Emission Sources - Maximum Allowable Emission Rates

Permit Number 4850

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)
TK401	Tank 401	VOC	4.69	1.50
TK402	Tank 402	VOC	4.69	1.50
TK403	Tank 403	VOC	4.69	1.50
TK404	Tank 404	VOC	4.69	1.50
TK405	Tank 405	VOC	4.69	1.50
TK406	Tank 406	VOC	4.69	1.50
TK417	Tank 417	VOC	4.69	1.50
TK501	Tank 501	VOC	4.69	1.50
TK502	Tank 502	VOC	4.69	1.50
TK503	Tank 503	VOC	4.69	1.50
TK504	Tank 504	VOC	4.69	1.50
TK505	Tank 505	VOC	4.69	1.50
TK506	Tank 506	VOC	4.69	1.50
TK507	Tank 507	VOC	4.69	1.50
TK508	Tank 508	VOC	4.69	1.50
TK509	Tank 509	VOC	4.69	1.50
TK510	Tank 510	VOC	4.69	1.50
TK511	Tank 511	VOC	4.69	1.50
TK512	Tank 512	VOC	4.69	1.50
TK513	Tank 513	VOC	4.69	1.50
TK514	Tank 514	VOC	4.69	1.50
TK515	Tank 515	VOC	4.69	1.50
TK516	Tank 516	VOC	4.69	1.50

Emission Sources - Maximum Allowable Emission Rates

TK517	Tank 517	VOC	4.69	1.50
TK518	Tank 518	VOC	4.69	1.50
TK519	Tank 519	VOC	4.69	1.50
TANKCAP1	Storage Tank Emissions Cap No. 1 (5)	VOC	122.07	18.19
TK-217	Tank 217	VOC	1.06	1.34
		Benzene (6)	0.03	0.06
TK-218	Tank 218	VOC	1.06	1.74
TK-219	Tank 219	VOC	1.06	1.74
TK-221	Tank 221	VOC	1.06	1.69
TK-222	Tank 222	VOC	1.06	1.74
TK-223	Tank 223	VOC	1.06	1.74
TK-250	Tank 250	VOC	1.37	2.01
TK-251	Tank 251	VOC	1.42	2.21
TK-252	Tank 252	VOC	1.42	2.21
TK-253	Tank 253	VOC	1.21	1.31
TK-254	Tank 254	VOC	1.22	1.35
TK-255	Tank 255	VOC	1.41	2.25
TK-258	Tank 258	VOC	1.36	1.95
TK-256	Tank 256	VOC	0.92	0.87
		Benzene (6)	0.03	0.03
TK-257	Tank 257	VOC	0.92	0.87
		Benzene (6)	0.03	0.03
TK-259	Tank 259	VOC	1.41	2.25
TK-296	Tank 296	VOC	6.68	0.09
TK-301	Tank 301	VOC	0.49	1.39
TK-308	Tank 308	VOC	3.98	6.56
TK-311	Tank 311	VOC	40.30	5.71
TK-312	Tank 312	VOC	50.38	5.71

Emission Sources - Maximum Allowable Emission Rates

TK-316	Tank 316	VOC	0.96	1.50
		Benzene (6)	0.03	0.05
TK-324	Tank 324	VOC	3.98	11.58
TK-330	Tank 330	VOC	5.61	6.54
TK-341	Tank 341	VOC	12.22	0.49
TK-342	Tank 342	VOC	1.12	1.35
TK-343	Tank 343	VOC	1.12	1.35
TK-344	Tank 344	VOC	1.31	1.31
TK-345	Tank 345	VOC	1.80	2.70
TK-362	Tank 362	VOC	3.03	8.08
TK-363	Tank 363	VOC	27.30	0.79
TK-367	Tank 367	VOC	5.03	9.59
TK-368	Tank 368	VOC	5.03	9.59
TK-369	Tank 369	VOC	5.03	9.59
TK-370	Tank 370	VOC	1.58	2.90
TK-371	Tank 371	VOC	5.08	12.20
TK-372	Tank 372	VOC	3.90	7.61
		H_2S	<0.01	0.01
TK-373	Tank373	VOC	2.62	9.43
TK-374	Tank 374	VOC	2.66	9.31
TK-375	Tank 375	VOC	5.08	12.19
TK-382	Tank 382	VOC	2.92	5.68
TK-384	Tank 384	VOC	1.17	5.11
TK-386	Tank 386	VOC	4.69	4.59
		H_2S	<0.01	<0.01
TK-387	Tank 387	VOC	5.22	8.19
		H_2S	<0.01	<0.01

Emission Sources - Maximum Allowable Emission Rates

TK-388	Tank 388	VOC	1.86	4.10
TK-389	Tank 389	VOC	5.21	8.18
		H_2S	<0.01	<0.01
TK-390	Tank 390	VOC	1.18	3.94
TK-391	Tank 391	VOC	1.52	3.49
TK-393	Tank 393	VOC	2.76	8.95
TK-407	Tank 407	VOC	4.05	3.26
TK-408	Tank 408	VOC	4.05	3.26
TK-409	Tank 409	VOC	4.05	3.26
TK-410	Tank 410	VOC	4.05	3.26
TK-411	Tank 411	VOC	4.05	3.26
TK-412	Tank 412	VOC	4.05	3.26
TK-413	Tank 413	VOC	4.05	3.26
TK-414	Tank 414	VOC	4.05	3.26
TK-415	Tank 415	VOC	4.05	3.26
TK-416	Tank 416	VOC	4.05	3.26
TKLAND	Tank Roof Landings	VOC (7)	1990.63	50.00
		Benzene (6)(7)	--	1.75

Emission Sources - Maximum Allowable Emission Rates

VCU-372	TK-372 roof landing emissions (8)	VOC	22.00	2.05
		Benzene (6)	0.77	0.07
		NO_x	2.00	-
		CO	12.12	-
		PM	0.33	-
		PM_{10}	0.33	-
		$PM_{2.5}$	0.33	-
		SO_2	3.23	-
		H_2S	0.03	-
VCU-370	TK-370 roof landing emissions (8)	VOC	22.20	0.83
		Benzene (6)	0.77	0.03
		NO_x	2.65	-
		CO	18.03	-
		PM	0.59	-
		PM_{10}	0.59	-
		$PM_{2.5}$	0.59	-
		SO_2	0.06	-
		H_2S	0.03	-
VCU-382	TK-382 roof landing emissions (8)	VOC	22.20	0.44
		Benzene (6)	0.77	0.01
		NO_x	2.65	-
		CO	18.03	-
		PM	0.59	-
		PM_{10}	0.59	-
		$PM_{2.5}$	0.59	-
		SO_2	0.06	-
		H_2S	0.03	-

Emission Sources - Maximum Allowable Emission Rates

VCU-384	TK-384 roof landing emissions (8)	VOC	22.20	0.47
		Benzene (6)	0.77	0.02
		NO_x	2.65	-
		CO	18.03	-
		PM	0.59	-
		PM_{10}	0.59	-
		$PM_{2.5}$	0.59	-
		SO_2	0.06	-
		H_2S	0.03	-
VCU-391	TK-391 roof landing emissions (8)	VOC	22.20	1.23
		Benzene (6)	0.77	0.04
		NO_x	2.65	-
		CO	18.03	-
		PM	0.59	-
		PM_{10}	0.59	-
		$PM_{2.5}$	0.59	-
		SO_2	0.06	-
		H_2S	0.03	-
VCU-393	TK-393 roof landing emissions (8)	VOC	22.20	1.21
		Benzene (6)	0.77	0.04
		NO_x	2.65	-
		CO	18.03	-
		PM	0.59	-
		PM_{10}	0.59	-
		$PM_{2.5}$	0.59	-
		SO_2	0.06	-
		H_2S	0.03	-

VCU-371	TK-371 roof landing emissions (8)	VOC	22.20	2.10

Emission Sources - Maximum Allowable Emission Rates

		Benzene (6)	0.77	0.07
		NO_x	2.00	-
		CO	12.12	-
		PM	0.33	-
		PM_{10}	0.33	-
		$PM_{2.5}$	0.33	-
		SO_2	3.23	-
		H_2S	0.03	-
VCU-367	TK-367 roof landing emissions (8)	VOC	22.20	1.23
		Benzene (6)	0.77	0.04
		NO_x	2.00	-
		CO	12.12	-
		PM	0.33	-
		PM_{10}	0.33	-
		$PM_{2.5}$	0.33	-
		SO_2	3.23	-
		H_2S	0.03	-
VCUCAP	TK-367, TK-370, TK-371, TK-372, TKTK-382, TK-384, TK-391, & TK-393 roof landing emissions cap	NO_x	-	1.97
		CO	-	6.49
		PM	-	0.26
		PM_{10}	-	0.26
		$PM_{2.5}$	-	0.26
		SO_2	-	0.73
		H_2S	-	0.08

TK-DEGAS	Portable Tank De-gassing VCU (9)	VOC (7)	8.07	1.79

Emission Sources - Maximum Allowable Emission Rates

		NO_x	2.23	0.50
		CO	4.44	1.00
		PM	0.12	0.03
		PM_{10}	0.12	0.03
		$PM_{2.5}$	0.12	0.03
		H_2S	0.01	<0.01
		SO_2	1.18	0.23
TK-419	Tank 419	VOC	18.78	20.02
		Benzene (6)	0.66	0.79
TK-420	Tank 420	VOC	18.78	20.02
		Benzene (6)	0.66	0.79
TK-421	Tank 421	VOC	18.78	20.02
		Benzene (6)	0.66	0.79
TK-422	Tank 422	VOC	18.78	20.02
		Benzene(6)	0.66	0.79
TK-423	Tank 423	VOC	18.78	20.02
		Benzene(6)	0.66	0.79
TK-424	Tank 424	VOC	18.78	20.02
		Benzene(6)	0.66	0.79
TK-425	Tank 425	VOC	18.78	20.02
		Benzene(6)	0.66	0.79
TK-426	Tank 426	VOC	18.78	20.02
		Benzene(6)	0.66	0.79
TK-427	Tank 427	VOC	18.78	20.02
		Benzene(6)	0.66	0.79
TK-302	Tank 302	VOC	13.44	20.02
		Benzene(6)	0.47	0.79
TK-304	Tank 304	VOC	13.44	20.02
		Benzene(6)	0.47	0.79
TK-392	Tank 392	VOC	15.91	20.02
		Benzene(6)	0.56	0.79

TK-418	Tank 418	VOC	18.78	20.02
		Benzene(6)	0.66	0.79

Emission Sources - Maximum Allowable Emission Rates

TK-428	Tank 428	VOC	18.78	20.02
		Benzene(6)	0.66	0.79
TANKCAP2	TANK CAP No. 2 (10)	VOC	—	20.02
		Benzene(6)	—	0.79
EX-TNKS2	Tank Transfer Subcap Tank CAP No.2 Tanks (11)	VOC	—	1.00
		Benzene(6)	—	0.04
TKATM2	Tank Roof Landing and Venting Post Degas Tank Cap No. 2 Tanks (uncontrolled) (12)	VOC	158.00	4.51
		Benzene(6)	5.53	0.09
TC & RAILDIST	Uncollected Railcar Loading (13)	VOC	9.34	1.28
VCU	Rail VCU (13)	VOC	23.55	3.52
		Benzene(6)	0.83	0.13
		NO_x	7.98	2.57
		CO	14.65	4.72
		PM	0.45	0.21
		PM_{10}	0.45	0.21
		$PM_{2.5}$	0.45	0.21
TK-305	Tank 305	VOC	14.95	—
		Benzene(6)	0.53	—
		H_2S	0.01	—
TK-306	Tank 306	VOC	13.37	—
		Benzene(6)	0.47	—
		H_2S	0.01	—
TK-314	Tank 314	VOC	13.57	—
		Benzene(6)	0.48	—
		H_2S	0.01	—
TK-520	Tank 520	VOC	17.80	—
		Benzene(6)	0.63	—
		H_2S	0.01	—
TK-521	Tank 521	VOC	18.75	—
		Benzene(6)	0.66	—
		H_2S	0.02	—
TK-522	Tank 522	VOC	18.75	—
		Benzene(6)	0.66	—
		H_2S	0.02	—
TK-523	Tank 523	VOC	18.75	—
		Benzene(6)	0.66	—

Emission Sources - Maximum Allowable Emission Rates

		H_2S	0.02	—
TANKCAP3	Tank Cap No. 3 (14)	VOC	—	15.49
		Benzene(6)	—	0.55
		H_2S	—	0.01
TKATM3	Uncontrolled Routine Tank Cap No. 3 Roof Landings (15)	VOC	21.96	2.06
		Benzene(6)	0.77	0.07
		H_2S	0.02	<0.01
TKVCU	Controlled Tank Roof Landing VCU	VOC	8.27	—
		Benzene(6)	0.29	—
		NO_x	18.28	—
		CO	33.58	—
		H_2S	0.01	—
		SO_2	5.53	—
		PM	0.91	—
		PM_{10}	0.91	—
		$PM_{2.5}$	0.91	—
TKVCU-NORTH	Controlled Tank Roof Landing VCU	VOC	8.27	—
		Benzene(6)	0.29	—
		NO_x	18.28	—
		CO	33.58	—
		H_2S	0.01	—
		SO_2	5.53	—
		PM	0.91	—
		PM_{10}	0.91	—
		$PM_{2.5}$	0.91	—
PORT-VCU	Controlled Tank Roof Landing VCU	VOC	22.00	—
		Benzene(6)	0.77	—
		NO_x	2.00	—
		CO	12.13	—
		H_2S	0.04	—
		SO_2	4.22	—
		PM	0.33	—
		PM_{10}	0.33	—
		$PM_{2.5}$	0.33	—

Emission Sources - Maximum Allowable Emission Rates

—	Controlled Tank Roof Landing VCU Emissions Cap (16)	VOC	—	15.38
		Benzene(6)	—	0.55
		NO_x	—	21.36
		CO	—	39.23
		H_2S	—	0.02
		SO_2	—	3.02
		PM	—	1.15
		PM_{10}	—	1.15
		$PM_{2.5}$	—	1.15
PORT-VCU	Tank No. 256 and 257 Roof Landing Emissions (17)	VOC	1.42	0.03
		Benzene(6)	0.05	<0.01
		NO_x	2.00	0.18
		CO	9.40	0.32
		H_2S	<0.01	<0.01
		SO_2	1.42	0.02
		PM	0.25	0.01
		PM_{10}	0.25	0.01
		$PM_{2.5}$	0.25	0.01
SD1	Uncollected Ship Dock No. 1	VOC	55.16	—
		Benzene(6)	1.94	—
		H_2S	0.04	—
SD2	Uncollected Ship Dock No. 2	VOC	55.16	—
		Benzene(6)	1.94	—
		H_2S	0.04	—
SD3	Uncollected Ship Dock No. 3	VOC	55.16	—
		Benzene(6)	1.94	—
		H_2S	0.04	—
BD2	Uncollected Barge Dock No. 2	VOC	27.58	—
		Benzene(6)	0.97	—
		H_2S	0.02	—
BD3	Uncollected Barge Dock No. 3	VOC	27.58	—
		Benzene(6)	0.97	—
		H_2S	0.02	—
BARGVACSU	Barge Loading Vacuum System Startup	VOC	20.10	—
		Benzene(6)	0.71	—
		H_2S	0.02	—

Emission Sources - Maximum Allowable Emission Rates

MARINECAP	Uncontrolled Loading Annual Emission Cap (18)	VOC	—	53.70
		Benzene(6)	—	1.92
		H_2S	—	0.04
VRUEAST	Marine VRU	VOC	21.03	—
		Benzene(6)	0.74	—
		H_2S	0.02	—
VRUWEST	Marine VRU	VOC	21.03	—
		Benzene(6)	0.74	—
		H_2S	0.02	—
VRUNORTH	Marine VRU	VOC	21.03	—
		Benzene(6)	0.74	—
		H_2S	0.02	—
—	Controlled Loading Annual VRU Emission Cap (19)	VOC	—	44.69
		Benzene(6)	—	1.59
		H_2S	—	0.04
FUG-1	Piping Fugitive Components (20)	VOC	12.97	56.98
		Benzene(6)	0.46	2.03
		H_2S	0.02	0.10
MSS & MSS263	MSS Emission Cap (21)	VOC	14.25	1.22
		Benzene(6)	0.50	0.04
		NO_x	16.43	0.51
		CO	30.18	0.94
		H_2S	0.01	<0.01
		SO_2	5.53	0.17
		PM	0.82	0.03
		PM_{10}	0.82	0.03
		$PM_{2.5}$	0.82	0.03
TKCLEAN	Tank Cleaning	VOC	153.26	6.84

(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) Exempt Solvent - Those carbon compounds or mixtures of carbon compounds used as solvents which have been excluded from the definition of volatile organic compound.

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

Emission Sources - Maximum Allowable Emission Rates

H_2S - hydrogen sulfide

(4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
(5) Emissions cap (EPN: TANKCAP1) covers normal operation for storage tank EPNs TK401 through TK406, TK417, and TK501 through TK519.
(6) Emissions are a subset of authorized VOC emissions for the EPN.
(7) Includes uncontrolled tank roof landing emissions from Special Condition No. 6.B category tanks (standing idle and refilling), uncontrolled tank opening (venting) emissions from all floating roof tanks, and controlled VOC emissions from controlled degassing of Special Condition No. 6.B tanks (EPN TKDEGAS).
(8) Includes emissions from controlled tank roof landings (standing idle and roof refloating) as well as emissions from controlled degassing. The authorized VOC emissions have been used in the issuance of Emission Reduction Credits (ERCs) and cannot be increased during the service life of the facility.
(9) Includes controlled degassing emissions from Special Condition No. 6. B tanks.
(10) Emission cap (EPN: TANKCAP 2) covers normal operation for storage tank EPNs TK419 through TK427, TK302, TK304, TK392, TK418 and TK428.
(11) Annual Limits authorize transfer of liquids from tanks not included in Tank Cap No.2 to storage tank included Tank Cap No.2 (EPN: TANKCAP2).
(12) Uncontrolled tank roof landing and venting post degas Tank Cap of No.2 Tanks.
(13) Annual limits are in addition to those limits in NSR Permit No. 56469.
(14) Emission cap (EPN: TANKCAP 3) covers normal operation for storage tank EPNs TK305, TK306, TK314, TK520 through TK523.
(15) Uncontrolled tank roof landing and venting post degas Tank Cap of No.3 Tanks.
(16) Controlled Tank roof landing VCU emission Cap for Special Condition 6.A tanks.
(17) Cap of controlled tank roof landing of TK256 and TK257.
(18) MARINECAP covers uncontrolled/uncollected marine loading emissions of ships and barges from marine docks (EPNs: SD1, SD2, SD3, BD2 and BD3).
(19) Collected/Controlled Loading Annual VRU Emission Cap (EPNs: VRUEAST, VRUWEST and VRUNORTH).
(20) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
(21) Applies to EPNs MSS and MSS-263. Total emissions include uncontrolled roof landings, controlled roof landings, equipment refilling, air mover and vacuum mover loadings associated with Tank Cap No.3 and auxiliary facilities.

Date: May 14, 2018