EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Nos. 9402 and N022

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

		AIR CONTAMINANTS DATA		
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
FCC-46	Main Bag Filter	NO_x	2.6	11.5
		CO	0.2	0.9
		NH_3	2.0	8.8
		PM_{10}	1.2	5.3
FCC-50	Crude Unloading Bag Filter	PM_{10}	<0.01	<0.01
FCC-51	Crude Product Bag Filter	PM_{10}	0.07	0.28
FCC-52	Crude Product Bag Filter	PM_{10}	0.07	0.28
FCC-53	Crude Product Bag Filter	PM_{10}	0.01	0.05
FCC-54	Crude Product Bag Filter	PM_{10}	0.03	0.09
FCC-55	Ventilation Air Bag Filter	PM_{10}	0.01	0.04
FCC-57	Product Transport Bag Filter	PM_{10}	0.04	0.15
FCC-58	Crude and Product Bag Filter	PM_{10}	0.42	1.82
FCC-60	Vent Hood	NH_3	5.0	21.9
FCC-61	Product Air Slide Bag Filter	PM_{10}	0.09	0.38
FCC-62	Product Air Slide Bag Filter	PM_{10}	0.09	0.38
FCC-63	Product Vacuum Bag Filter	PM_{10}	0.26	1.16
FCC-64	Blending Silo Bag Filter	PM_{10}	0.24	1.07

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
FCC-65	Bulk Loadout Bag Filter	PM_{10}	0.24	1.07
FCC-66	Portable Bag Filter	PM_{10}	0.09	0.19
		Ni	<0.001	<0.001
		CO	<0.001	<0.001
FCC-67	Diesel Engine	NO_x	2.86	5.96
		CO	0.44	0.92
		PM_{10}	0.32	0.67
		SO_2	0.14	0.30
		VOC	0.22	0.46
FCC-3A	Feed Hopper Bag Filter	PM	0.04	0.18
FCC-5A	Calciner	VOC	0.46	2.02
		NO_x	1.85	8.09
		SO_2	0.01	0.04
		PM	0.08	0.34
		CO	0.54	2.36
FCC-8	Flash Dryer Bag Filter	VOC	0.05	0.22
		NO_x	1.39	6.08
		SO_2	0.01	0.03
		PM	1.0	4.4
		CO	0.19	0.85
FCC-9	Molsieve Calciner	VOC	0.03	0.11
		NO_x	0.69	3.01
		SO_2	<0.01	<0.01
		PM	0.02	0.11
		CO	0.10	0.42
FCC-9A	Final Product Bag Filter	PM	0.58	2.55

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
FCC-10	Flash Dryer Bag Filter	VOC	0.05	0.22
		NO_x	1.39	6.08
		SO_2	<0.01	0.03
		PM	1.0	4.4
		CO	0.19	0.85
FCC-11	Reslurry Tank Bag Filter	PM	0.3	1.2
FCC-11A	Calciner Scrubber	NH_3	2.4	10.5
		PM	<0.10	<0.10
		NO_x	5.48	4.93
		N_2O	40.00	24.56
FCC-12	Molsieve Calciner	VOC	0.03	0.11
		NO_x	0.69	3.01
		SO_2	<0.01	0.01
		PM	0.02	0.11
		CO	0.10	0.42
FCC-14	HCl Scrubber	HCl	<0.10	<0.10
FCC-15	Ammonia Scrubber	NH_3	1.96	8.58
FCC-16	Portaclay/Reslurry Bag Filter	PM	0.05	0.24
FCC-17	Sulfuric Acid Storage Tank	H_2SO_4	<0.01	<0.01
		SO_3	<0.01	<0.01
FCC-18	Strike Tanks Vent	PM_{10}	0.84	2.95
FCC-19	Kaolin Dosing Bag Hopper	PM	0.29	1.26
FCC-20	C Alumina Silo Bag Filter	PM_{10}	0.29	0.91

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
FCC-21	Spray Dryer Bag Filter (Five)	VOC	0.78	3.19
		NO_x	19.32	79.00
		SO_2	0.08	0.33
		PM_{10}	8.59	37.41
		CO	5.39	22.02
		NH_3	1.09	4.78
21.1-21.3	Crude Product Bag Filter	PM	0.1	0.6
FCC-23	Separator Fines Bag Filter	PM	0.48	2.09
FCC-27	Steam Boiler	VOC	0.2	0.8
		NO_x	7.3	32.2
		SO_2	<0.1	0.2
		PM	0.3	1.3
		CO	2.1	9.4
FCC-34	Ammonia Absorber	NH_3	<0.01	0.03
FCC-40	Kaolin Unloading Bag Filter	PM_{10}	0.15	0.32
FCC-41	Sulfuric Acid Storage Tank	H_2SO_4	<0.01	<0.01
		SO_3	<0.01	<0.01
FCC-42	Filter Hoods Vent	NH_3	0.20	0.87
FCC-43	Ammonium Chloride Tank	NH_3	<0.01	0.02
FCC-47	Phosphoric Acid Tank	H_3PO_4	<0.001	<0.001
FCC-68	Kaolin Silo Bag Filter	PM_{10}	0.26	0.58
FCC-69	C Alumina Dosing Bag Filter	PM_{10}	0.24	0.55
FCC-70	BOC Silo Bag Filter	PM_{10}	0.19	0.41
FCC-71	BOC Dosing Bag Filter	PM_{10}	0.21	0.44

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AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
FCC-72	Vacuum System 434-901 (4)	NH_3	0.43	1.87
FCC-73	Vacuum System 431-910 (4)	NH_3	<0.01	<0.01
FCC-75	SCR Unit	N_2O	32.3	141.47
		NO_x	3.00	13.14
		PM_{10}	0.01	0.05
		SO_2	0.01	0.01
		NH_3	0.34	1.48
FCC-74	Final Product Calciner	NO_x	2.31	10.12
		PM_{10}	0.26	1.14
		CO	2.87	12.56
		VOC	0.19	0.82
		SO_2	0.02	0.09
FCC-FUG	Fugitives	NH_3	0.01	0.01

(1) Emission point identification - either specific equipment designation or emission point number from a plot plan.
(2) Specific point source names. For fugitive sources use area name or fugitive source name.
(3) NO_x - total oxides of nitrogen
CO - carbon monoxide
NH_3 - ammonia
PM - particulate matter, suspended in the atmosphere, including PM_{10}
PM_{10} - particulate matter equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no particulate matter greater than 10 microns is emitted.
SO_2 - sulfur dioxide
Ni - nickel
VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1
N_2O - nitrous oxide
HCl - hydrochloric acid
H_2SO_4 - sulfuric acid
SO_3 - sulfur trioxide
H_3PO_4 - phosphoric acid
(4) Either Vacuum System 434-901 (EPN FCC-72) or Vacuum System 434-910 (EPN FCC-73)

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may be used alone to provide vacuum to all the equipment normally served by the two vacuum systems during periods of maintenance or alternate operations. The emissions from the vacuum system remaining in operation during such periods shall not exceed the sum of the maximum allowable emission rates for EPNs FCC-72 and FCC-73.

* Emission rates are based on and the facilities are limited by the following maximum operating schedule:

_____Hrs/day _____Days/week _____Weeks/year or __8,760__Hrs/year