Emission Sources - Maximum Allowable Emission Rates

Permit Number 19823

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, sources, and related activities. 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	
			lbs/hour	TPY (4)
A3HA35 and A3CA1	A-3 Turbine and Waste Heat Boiler (11)	VOC	3.63	12.74
		NO_x	60.07	222.78
		CO	28.18	102.84
		SO_2	7.33	26.77
		PM	6.74	25.60
		PM_{10}	6.74	25.60
		$PM_{2.5}$	6.74	25.60
A3CA31	A-3 Turbine Bypass Stack (11)	VOC	0.53	2.04
		NO_x	39.46	151.40
		CO	14.30	54.86
		SO_2	2.98	11.43
		PM	2.50	10.95
		PM_{10}	2.50	10.95
		$PM_{2.5}$	2.50	10.95
A3HA31A	Cracking Furnace A	VOC	10.34	25.65
		NO_x	42.10	104.40
		CO	37.89	93.96
		SO_2	11.97	29.68
		PM	14.29	35.44
		PM_{10}	14.29	35.44
		$PM_{2.5}$	14.29	35.44

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A3HA31B	Cracking Furnace B	VOC	(6)	(6)
		NO_x	(6)	(6)
		CO	(6)	(6)
		SO_2	(6)	(6)
		PM	(6)	(6)
		PM_{10}	(6)	(6)
		$PM_{2.5}$	(6)	(6)
A3HA31C	Cracking Furnace C	VOC	(6)	(6)
		NO_x	(6)	(6)
		CO	(6)	(6)
		SO_2	(6)	(6)
		PM	(6)	(6)
		PM_{10}	(6)	(6)
		$PM_{2.5}$	(6)	(6)
A3HA31D	Cracking Furnace D	VOC	(6)	(6)
		NO_x	(6)	(6)
		CO	(6)	(6)
		SO_2	(6)	(6)
		PM	(6)	(6)
		PM_{10}	(6)	(6)
		$PM_{2.5}$	(6)	(6)
A3HA31E	Cracking Furnace E	VOC	(6)	(6)
		NO_x	(6)	(6)
		CO	(6)	(6)
		SO_2	(6)	(6)
		PM	(6)	(6)
		PM_{10}	(6)	(6)
		$PM_{2.5}$	(6)	(6)

Emission Sources - Maximum Allowable Emission Rates

A3HA31F	Cracking Furnace F	VOC	(6)	(6)
		NO_x	(6)	(6)
		CO	(6)	(6)
		SO_2	(6)	(6)
		PM	(6)	(6)
		PM_{10}	(6)	(6)
		$PM_{2.5}$	(6)	(6)
A3HA31G	Cracking Furnace G	VOC	(6)	(6)
		NO_x	(6)	(6)
		CO	(6)	(6)
		SO_2	(6)	(6)
		PM	(6)	(6)
		PM_{10}	(6)	(6)
		$PM_{2.5}$	(6)	(6)
A3HA31H	Cracking Furnace H	VOC	(6)	(6)
		NO_x	(6)	(6)
		CO	(6)	(6)
		SO_2	(6)	(6)
		PM	(6)	(6)
		PM_{10}	(6)	(6)
		$PM_{2.5}$	(6)	(6)
A3HA31J	Cracking Furnace J	VOC	(6)	(6)
		NO_x	(6)	(6)
		CO	(6)	(6)
		SO_2	(6)	(6)
A3HA33	Heater H-A3-3	VOC	0.12	0.05
		NO_x	2.23	0.98
		CO	1.88	0.82
		SO_2	0.14	0.06

Emission Sources - Maximum Allowable Emission Rates

		PM	0.17	0.07
		PM_{10}	0.17	0.07
		$PM_{2.5}$	0.17	0.07
A3HA34	Heater H-A3-4	VOC	0.12	0.17
		NO_x	2.23	3.03
		CO	1.88	2.55
		SO_2	0.14	0.19
		PM	0.17	0.23
		PM_{10}	0.17	0.23
		$PM_{2.5}$	0.17	0.23
A3FA350	Spray Drum F-A3-50 (8)	VOC	0.45	0.02
		CO	93.00	8.78
		SO_2	1.62	0.02
		PM	2.50	0.25
		PM_{10}	2.50	0.25
		$PM_{2.5}$	2.50	0.25
A3FUG	Fugitives (5)	VOC	10.00	43.82
UER044	Flare No. 1	VOC	65.00	20.07
		NO_x	16.36	9.56
		CO	94.90	59.51
		SO_2	4.22	0.96
UER046	Flare No. 2	VOC	(7)	(7)
		NO_x	(7)	(7)
		CO	(7)	(7)
		SO_2	(7)	(7)
UER037	Flare No. 3	VOC	32.87	27.49
		NO_x	10.31	9.76
		CO	53.59	50.74
		SO_2	0.12	0.14

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RSETO39	Tank T-O-39	VOC	0.75	0.05
RSETO40	Tank T-O-40	VOC	0.75	0.05
RSETO43	Tank T-O-43	VOC	0.25	0.17
A3TA329	Tank T-A3-29 CAS	VOC	0.08	0.01
A3TA339	Tank T-A3-39	VOC	14.30	0.18
A3TA346	Tank T-A3-46 CAS	VOC	0.02	0.01
T-4	Cooling Tower No. 4	VOC	4.69	6.90
		PM	0.32	0.90
		PM_{10}	0.22	0.72
		$PM_{2.5}$	< 0.01	< 0.01
A3GLOWS	Oil Water Separator (9) (10)	VOC	0.60	1.71
A3WWFUG	Wastewater Ditch Fugitives (5) (10)	VOC	1.08	2.12
RSEO2ANLYZ	Oxygen Analyzer Vent	VOC	0.01	0.01
RESEADWWCAS	AD/WW Tank CAS	VOC	0.04	0.01

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.
(2) Specific point source name. For fugitive sources, use area name or fugitive source name.
(3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
PM - total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
PM_{10} - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
CO - carbon monoxide
(4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
(6) The emission caps for the nine Cracking Furnaces (A3HA31A-H and J) are listed under Cracking Furnace A (EPN A3HA31A).
(7) The emission caps for the two low pressure flares are listed under Flare No. 1 (EPN UER044).
(8) The nickel component of the PM_{10} is limited to 0.00177 lb/hr and the chromium component of PM_{10} is limited to 0.00175 lb/hr.
(9) The anthracene component of VOC is limited to 0.0059 lb/hr and the phenanthrene component of VOC is limited to 0.0056 lb/hr.
(10) The Ground Level Oil Water Separator (A3GLOWS) and Wastewater Ditch Fugitives (A3WWFUG) are all part of the wastewater system.
(11) A-3 Turbine Bypass Stack and A-3 Turbine and Waste Heat Boiler cannot vent simultaneously. All emissions for A-3 Turbine Bypass Stack are a subset of those listed for A-3 Turbine and Waste Heat Boiler.

Emission Sources - Maximum Allowable Emission Rates

Date: February 17, 2017