

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT

1947 Galileo Court, Suite 103; Davis, CA 95618

Emission Evaluation

ENGINEER:

René Toledo

ATC #	C-10-14	
PTO #	P-33-09(a)	Reserved
SIC Code #	2873	
UTM E	624.0	km
UTM N	4268.8	km

FACILITY NAME:

Agrium U.S. Inc.

LOCATION:

The equipment is located at 3961 Channel Drive, 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:

Modification of P-33-09 to install a new urea transfer chute that will allow the source to divert product received via railcar (or overfilled truck) to the warehouse. As currently configured, the equipment of P-33-09 only allows the source to transfer material received from railcar to the UAN-32 production process via the day tank. The ATC application also proposes an increase in the amounts of urea that can be received via railcars, without an increase in the amount of urea offloaded from overfilled trucks.

The proposed chute will allow the source to fill the existing Day Tank (P-605) with urea offloaded from railcars (and/or overfilled trucks) and then divert the product into the warehouse when the nitric acid plant is not operating or has reached its storage capacity. The new chute will be installed at a certain height within the day tank and serve to gravity feed the product into the warehouse when the day tank is filled to a specific level. In order to achieve the required height within the day tank that allows product diversion into the warehouse, the source will not be able to operate conveyors P-607 and P-608. Therefore, the source will not be able to simultaneously transfer urea to the UAN-32 plant and the warehouse.

PROCESS:

Bulk urea receiving from railcars and over-filled trucks to the UAN-32 production process and the warehouse

The receiving of bulk urea fertilizer from the railcar and/or overfilled truck via the drive-over pit to UAN-32 production process consists of:

- a. Railcars off-loading conveyor and through enclosed truck receiving pit, into unloading bucket elevator (95% control efficiency from scrubber); or
- b. Truck drive-over pit (uncontrolled and uncontained) into unloading bucket elevator (95% control efficiency from scrubber);
- c. Conveying to the day tank (P-605) via incline conveyor and small transfer screw above day tank (99% control efficiency from scrubbers, baghouse, and containment).
- d. Transfer from day tank:
 - i. To the UAN-32 using the controlled conveyors (P-607 and P-608) into the UAN-32 Blender tank; or
 - ii. To the warehouse using the gravity fed chute (enclosed inlet) and enclosed warehouse transfer point.

FLOW DIAGRAM:

See attached.

EQUIPMENT:

<u>Equipment</u>	<u>Equip. No.</u>	<u>Horsepower</u>
Portable Conveyor	P-620	5 HP *
Conveyor, Truck Drive-Over Belt Feeder	P-612	5 HP
Elevator, Unloading Bucket	P-613	25 HP
Conveyor, Transfer Belt	P-603	15 HP *
Conveyor, Screw	P-604	15 HP *
Day Tank	P-605	- HP *
Chute, Gravity Fed Warehouse Transfer	P-TBD	- HP
Bin Activator	P-606	3 HP *
Conveyor, Weigh Feeder	P-607	0.75 HP *
Conveyor, Transfer Belt	P-608	5 HP *
Proposed Horsepower Total for the Process =		73.75 HP

Total Horsepower for Equipment Shared with PTO P-72-78 = 43.75 HP

Total Horsepower to be Billed for this Process = 30.0 HP (Use for billing)

CONTROL EQUIPMENT:

AAF wet scrubber (GB-501), Model Type W Rotoclone, Size 30 and rated at 15,710 SCFM (located adjacent to the screening tower);
 Torit baghouse (P-618) with a 1.5 HP fan rated at 1,000 SCFM (located on top of day tank);
 Sly Impinjet wet scrubber (F-644), Model No. 120, with a 75 HP fan rated at 1,500 CFM (located on top of blender tank); and
 railcar receiving dust pan served by the AFF scrubber.
 All control equipment shared with PTO P-72-78*.

* To promote operational flexibility and streamline future modifications, the District has chosen to not list the specific permit suffix in the process and control equipment descriptions.

APPLICATION DATA:

<u>Urea Received via Railcar</u>	<u>Units</u>	<u>Formula Symbol</u>	<u>Reference</u>
Daily Throughput =	1,200 tons	AD	Applicant ^a
1st Quarter Throughput =	108,000 tons	A1	Applicant ^a
2nd Quarter Throughput =	109,200 tons	A2	Applicant ^a
3rd Quarter Throughput =	110,400 tons	A3	Applicant ^a
4th Quarter Throughput =	110,400 tons	A4	Applicant ^a
Yearly Throughput =	300,000 tons	AY	Applicant ^a

^a For reference, this process limit is independent of the permitted urea transfer limit of PTO P-72-78(a6).

<u>Urea Off-loaded from Overfilled Trucks</u>	<u>Units</u>	<u>Formula Symbol</u>	<u>Reference</u>
Daily Throughput =	4.0 tons	BD	* Retained from PTO P-33-09
1st Quarter Throughput =	12.0 tons	B1	* Retained from PTO P-33-09
2nd Quarter Throughput =	12.0 tons	B2	* Retained from PTO P-33-09
3rd Quarter Throughput =	12.0 tons	B3	* Retained from PTO P-33-09
4th Quarter Throughput =	12.0 tons	B4	* Retained from PTO P-33-09
Yearly Throughput =	48.0 tons	BY	* Retained from PTO P-33-09

ASSUMPTIONS:

<u>Control Equipment</u>	<u>Units</u>	<u>Formula Symbol</u>	<u>Reference</u>
Baghouse (P-618) Rated CFM =	1,000 SCFM	CFM1	Applicant
Scrubber (F-644) Rated CFM =	1,500 SCFM	CFM2	Applicant
Scrubber (GB-501) Rated CFM =	15,710 SCFM	CFM3	Applicant ^b

^b Based on the current fan and blower size, scrubber GB-501 is operating at a maximum flow rate of 15,710 SCFM.

<u>Receiving Emission Points</u>	<u>Units</u>	<u>Formula Symbol</u>	<u>Reference</u>
Controlled railcar receiving via "dust pan" =	1 Point	N1a	Applicant ^c
Uncont. truck off-loading via drive-over hopper =	1 Point	N1b	Applicant ^d
Controlled transfer from enclosed railcar conveyor to day tank belt =	3 Points	N2a	Applicant ^c
Controlled transfer from enclosed truck hopper to day tank belt =	2 Points	N2b	Applicant ^d
Controlled conveying into day tank =	2 Points	N3	Applicant ^c
Conveying to weight belt =	1 Point	N4	Applicant ^{c,f}
Transfer to day tank transfer belt =	1 Point	N5	Applicant ^{c,f}
Conveying to blender =	1 Point	N6	Applicant ^{e,f}
Transfer from day tank to warehouse =	1 Point	N7	Applicant ^f

^c The railcar receiving process up to the day tank consists of:

- i. the scrubber (GB-501) controlled railcar unloading onto the portable conveyor;
- ii. the scrubber (GB-501) controlled transfer onto the enclosed truck pit conveyor;
- iii. the enclosed transfer onto the elevator; and
- iv. the baghouse (P-618) controlled conveying into the day tank via the enclosed incline conveyor and enclosed day tank belt.

This path contains one additional transfer point as compared to the overfilled truck off-loading path (see application and flow diagrams received with ATC C-08-114).

^d The transfer from the overfilled trucks into the drive-over hopper are uncontrolled and do not have any dust collector pick-up points.

^e Only material transfer point controlled by scrubber P-644.

¹ The material transfer from the day tank to the UAN-32 plant has three controlled conveyor transfer points (P-607 to 608 to UAN-32 blender tank), compared to the single transfer from the day tank into the warehouse using the new chute. The material transfer point from the day tank to warehouse, will be modeled as a contained urea transfer point (and consistent with the emission evaluation of P-73-78(a3) for the ship receiving operation).

<u>Control Efficiencies</u>	<u>Units</u>	<u>Formula Symbol</u>	<u>Reference</u>
Containment =	90 %	CEc	District
Scrubber =	95 %	CEs	Manufacturer's Data ⁹
Baghouse =	99 %	CEb	Manufacturer's Data

⁹ The scrubber control efficiencies were calculated from the efficiency curves for the scrubbers as an average of the efficiency curve for all particulate less than 10 microns.

EMISSION FACTORS:

<u>Uncontrolled TSP/PM10 Ems.</u>	<u>Units</u>	<u>Formula Symbol</u>	<u>Reference</u>
Urea Transfer (Conveying) =	0.02 lb/ton	EF1	FIRE Database, Ver. 6.23 (12/2000)
Urea Loading (Drop) =	0.19 lb/ton	EF2	AP-42, Table 8.2-1 (07/1993)

CALCULATIONS:

1. Determine Hourly Process Weight:

$$\text{Hourly Process Rate} = (AD + BD) * (1 \text{ day} / 24 \text{ hours}) * (2,000 \text{ lb} / 1 \text{ ton}) = 100,333 \text{ lb/hour}$$

EMISSION CALCULATIONS:

1. Determine TSP/PM10 Emissions from Railcar Receiving to Day Tank Storage:

Max. Hourly Ems. = $AD * [(N1a * EF2) + (N2a * EF1)] * (100\% - CEs) * (1 \text{ day} / 24 \text{ hour}) =$	0.63 lb/hour
Max. Daily Ems. = $AD * [(N1a * EF2) + (N2a * EF1)] * (100\% - CEs) =$	15.0 lb/day
1st Quarter Ems. = $A1 * [(N1a * EF2) + (N2a * EF1)] * (100\% - CEs) =$	1,350 lb/quarter
2nd Quarter Ems. = $A2 * [(N1a * EF2) + (N2a * EF1)] * (100\% - CEs) =$	1,365 lb/quarter
3rd Quarter Ems. = $A3 * [(N1a * EF2) + (N2a * EF1)] * (100\% - CEs) =$	1,380 lb/quarter
4th Quarter Ems. = $A4 * [(N1a * EF2) + (N2a * EF1)] * (100\% - CEs) =$	1,380 lb/quarter
Max. Yearly Ems. = $AY * [(N1a * EF2) + (N2a * EF1)] * (100\% - CEs) * (1 \text{ ton} / 2,000 \text{ lb}) =$	1.88 tons/year

2. Determine TSP/PM10 Emissions from Overfilled Truck Receiving to Day Tank Storage:

Max. Hourly Ems. = $[(BD * N1b * EF2) + (BD * N2b * EF1 * (100\% - CEs))] * (1 \text{ day} / 24 \text{ hour}) =$	0.03 lb/hour
Max. Daily Ems. = $(BD * N1b * EF2) + (BD * N2b * EF1 * (100\% - CEs)) =$	0.8 lb/day
1st Quarter Ems. = $(B1 * N1b * EF2) + (B1 * N2b * EF1 * (100\% - CEs)) =$	2 lb/quarter
2nd Quarter Ems. = $(B2 * N1b * EF2) + (B2 * N2b * EF1 * (100\% - CEs)) =$	2 lb/quarter
3rd Quarter Ems. = $(B3 * N1b * EF2) + (B3 * N2b * EF1 * (100\% - CEs)) =$	2 lb/quarter
4th Quarter Ems. = $(B4 * N1b * EF2) + (B4 * N2b * EF1 * (100\% - CEs)) =$	2 lb/quarter
Max. Yearly Ems. = $[(BY * N1b * EF2) + (BY * N2b * EF1 * (100\% - CEs))] * (1 \text{ ton} / 2,000 \text{ lb}) =$	0.00 tons/year

3. Determine TSP/PM10 Emissions from Transfer from Day Tank to UAN-32 Process:

x. Hourly Ems. = $(AD + BD) * EF1 * [N6 * (100\% - CEs) + (N3 + N5) * (100\% - CEb) + N4 * (100\% - CEc)] * (1 \text{ day} / 24 \text{ hr}) =$	0.18 lb/hour
Max. Daily Ems. = $(AD + BD) * EF1 * [N6 * (100\% - CEs) + (N3 + N5) * (100\% - CEb) + N4 * (100\% - CEc)] =$	4.3 lb/day
1st Quarter Ems. = $(A1 + B1) * EF1 * [N6 * (100\% - CEs) + (N3 + N5) * (100\% - CEb) + N4 * (100\% - CEc)] =$	389 lb/quarter
2nd Quarter Ems. = $(A2 + B2) * EF1 * [N6 * (100\% - CEs) + (N3 + N5) * (100\% - CEb) + N4 * (100\% - CEc)] =$	393 lb/quarter
3rd Quarter Ems. = $(A3 + B3) * EF1 * [N6 * (100\% - CEs) + (N3 + N5) * (100\% - CEb) + N4 * (100\% - CEc)] =$	397 lb/quarter
4th Quarter Ems. = $(A4 + B4) * EF1 * [N6 * (100\% - CEs) + (N3 + N5) * (100\% - CEb) + N4 * (100\% - CEc)] =$	397 lb/quarter
Yearly Ems. = $(AY + BY) * EF1 * [N6 * (100\% - CEs) + (N3 + N5) * (100\% - CEb) + N4 * (100\% - CEc)] * (1 \text{ ton} / 2,000 \text{ lb}) =$	0.54 tons/year

4. Determine TSP/PM10 Emissions from Transfer from Day Tank to Warehouse:

Max. Hourly Ems. = $(AD + BD) * EF1 * [N7 * (100\% - CEc)] * (1 \text{ day} / 24 \text{ hr}) =$	0.10 lb/hour
Max. Daily Ems. = $(AD + BD) * EF1 * [N7 * (100\% - CEc)] =$	2.4 lb/day
1st Quarter Ems. = $(A1 + B1) * EF1 * [N7 * (100\% - CEc)] =$	216 lb/quarter
2nd Quarter Ems. = $(A2 + B2) * EF1 * [N7 * (100\% - CEc)] =$	218 lb/quarter
3rd Quarter Ems. = $(A3 + B3) * EF1 * [N7 * (100\% - CEc)] =$	221 lb/quarter
4th Quarter Ems. = $(A4 + B4) * EF1 * [N7 * (100\% - CEc)] =$	221 lb/quarter
Max. Yearly Ems. = $(AY + BY) * EF1 * [N7 * (100\% - CEc)] * (1 \text{ ton} / 2,000 \text{ lb}) =$	0.30 tons/year

5. Determine Total Permitted TSP/PM10 Emissions:

Max. Hourly Ems. = Railcar + Truck to Day Tank + MAX [Trans. to UAN or Trans. To Warehouse] =	0.84 lb/hour
Max. Daily Ems. = Railcar + Truck to Day Tank + MAX [Trans. to UAN or Trans. To Warehouse] =	20.1 lb/day
1st Quarter Ems. = Railcar + Truck to Day Tank + MAX [Trans. to UAN or Trans. To Warehouse] =	1,741 lb/quarter

2nd Quarter Ems. = Railcar + Truck to Day Tank + MAX [Trans. to UAN or Trans. To Warehouse] = 1,760 lb/quarter
 3rd Quarter Ems. = Railcar + Truck to Day Tank + MAX [Trans. to UAN or Trans. To Warehouse] = 1,780 lb/quarter
 4th Quarter Ems. = Railcar + Truck to Day Tank + MAX [Trans. to UAN or Trans. To Warehouse] = 1,780 lb/quarter
 Max. Yearly Ems. = Railcar + Truck to Day Tank + MAX [Trans. to UAN or Trans. To Warehouse] = 2.42 tons/year

6. Determine Specific Control Device Daily TSP/PM10 Emissions:

		<u>Symbol</u>
Baghouse (P-618) Daily Ems. = (AD + BD) * (N3 + N5) * EF1 * (100%-CEb) =	0.72 lb/day	PM1
Scrubber (F-644) Daily Ems. = (AD + BD) * N6 * EF1 * (100%-CEs) =	1.20 lb/day	PM2
Scrubber (GB-501) = (AD + BD) * (N1a+N2a) * EF1 * (100%-CEs) =	4.82 lb/day	PM3

7. Determine Specific Control Device Particulate Matter Concentrations:

Baghouse (P-618) Conc. = PM1 * (7,000 gr/lb) * (1 day/1,440 min) * (1/CFM1) =	0.004 gr/dscf
Scrubber (F-644) Conc. = PM2 * (7,000 gr/lb) * (1 day/1,440 min) * (1/CFM2) =	0.004 gr/dscf
Scrubber (GB-501) Conc. = PM3 * (7,000 gr/lb) * (1 day/1,440 min) * (1/CFM3) =	0.0015 gr/dscf ^h

^h This emission concentration reflects the periods when the control device and associated material handling equipment are operating in a railcar/truck receiving capacity.

RULE & REGULATION COMPLIANCE EVALUATION:

District Rule 2.3-Ringelmann

The source is subject to the requirements of this rule (amended 01/13/2010). Per the requirements of Section 301.1 and Section 301.2, the visible emissions from the operation are expected to comply with the current 40% opacity rule limit effective through 07/13/2010, and the final 20% opacity limit required thereafter.

District Rule 2.5-Nuisance

The operation is expected to comply with the rule requirement of no discharge which causes injury, detriment, nuisance, or annoyance to any considerable number of persons or the public. A condition will not be placed on the ATC, but will be added to the PTO upon implementation.

District Rule 2.11-Particulate Matter

Each of the three dust collectors serving this process are subject to the requirements of this rule. As calculated below, the exhaust from each control device complies with the allowable particulate matter concentration (at standard conditions).

	<u>PM Emission Rate</u>	<u>Allowable Rate</u>	<u>Compliance</u>
Baghouse (P-618) =	0.004 gr/scf	0.3 gr/scf	Yes
Scrubber (F-644) =	0.004 gr/scf	0.3 gr/scf	Yes
Scrubber (GB-501) =	0.0015 gr/scf	0.3 gr/scf	Yes

District Rule 2.19-Particulate Matter Process Emission Rate

This rule applies a limit to an equipment unit's total particulate matter emissions based on the unit's hourly processing weight (in pounds). The maximum allowable hourly process weight for this process is 25,333 pounds (304 tons). As such, the particulate emission rate for any component of the process is limited to 0.84 pounds of TSP per hour. As summarized below, each component of the operation complies with the hourly emission rate of the rule.

	<u>PM Emission Rate</u>	<u>Allowable Rate</u>	<u>Compliance</u>
Trans. to Day Tank from Railcar and Truck =	0.66 lb/hr	40.0 lb/hr	Yes
Transfer from Day Tank to UAN-32 =	0.18 lb/hr	40.0 lb/hr	Yes
Transfer from Day Tank to Warehouse =	0.10 lb/hr	40.0 lb/hr	Yes
Total Permitted Particulate Emissions =	0.84 lb/hr ⁱ	40.0 lb/hr	Yes

ⁱ Most emissive path: Railcar receiving to UAN-32 process.

District Rule 3.4-New Source Review

PROPOSED EMISSION SUMMARY FOR NEW OR MODIFIED PERMIT

	<u>Daily</u>	<u>Yearly</u>	
VOC	0.0 lb	0.00 tons	Use for annual billing
CO	0.0 lb	0.00 tons	Use for annual billing
NOx	0.0 lb	0.00 tons	Use for annual billing
SOx	0.0 lb	0.00 tons	Use for annual billing
PM10	20.1 lb	2.42 tons	Use for annual billing

	<u>Quarterly</u>			
	<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)	1,741	1,760	1,780	1,780

Previous quarterly potential to emit for modified permit^k

	<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)	437	442	447	447

^k Emissions from PTO P-33-09 (issued on 06/25/2009).

Historic potential emissions for modified permit^l

	<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

^l Per Section 219 and 220 of Rule 3.4, since less than one year has passed since the issuance of PTO P-33-09, the historic PTE is equal to zero.

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	0	No	No
SOx	80	0	No	No
PM10	80	20	Yes	No

OFFSETS

Quarterly permitted emissions for other permits at the stationary source^m

	<u>1st</u>	<u>2nd</u>	<u>3rd</u>	<u>4th</u>
VOC (lb)	69	70	70	70
CO (lb)	93,723	94,753	95,784	95,784
NOx (lb)	30,687	30,944	31,200	31,200
SOx (lb)	26	27	27	27
PM10 (lb)	10,133	10,138	10,142	10,142

^m Per Policy 25, the calculated PTE for all other permitted units not including emergency-use IC engines (see attached Quarterly PTE worksheet (dated 03/22/2010)).

Quarterly permitted emissions for the stationary source including proposed emissionsⁿ

	<u>1st</u>	<u>2nd</u>	<u>3rd</u>	<u>4th</u>
VOC (lb)	69	70	70	70
CO (lb)	93,723	94,753	95,784	95,784
NOx (lb)	30,687	30,944	31,200	31,200
SOx (lb)	26	27	27	27
PM10 (lb)	11,874	11,898	11,922	11,922

ⁿ Per Policy 25, total facility PTE not including the emergency engines of P-85-94(t).

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 ^o

0.21 TPY VOC
175.03 TPY CO
58.74 TPY NOx
0.06 TPY SOx
8.46 TPY PM10

Major Source Thresholds

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

^o See attached Quarterly PTE worksheet (dated 03/22/2010).

Last five year emission aggregate ^p

0.00 TPY VOC
0.00 TPY CO
0.00 TPY NOx
0.00 TPY SOx
3.87 TPY PM10

Major Modification Thresholds

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

^p See attached 5-Year Emission Aggregate worksheet (dated 03/22/2010).

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
1,780 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

District Rule 3.20-Ozone Transport Mitigation

This process does not emit VOCs or NOx emissions, and therefore, per Section 110.2, this application is exempt from this rule.

District Rule 3.8-Federal Operating Permits

As request by the source, ATC C-10-14 will not be processed under the Enhanced New Source Review provisions of District Rule 3.4, Section 404 (see email dated 03/15/2010). As such, the District will issue ATC C-10-14 without revising the facility's current Title V permit. This will require that the source submit a separate Title V amendment application requesting that the federal operating permit be revised to reflect the conditions of the approved ATC. Per the provisions of Section 402.3, the source will be allowed to begin and complete the proposed equipment modifications, but will be prohibited from operating the equipment until the District has completed the processing and issuance of the revised Title V permit.

Per the requirements of Section 228, the application will result in a significant modification of the facility's federal operating permit since this evaluation involves the case-by-case determination of the various emission standards contained in the District's Rules and Regulations. Per the requirements of

Section 409.1, the District's proposed amended Title-V permit will be noticed to the public over a 30-day period (with the notice being published in at least one general circulation newspaper), and will also be noticed to the EPA over a 45-day period. Lastly per Section 302.6 of the rule, the source will be required to maintain all required records for a period of five (5) years.

District Risk Management Plan and Risk Assessment Guidelines (RMPRAG)

There are no known toxic contaminants emitted from this process.

COMMENTS:

BACT and offset requirements are not triggered and public notice is not required.

The following New Source Review (Rule 3.4) requirements will be listed on the permit:

Dust Control Equipment

- All control equipment, including ducts and filters, are to maintained in good operating condition and shall be operated at all times in conjunction with it's associated process.

- The visual emissions from the baghouse exhaust will be limited to 5% opacity for any period or periods aggregating more than 3 minutes in an one hour.

- The visual emissions from any scrubber exhaust will be limited to 20% opacity for any period or periods aggregating more than three (3) minutes in an one (1) hour.

- Because the calculated particulate exhaust concentrations for baghouse and scrubbers are less than the concentration allowed by District Rule 2.11 (0.3 grains per standard foot), the control devices will be required to comply with its calculated particulate concentration (see Emission Calculation 7).

General Process Opacity

- In order to interconnect the general equipment opacity limit to the containment and emission factors used in this evaluation with the future effective limit of Rule 2.3, the District will require that the source comply with a general process opacity limit of 20% (under Rule 3.4) instead of the transitional 40% opacity limit of Rule 2.3.

Railcar Receiving Specific Requirements

- When transferring urea from railcars to the UAN-32 production process, the source will be required to use a dust pan beneath the railcar that is served by the AAF scrubber (GB-501), as well as, fully enclosed the truck receiving pit opening.

Recordkeeping and Reporting

- The source is to maintain daily, quarterly, and yearly records of the total amount (in tons) of urea:
a. Received by railcar and transferred to the UAN-32 process;
b. Received by railcar and transferred to the warehouse;
c. Off-loaded from overfilled trucks and transferred to the UAN-32 process; and
d. Off-loaded from overfilled trucks and transferred to the warehouse.

- These records shall be retained for a minimum of five (5) years and shall be made available to District personnel upon request.

RECOMMENDATIONS:

Issue Authority to Construct C-10-14.

Engineer: *Rene Zamb*

Date: *04/06/2010*

Reviewed by: *Paul H. H.*

Date: *4/6/2010*

YOLO-SOLANO 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 on existing permits to obtain their quarterly PTE.

SIC Code # 2873

Engineer: René Toledo

Facility Name: Agrium U.S., Inc.

Date of Initial Quarterly PTE Determination: 12/03/1999
 Date of Previous Quarterly PTE Determination: 10/14/2008
 Date of Current Quarterly PTE Determination: 03/22/2010

Location: 3961 Channel Drive; West Sacramento, CA

CURRENT APPLICATIONS: ATC's PTO's
 C-10-14

Process Description	Current Permits	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	3,259	6.47	394	388	402	402	0.80	6	7	7	7	0.01	148	180	151	151	0.30
Nitric Acid Production	P-37-82(a2)	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	0	0	0	0	0.00
Bulk Ammonia Warehousing	P-70-78(a1)	6	6	6	6	0.01	21	21	21	21	0.04	7,193	7,196	7,198	7,198	14.39	16	16	16	16	0.03	148	148	148	148	0.30
Ammonia Product Heaters	P-71-78(a)	33	33	33	33	0.02	504	504	504	504	0.25	600	600	600	600	0.30	4	4	4	4	0.00	46	46	46	46	0.02
Shipping & Transfer of Bulk Urea	P-72-78(a7)	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	4,559	4,562	4,568	4,565	2.72
Receiving of Bulk Urea - Railcar/Barge	P-73-78(a3)	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	437	442	447	447	0.89
PRE-PROJECT SSPE ¹ (lbs)		69	70	70	70	0.178	93,723	94,753	95,784	95,784	349,523	30,687	30,944	31,200	31,200	114,980	26	27	27	27	85	10,570	10,560	10,569	10,589	13,679
POST-PROJECT SSPE ¹ (lbs)		69	70	70	70	0.178	93,723	94,753	95,784	95,784	349,523	30,687	30,944	31,200	31,200	114,980	26	27	27	27	85	11,874	11,898	11,922	11,922	16,746
Emergency IC Engine (600 BHP)	P-85-94(I)	238	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	172	172	172	172	0.09
PRE-PROJECT TOTAL PTE ²		307	308	308	308	0.21	94,268	95,298	96,329	96,329	175.03	33,191	33,448	33,704	33,704	58.74	64	65	65	65	0.06	10,742	10,752	10,761	10,761	6.93
POST-PROJECT TOTAL PTE ²		307	308	308	308	0.21	94,268	95,298	96,329	96,329	175.03	33,191	33,448	33,704	33,704	58.74	64	65	65	65	0.06	12,046	12,070	12,094	12,094	8.46

Post-Project Stationary Source Potential to Emit (SSPE)

	Quarter #1 (lbs)	Quarter #2 (lbs)	Quarter #3 (lbs)	Quarter #4 (lbs)	Yearly (lbs)
VOC	69	70	70	70	178
CO	93,723	94,753	95,784	95,784	349,523
NOx	30,687	30,944	31,200	31,200	114,980
SOx	26	27	27	27	85
PM10	11,874	11,898	11,922	11,922	16,746

Post-Project Total Quarterly Potential to Emit (PTE)

	Quarter #1 (lbs)	Quarter #2 (lbs)	Quarter #3 (lbs)	Quarter #4 (lbs)	Yearly (lbs)
VOC	307	308	308	308	0.21
CO	94,268	95,298	96,329	96,329	175.03
NOx	33,191	33,448	33,704	33,704	58.74
SOx	64	65	65	65	0.06
PM10	12,046	12,070	12,094	12,094	8.46

MITIGATION THRESHOLDS

Yearly (lbs/year)
20,000
20,000
-
-

OFFSET THRESHOLDS

Quarterly (lbs/quarter)
7,500
49,500
7,500
13,650
13,650

SSPE Comparison to Rule 3.20 Triggers

Annual
Below
Above
-
-

PTE Comparison to NSR Triggers

Quarter #1	Quarter #2	Quarter #3	Quarter #4
Below	Below	Below	Below
Above	Above	Above	Above
Above	Above	Above	Above
Below	Below	Below	Below
Below	Below	Below	Below

COMMENTS: This quarterly PTE evaluation was updated for ATC C-10-14 (Urea Receiving from Railcar and Trucks).

Engineer: *René Toledo*

Date: 04/06/2010

Reviewed by: *Paul Anthony*

Date: 4/6/2010

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

New Source Review
Last Five Year Activity

Engineer: René Toledo

SIC Code # 2873

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

Date of Initial Determination: 10/03/2005

Date of Previous Determination: 10/14/2008

Location: 3961 Channel Drive; West Sacramento, CA

Date of Current Determination: 03/22/2010

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)	02/28/2001	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	04/30/2001	-0.19	0.57	-22.80	-16.99	-0.88
Shipping & Transfer of Bulk Urea	-	-	C-00-115 ^b	06/12/2001	0.00	0.00	0.00	0.00	0.00
Receiving of Bulk Urea - Ship/Barge	-	-	C-00-116 ^c	06/12/2001	0.00	0.00	0.00	0.00	0.00
Ammonia Product Heater (Back Up)	P-71-78(a)	01/17/2003	C-01-169 ^d	04/04/2002	0.00	0.00	0.00	0.00	0.00
Bulk Ammonia Warehousing	P-70-78(a)	01/17/2003	C-01-162 ^e	09/17/2002	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	10/23/2005	0.00	0.00	0.00	0.00	0.00
Shipping & Transfer of Bulk Urea	-	-	C-04-76 ^g	06/16/2005	0.00	0.00	0.00	0.00	0.06
Receiving of Bulk Urea - Ship/Barge	P-73-78(a2)	03/16/2006	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)	03/16/2006	C-05-204	10/21/2005	0.00	0.00	0.00	0.00	0.28
Ammonia Flare	P-70-78(a1)	04/12/2007	C-06-181	02/21/2007	0.00	0.00	0.00	0.00	0.00
Shipping & Transfer of Bulk Urea	P-72-78(a4)	08/17/2007	C-07-60	05/03/2007	0.00	0.00	0.00	0.00	0.05
Shipping & Transfer of Bulk Urea	P-72-78(a5)	07/30/2008	C-07-223	06/11/2008	0.00	0.00	0.00	0.00	0.74
Receiving of Bulk Urea - Ship/Barge	P-73-78(a3)	07/30/2008	C-07-224	06/11/2008	0.00	0.00	0.00	0.00	0.16
Receiving of Bulk Urea - Railcar/Truck	P-33-09	06/25/2009	C-08-114 ⁱ	09/22/2008	0.00	0.00	0.00	0.00	0.89
Shipping & Transfer of Bulk Urea	P-72-78(a7)	06/25/2009	C-08-225	09/22/2008	0.00	0.00	0.00	0.00	0.16
Receiving of Bulk Urea - Ship/Barge	P-33-09(a)	-	C-10-14	PENDING	0.00	0.00	0.00	0.00	1.53
TOTAL ^k					0.00	0.00	0.00	0.00	3.87

- ^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 emial 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 February 2004 through February 2010.

Engineer: René Toledo

Date: 04/06/2010

Reviewed by: [Signature]

Date: 4/6/2010