
- d. Additional requirements promulgated pursuant to Title IV as they become applicable to any acid rain unit governed by the permit. [District Rule 3.8, §413.1] (*Title V Condition IV.J.1*)

Rule Requirement #22 (Facility Wide Permit Condition) - Monitoring, Testing and Analysis

The affected equipment is not subject to additional periodic monitoring or testing requirements. Therefore, no additional monitoring, testing, and analysis conditions are required.

Permit Condition

No permit condition is required.

Rule Requirements #23 and #24 (Facility Wide Permit Condition) - Recordkeeping

The Permit Holder shall record maintenance of all monitoring and support information required by any applicable federal requirement, including:

- a. Date, place, and time of sampling;
- b. Operating conditions at the time of sampling;
- c. Date, place, and method of analysis; and
- d. Results of the analysis. [District Rule 3.8, §302.6(a)] (*Title V Condition IV.K.1*)

The Permit Holder shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of sample collection, measurement, report, or application. [District Rule 3.8, §302.6(b)] (*Title V Condition IV.K.2*)

Rule Requirements #25 through #27 (Facility Wide Permit Condition) - Reporting Requirements

Any deviation from permit requirements, including that attributable to upset conditions (as defined in the permit), shall be promptly reported to the APCO. For the purpose of this condition prompt means as soon as reasonably possible, but no later than 10 days after detection. [District Rule 3.8, §302.7(a)] (*Title V Condition IV.L.1*)

All reports of deviation from permit requirements shall include the probable cause of the deviation and any preventive or corrective action taken. [District Rule 3.8, §302.7(c)] (*Title V Condition IV.L.3*)

Each monitoring report shall be accompanied by a written statement from the responsible official that certifies the truth, accuracy, and completeness of the report. [District Rule 3.8, §302.7(e)] (*Title V Condition IV.L.4*)

Rule Requirement #28 (Facility Wide Permit Condition) - Reporting Requirements

Section 302.14 requires that every twelve (12) months the Responsible Official submit an accurate and complete compliance certification to the U.S. EPA and the District.

Subsuming Demonstration: The requirements of the rule have been subsumed with the requirements of Rule 3.4 which establish explicit certification periods and submittal deadlines.

Subsuming Permit Condition:

The responsible official shall submit a compliance certification to the U.S. EPA and the APCO every twelve (12) months unless required more frequently by an applicable requirement. The twelve (12) month period shall be January 1 through December 31, and shall be submitted by January 30 following the reporting period, unless otherwise approved in writing by the District. All compliance reports and other documents required to be submitted to the District by the responsible official shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. [District Rule 3.4, §409 and District Rule 3.8, §302.14(a)] (*Title V Condition IV.E.1*)

Rule Requirement #29 (Facility Wide Permit Condition) - Reporting Requirements

The SIP approved rule requires that every six (6) months the Responsible Official submit an accurate and complete semi-annual monitoring report to the U.S. EPA and the District.

Subsuming Demonstration: The requirements of the rule have been streamlined with the requirements of Rule 3.4 which establish explicit monitoring periods and submittal deadlines.

Subsuming Permit Condition:

A semi-annual monitoring report shall be submitted at least every six (6) consecutive months and shall identify any deviation from permit requirements, including that previously reported to the APCO pursuant to Section 302.7(a) of District Rule 3.8. The six (6) month periods shall be January 1 through June 30 and July 1 through December 31. The reports shall be submitted by July 30 and January 30 following each reporting period, respectively, unless otherwise approved in writing by the District. [District Rule 3.4, §409 and District Rule 3.8, §302.7(b)] (Title V Condition IV.L.2)

District Rule 3.20-Ozone Transport Mitigation

As documented above, the facility total potential to emit is above 10 tons per year for VOC or NOx, and therefore the post-project Stationary Source Potential to Emit (SSPE) will be calculated.

Annual permitted emissions for the stationary source including proposed emissions

VOC (lb)	383	lbs
NOx (lb)	116,884	lbs

Annual permitted emissions for equipment which is exempt from Rule 3.4*

VOC (lb)	238	lbs
NOx (lb)	2,504	lbs

* From PTO P-85-94(t) for emergency engines

Post-project Stationary Source Potential to Emit (SSPE)

VOC (lb)	145	lbs
NOx (lb)	114,380	lbs

Because the post-project SSPE is greater than 10 tons (20,000) lbs per year for VOC or NOx, per section 301.1, calculations shall be performed to determine the quantity of mitigation required, if any.

Pre-project Stationary Source Potential to Emit (SSPE)

VOC (lb)	145	lbs
NOx (lb)	114,380	lbs

Quantity of offsets required by Rule 3.4

VOC (lb)	0	lbs
NOx (lb)	0	lbs

Quantity of Mitigation required by Rule 3.20

VOC (lb)	0	lbs
NOx (lb)	0	lbs

District Risk Management Plan and Risk Assessment Guidelines

The application does not propose an increase in the permitted emission for the facility or a decrease in the control efficiency of the flare. Therefore, the District does not anticipate an increase in the amount of hazardous air pollutants emitted by the source. As allowed by the RMPRAG policy, further toxics review is not required.

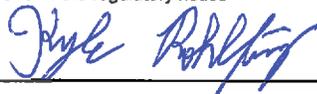
COMMENTS:

The application does not trigger BACT, offsets, or mitigation credits.

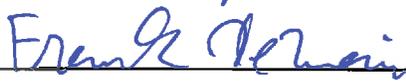
Proposed Title V Permit F-00470-13 contains the proposed revisions of Proposed Title V Permit F-00470-11 (ATC C-12-41).

RECOMMENDATIONS:

Perform the regulatory notice

Engineer: 

Date: 12/5/12

Reviewed by: 

Date: 12/13/2012

generic.xls 12/14/2004 pah

YOLISBANG AIR QUALITY MANAGEMENT DISTRICT
 1947 Galileo Court, Suite 103, Davis, CA 95618

New Source Review
Quarterly Potential To Emit Determination
 NSR Version 08/13/1998

Evaluation to be used only in permits to obtain their quarterly PTE.

Engineer: Kyle Rohlfing
 Facility Name: Agrium U.S., Inc.
 Location: 3961 Channel Drive, West Sacramento, CA
 Date of Initial Quarterly PTE Determination: 12/31/1999
 Date of Previous Quarterly PTE Determination: 9/5/2012
 Date of Current Quarterly PTE Determination: 11/14/2012

SIC Code # 2873

CURRENT APPLICATIONS: ATC's PTO's
 C-12-128

Process Description	Current Permits ^a	VOC Emissions				CO Emissions				NOx Emissions				SOx Emissions				PM10 Emissions			
		QTR 1 (lbs)	QTR 2 (lbs)	QTR 3 (lbs)	QTR 4 (lbs)	Annual (TPY)	QTR 1 (lbs)	QTR 2 (lbs)	QTR 3 (lbs)	QTR 4 (lbs)	Annual (TPY)	QTR 1 (lbs)	QTR 2 (lbs)	QTR 3 (lbs)	QTR 4 (lbs)	Annual (TPY)	QTR 1 (lbs)	QTR 2 (lbs)	QTR 3 (lbs)	QTR 4 (lbs)	Annual (TPY)
Steam Generation	P-36-82(a)	30	31	31	31	0.06	3,198	3,228	3,259	3,299	6.47	394	398	402	402	0.80	148	150	151	151	0.30
Nitric Acid Production	P-37-82(a4)	0	0	0	0	0.00	90,000	91,000	92,000	92,000	168.00	22,500	22,750	23,000	23,000	42.00	0	0	0	0	0.00
Bulk Ammonia Warehousing	P-70-78(a1)	0	0	0	0	0.01	21	21	21	21	0.04	7,193	7,198	7,198	7,198	14.38	16	16	16	16	0.03
Shipping & Transfer of Bulk Urea	C-12-128	0	0	0	0	0.00	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	
Receiving of Bulk Urea - Railroad Trucks	P-72-78(a7)	0	0	0	0	0.00	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	
Receiving of Bulk Urea - Ship/Barge	P-33-09(a)	0	0	0	0	0.00	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	
PRE-PROJECT SSPE ^b (lbs)		36	37	37	37	145	93,219	94,249	95,280	95,280	349.023	30,087	30,344	30,600	30,600	114,380	22	23	23	23	85
POST-PROJECT SSPE ^b (lbs)		36	37	37	37	145	93,219	94,249	95,280	95,280	349.023	30,087	30,344	30,600	30,600	114,380	22	23	23	23	85
Emergency IC Engines (600 BHP)	P-95-94(f)	288	238	238	238	0.12	545	545	545	545	0.27	2,504	2,504	2,504	2,504	1.25	38	38	38	38	0.02
PRE-PROJECT TOTAL PTE ^c		274	275	275	275	0.19	93,764	94,794	95,825	95,825	174.78	32,591	32,848	33,104	33,104	56.44	60	61	61	61	0.06
POST-PROJECT TOTAL PTE ^d		274	275	275	275	0.19	93,764	94,794	95,825	95,825	174.78	32,591	32,848	33,104	33,104	56.44	60	61	61	61	0.06

^a PTO P-71-78(a1) (Ammonia Backup Heater) was canceled on 06/01/2012 and has removed from the Quarterly PTE worksheet.
^b Because the source has not implemented ATC C-12-41 into a PTO, the facility's SSPE and Total PTE calculations will conservatively include the higher emission limits of P-33-09(a) (and not ATC C-12-41).
^c Per the requirements of Rule 3.20, the facility's pre- and post-project Stationary Source Potential to Emit (SSPE) calculations do not include any emissions from permitted emergency equipment.
^d The facility's pre- and post-project Total Potential to Emit (PTE) calculations include all permitted equipment operating at the site.

Post-Project Stationary Source Potential to Emit (SSPE)

	Yearly (lbs/year)			
	Quarter #1	Quarter #2	Quarter #3	Quarter #4
VOC	36	37	37	145
CO	93,219	94,249	95,280	349,023
NOx	30,087	30,344	30,600	114,380
SOx	22	23	23	85
PM10	11,828	11,852	11,876	16,706

MITIGATION THRESHOLDS

	Yearly (lbs/year)	
	Below	Above
VOC	20,000	-
NOx	20,000	-
SOx	-	-
PM10	-	-

SSPE Comparison to Rule 3.20 Triggers

	Annual	
	Below	Above
VOC	-	-
NOx	-	-
SOx	-	-
PM10	-	-

Post-Project Total Quarterly Potential to Emit (PTE)

	Quarterly (lbs)				Yearly (tons)
	Quarter #1	Quarter #2	Quarter #3	Quarter #4	
VOC	274	275	275	1,150	7,500
CO	93,764	94,794	95,825	33,104	49,500
NOx	32,591	32,848	33,104	61	7,500
SOx	60	61	61	13,650	13,650
PM10	12,000	12,024	12,048	12,048	13,650

OFF-SET THRESHOLDS

	Quarterly (lbs/qr)	
	Below	Above
VOC	-	-
NOx	-	-
SOx	-	-
PM10	-	-

PTE Comparison to NSR Triggers

	Quarterly			
	Quarter #1	Quarter #2	Quarter #3	Quarter #4
VOC	Below	Below	Below	Below
CO	Above	Above	Above	Above
NOx	Above	Above	Above	Above
SOx	Below	Below	Below	Below
PM10	Below	Below	Below	Below

COMMENTS: This quarterly PTE evaluation was updated for ATC C-12-82 (Nitric Acid Production).

Engineer: *Kyle Rohlfing*
 Reviewed by: *Frank J. De Vries*
 Date: 12/5/12
 Date: 12/13/2012

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT
1947 Galileo Court, Suite 103; Davis, CA 95618

**New Source Review
Last Five Year Activity**

Engineer: Kyle Rohlfing

SIC Code # 2873

Facility Name: Agrium U.S. Inc. ^a

Date of Initial Determination: 10/3/2005

Location: 3961 Channel Drive; West Sacramento, CA

Date of Previous Determination: 9/5/2012

Date of Current Determination: 11/15/2012

Process	Issued Permits	Date PTO Issued	ATC	Date ATC Issued	VOC (TPY)	CO (TPY)	NOx (TPY)	SOx (TPY)	PM10 (TPY)
Nitric Acid Production	P-37-82(a2)	2/28/2001	C-00-114	11/28/2000	0.00	0.00	0.00	0.00	0.00
Steam Generation	P-36-82(a)	11/21/2001	C-00-107	4/30/2001	0.00	0.57	0.00	0.00	0.00
Shipping & Transfer of Bulk Urea	-	-	C-00-115 ^b	6/12/2001	0.00	0.00	0.00	0.00	0.00
Receiving of Bulk Urea - Ship/Barge	-	-	C-00-116 ^c	6/12/2001	0.00	0.00	0.00	0.00	0.00
Ammonia Product Heater (Back Up)	P-71-78(a)	1/17/2003	C-01-169 ^d	4/4/2002	0.00	0.00	0.00	0.00	0.00
Bulk Ammonia Warehousing	P-70-78(a)	1/17/2003	C-01-162 ^e	9/17/2002	0.00	0.00	0.00	0.00	0.00
Receiving of Bulk Urea - Ship/Barge	-	-	C-03-129 ^f	10/23/2003	0.00	0.00	0.00	0.00	1.34
Nitric Acid Production	P-37-82(a2)	5/3/2005	C-03-68	10/23/2003	0.00	0.00	0.00	0.00	0.00
Shipping & Transfer of Bulk Urea	-	-	C-04-76 ^g	6/16/2005	0.00	0.00	0.00	0.00	0.06
Receiving of Bulk Urea - Ship/Barge	P-73-78(a2)	3/16/2006	C-04-77 ^h	10/21/2005	0.00	0.00	0.00	0.00	0.00
Shipping & Transfer of Bulk Urea	P-72-78(a3)	3/16/2006	C-05-204	10/21/2005	0.00	0.00	0.00	0.00	0.28
Ammonia Flare	P-70-78(a1)	4/12/2007	C-06-181	2/21/2007	0.00	0.00	0.00	0.00	0.00
Shipping & Transfer of Bulk Urea	P-72-78(a4)	8/17/2007	C-07-60	5/3/2007	0.00	0.00	0.00	0.00	0.05
Shipping & Transfer of Bulk Urea	P-72-78(a5)	7/30/2008	C-07-223	6/11/2008	0.00	0.00	0.00	0.00	0.74
Receiving of Bulk Urea - Ship/Barge	P-73-78(a3)	7/30/2008	C-07-224	6/11/2008	0.00	0.00	0.00	0.00	0.16
Receiving of Bulk Urea - Railcar/Truck	P-33-09	6/25/2009	C-08-114 ⁱ	9/22/2008	0.00	0.00	0.00	0.00	0.89
Shipping & Transfer of Bulk Urea	P-72-78(a7)	6/25/2009	C-08-225	9/22/2008	0.00	0.00	0.00	0.00	0.16
Receiving of Bulk Urea - Railcar/Truck	P-33-09(a)	7/16/2010	C-10-14	4/6/2010	0.00	0.00	0.00	0.00	1.53
Nitric Acid Production	-	-	C-10-99	CANCELED	-	-	-	-	-
Nitric Acid Production	P-37-82(a3)	11/29/2011	C-11-61	7/22/2011	0.00	0.00	0.00	0.00	0.00
Receiving of Bulk Urea - Railcar/Truck	P-33-09(a1)	-	C-12-41	6/28/2012	0.00	0.00	0.00	0.00	0.00
Nitric Acid Production	P-37-82(a4)	11/29/2012	C-12-82	PENDING	0.00	0.00	0.00	0.00	0.00
Bulk Ammonia Warehousing	P-70-78(a1)	-	C-12-128	PENDING	0.00	0.00	0.00	0.00	0.00
TOTAL ^k					0.00	0.00	0.00	0.00	3.47

^a Facility transfer of ownership from Prodicta, LLC to Agrium US Inc. approved 6/12/2001.

^b C-00-115 proposed to modify P-72-78(a1), but canceled on 2/18/03.

^c C-00-116 proposed to modify P-73-78(a), but canceled on 2/18/03.

^d C-01-169 revised on 12/9/05 to correct for emission limit errors.

^e C-01-162 incorporates the emissions of P-31-91.

^f C-03-129 superseded by ATC application C-04-77 (proposing to modify P-73-78(t)).

^g C-04-76 superseded by ATC application C-05-204 (proposing to modify P-72-78(t)).

^h C-04-77 revised to correct an error in calculations (re-issued 10/21/2005).

ⁱ C-08-114 revised to properly account for overfilled truck off-loading emissions and process limits (see attached email dated 10/10/2008).

^k All decreases in PTE are treated as zero net change and not included in the Total 5-Year Aggregate summation.

COMMENTS: These permits are sorted by the ATC issuance date. According to Rule 3.4, Section 221, a major modification is calculated based on all creditable increases and decreases from the source over the period of five consecutive years before the application, including the calendar year of the most recent application. The applicable period ranges from November 2007 to the present.

Engineer: *Kyle Rohlfing*

Date: 12/5/12

Reviewed by: *Frank R. ...*

Date: 12/13/2012