Richard J. Berry, Mayor

Environmental Health Department
Air Quality Program
Regulatory Review

Mary Lou Leonard, Director

To: Permit File, Enforcement File

From: Regan Eyerman, Environmental Health Scientist

Date: November 7, 2017

Subject: Permit application #3324 and Certificate of Registration **CDS #NM/001/00570**

Location: Univar USA, Inc., 3301 Edmunds Street SE, Albuquerque, NM 87102, **13 S UTM 350390E, 3879161N**

Proposal: Univar USA, Inc. has submitted an air quality construction permit application to the Air Quality Program (Program) of the City of Albuquerque Environmental Health Department for a new permit. The permit is for a hydrochloric (HCl) acid transloading facility to be located at their existing facility at 3301 Edmunds Street SE in Albuquerque, New Mexico.

Applicability: ***Source Registration, 20.11.40 NMAC***
Any source which emits more than 2000 lbs of any air contaminant per year must obtain a Registration Certificate from the Department.

Construction Permits, 20.11.41 NMAC
20.11.41.2.B(3) – Applicable as the applicant proposes to construct a stationary source and the source will emit, when calculated at the air contaminant's potential emission rate, two tons or more of a single hazardous air pollutant (HAP).

Permit Fees, 20.11.2 NMAC
The review fees and annual fees below were adjusted for the Consumer Price Index on January 1, 2017.

20.11.2.18.C(1) – Proposed sources with a proposed allowable emission rate equal to or greater than one ton per year and less than five tons per year: $823.00
The Program received a check for $823.00 on 6/21/2017.

Annual emissions fee:
20.11.2.21.B – Annual emission fees for stationary sources: $203.00 per year or $48.00 per ton, whichever is greater. The annual emission fees are estimated to be $203.00 per year.

Emission Unit #	TSP TPY	HAP TPY
1	--	0.06
2	--	0.05
3	--	1.5
4	0.19	--
Total = 2 tpy	**0**	**2**

Visible Air Contaminants, 20.11.5 NMAC
20.11.5.13.B – Except for the initial 10 seconds from startup, no person shall cause or allow visible emissions from any stationary spark ignition engine to exceed 5 percent opacity, 3-minute time-averaged.

Source Surveillance; Administration and Enforcement, 20.11.90 NMAC
20.11.90.13.A – The owner or operator of any stationary source of an air contaminant shall, upon notification by the Director, maintain records of the nature and amounts of emissions, to which an air quality control emission regulation applies, from the source and any other information as may be deemed necessary by the Director to determine whether the source is in compliance with applicable regulations.

20.11.90.13.E – The Director shall establish a periodic visual surveillance system to detect and investigate apparent violations of visible emission limitations and such complaints relating to apparent violations of the regulations as may occur.

20.11.90.14.A – Upon request of the Director, the person responsible for the emission of air contaminants for which limits are established by the 20 NMAC 11 rules shall provide such facilities, utilities, and openings exclusive of instrument and sensing devices, as may be necessary for the proper determination of the nature, extent, quantity and degree of such air contaminants. Such facilities may be either temporary or permanent at the discretion of the person responsible for their provisions; and shall be suitable for determination consistent with emission limits established in these Parts.

Public Notice: Public notice for this permit was from July 16, 2017 through August 15, 2017. Three requests were received for a public information hearing during the public comment period.

Compliance: The following permit conditions apply:

1) The facility may operate continuously.

2) Transloading operations shall be limited to 2,890 hours/year.

3) The maximum loading rate shall not exceed 4,200 gallons/hour.

4) The HCl concentration in aqueous solution shall not exceed 37% by weight.

5) Haul truck traffic shall not exceed 1,440 trucks/year.

6) Railcar unloading and truck and tote/drum loading (Process Equipment Units #1 and 2) shall not occur without the scrubber in place.

7) Vehicle traffic areas, haul roads and all site operations shall be maintained and controlled pursuant to 20.11.20.12.A. NMAC, General Provisions, Fugitive Dust Control.

8) Emission Units #1 through 4 shall not cause or allow visible air emissions to exceed 20 percent opacity for any six (6) minute timed average pursuant to 20.11.5.12 NMAC.

9) Maintain records of start and stop times of transloading operation.

10) Maintain records of a 12-month rolling total of hours of transloading operation.

11) Maintain records of HCl throughput in gallons per hour, gallons per day, and a 12-month rolling total of HCl throughput in gallons per year.

12) Maintain records of the operational status of the scrubber, including the date and time the equipment was checked, prior to any HCl transfer.

13) Record and log the daily and annual haul truck traffic.

14) The permittee shall notify the Department in writing of:

i. The anticipated startup not less than thirty (30) days prior to that date (20.11.41.21.A(1) NMAC);
ii. The actual date of initial startup within fifteen (15) days after the initial startup date (20.11.41.21.A(3) NMAC);
iii. All information labeled "TBD" cited under Condition 1.b) within thirty (30) days of installation; and,
iv. An annual (January 1 through December 31 of the previous year) emissions inventory for all pollutants listed in Condition I.2.a) to include the annual HCl throughput (in gallons) and hours of operation, together with descriptions of any reconfiguration of process technology and air pollution equipment by March 15 every year.

15) Initial and annual compliance testing have not been imposed at this time.

Actions Taken:

- 6/27/2017 Application received by the Department
- 7/13/2017 Application deemed complete by the Department
- 8/9/2017 Requests for public hearing received by Marla Painter, President of Mountain View Community Action and Nora Garcia, President of Mountain View Neighborhood Association
- 8/13/2017 Request for public hearing received by Esther and Steven Abeyta.
- 8/16/2017 Permit extension request approved by Department Director.

Process Equipment Table

Process Equipment Unit #	Process Equipment Description	Manufacturer	Model Number	Serial Number	Installation Date	Size or Process Rate	Unit Subject To NSPS
1	Railcar Unloading/ Truck Loading	NA	NA	NA	2017	4200 gal/hr	No
2	Railcar Unloading/ Tote Drums Loading	NA	NA	NA	2017	4200 gal/hr	No
3	HCl Fugitives	NA	NA	NA	2017	Various valves, pumps and flanges	No
4	Haul Roads	NA	NA	NA	2017	1440 trucks/yr	No

Air Pollution Control Equipment Table

Equipment Controlled Unit #	Air Pollution Control Equipment Description	Manufacturer	Model Number	Serial Number	Design Rate/Operating Parameter	Rated Control Efficiency
1 and 2	Scrubber	TBD*	TBD*	TBD*	TBD*	99%

* To Be Determined

Table A
Controlled and Uncontrolled Emissions
Railcar Loading and Unloading HCl

VOC emissions from loading/unloading HCl have been calculated utilizing the loading loss equation in AP-42, Section 5.2, Equation 1, L = 12.46 SPM/T, lb/10^3 gal. Controlled emissions are achieved using a water scrubber with an efficiency of 99% and annual operating hours limited to 2890 hours.

Uncontrolled

Unit #			Emission Rate Calculations	Total Emissions
1	S = 0.6 P = 2.0 psi M = 36.25 lb/lb-mole T = 530 R	Saturation Factor for truck Vapor Pressure MW of Vapors Liquid Temperature	L = 12.46 x 0.6 x 2.0 psia x 36.25 lb/lb-mole / 530 R	1.02 lb/10^3 gal
			4200 gal/hr x 1.02 lb/10^3 gal	4.30 lb/hr
			4200 gal/hr x 8760 hr/yr x 1.02 lb/10^3 gal x 1 ton/2000 lbs	**18.8 tpy**
2	S = 0.5 P = 2.0 psi M = 36.25 lb/lb-mole T = 530 R	Saturation Factor for totes Vapor Pressure MW of Vapors Liquid Temperature	L = 12.46 x 0.5 x 2.0 psia x 36.25 lb/lb-mole / 530 R	0.85 lb/10^3 gal
			4200 gal/hr x 0.85 lb/10^3 gal	3.58 lb/hr
			4200 gal/hr x 8760 hr/yr x 1.02 lb/10^3 gal x 1 ton/2000 lbs	**15.7 tpy**

Controlled

Unit #			Emission Rate Calculations	Total Emissions
1	S = 0.6 P = 2.0 psi M = 36.25 lb/lb-mole T = 530 R	Saturation Factor for truck Vapor Pressure MW of Vapors Liquid Temperature	L = 12.46 x 0.6 x 2.0 psia x 36.25 lb/lb-mole / 530 R	1.02 lb/10^3 gal
			4200 gal/hr x 1.02 lb/10^3 gal x (1-0.99)	0.04 lb/hr
			0.04 lb/hr x 2890 hr/yr x 1 ton/2000 lbs	**0.06 tpy**
2	S = 0.5 P = 2.0 psi M = 36.25 lb/lb-mole T = 530 R	Saturation Factor for totes Vapor Pressure MW of Vapors Liquid Temperature	L = 12.46 x 0.5 x 2.0 psia x 36.25 lb/lb-mole / 530 R	0.85 lb/10^3 gal
			4200 gal/hr x 0.85 lb/10^3 gal x (1-0.99)	0.04 lb/hr
			0.04 lb/hr x 2890 hr/yr x 1 ton/2000 lbs	**0.05 tpy**

Table B
Controlled and Uncontrolled Emissions
HCl Fugitive Emissions

Emission factors were obtained from AP-42, Protocol for Equipment Leak Emissions Estimates, Table 2-1. Controlled equal uncontrolled emissions.

Unit Number	Pollutant	Emission Rate	Emission Calculation	Emission tons/year
3	HCl	0.00403 kg/hr per valve	[0.00403 kg/hr/valve][1000 g/kg][1 lb/453.60 g][10 valves] = 0.09 lb/hr [0.09 lb/hr] [8760 hr/yr] [1ton/2000 lbs] = 0.39 tpy	0.39
	HCl	0.0199 kg/hr per pump seal	[0.0199 kg/hr/valve][1000 g/kg][1 lb/453.60 g][5 pumps] = 0.22 lb/hr [0.22 lb/hr] [8760 hr/yr] [1ton/2000 lbs] = 0.96 tpy	0.96
	HCl	0.00183 kg/hr per connector	[0.00183 kg/hr/valve][1000 g/kg][1 lb/453.60 g][10 connectors] = 0.04 lb/hr [0.04 lb/hr] [8760 hr/yr] [1ton/2000 lbs] = 0.18 tpy	0.18
Total				**1.53**

Table C
Controlled Emission Rates for
Paved Haul Roads

Controlled TSP, PM10 and PM2.5 emissions for haul roads have been calculated using AP-42 Section 13.2.1 (1/11) "Paved Roads." Controls are based on annual truck traffic.

Emission Unit Number	Emission Factor	Pollutant	Emission Calculation	Emissions lbs/hour	Emissions tons/year
4	TSP	AP-42 Section 13.2-1	Emission Factor (lb/hr) $=(k(sL)^{0.91}(W)^{1.02}$ Emission Factor (ton/yr) $=(k(sL)^{0.91}(W)^{1.02}(1-P/4N)$ Emission Factor = lb/VMT		
k = TSP k = PM10 k = PM2.5 sL = silt loading	0.011 0.0022 0.00054 3		Hourly TSP (lb/VMT) = $(0.011)(3)^{0.91}(40)^{1.02}$ TSP (lb/VMT) = 1.29 lb/VMT Annual TSP (lb/VMT) = $(0.011)(3)^{0.91}(40)^{1.02}(1-60)/(4*365))$ TSP (lb/VMT) = 1.08 lb/VMT		

P = # of wet days/ yr
N = # days in year
W = vehicle weight (tons)
	60
	365
	40
			Hourly
			PM_{10} (lb/VMT) = $(0.0022)(3)^{0.91}(40)^{1.02}$
			PM_{10} (lb/VMT) = 0.26 lb/VMT
			Annual
			PM_{10} (lb/VMT) = $(0.0022)(3)^{0.91}(40)^{1.02})(1-60)/(4*365))$
			PM_{10} (lb/VMT) = 0.22 lb/VMT		

VMT =	0.25 miles/hr 1440 roundtrips/ yr		Hourly PM_{10} (lb/VMT) = $(0.00054)(3)^{0.91}(40)^{1.02}$ $PM_{2.5}$ (lb/VMT) = 0.06 lb/VMT Annual PM_{10} (lb/VMT) = $(0.00054)(3)^{0.91}(40)^{1.02})(1-60)/(4*365))$ $PM_{2.5}$ (lb/VMT) = 0.05 lb/VMT		
		TSP	[0.25 miles/roundtrip][1 roundtrip/hr][1.29 lb/VMT] = 0.32 lb/hr [0.25 miles/roundtrip][1440 roundtrips/yr][1.08 lb/VMT] [1 ton/2000 lbs] = 0.19 ton/yr	0.32*	0.19
		PM_{10}	[0.25 miles/roundtrip][1 roundtrip/hr][0.26 lb/VMT] = 0.06 lb/hr [0.25 miles/roundtrip][1440 roundtrips/yr][0.22 lb/VMT] [1 ton/2000 lbs] = 0.04 ton/yr	0.06*	0.04
		$PM_{2.5}$	[0.25 miles/roundtrip][1 roundtrip/hr][0.06 lb/VMT] = 0.02 lb/hr [0.25 miles/roundtrip][1440 roundtrips/yr][0.05 lb/VMT] [1 ton/2000 lbs] = 0.04 ton/yr	0.02*	0.01

***** lb/hr emission rates in permit application incorrectly include the precipitation correction term