Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 2975 and PSDTX778M2

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 * (6)	
			lbs/hour	TPY
SM01	No. 1 Smelt Tank Scrubber	PM_{10}	10.90	47.74
		VOC (note a)	1.37	6.02
		SO_2	3.28	14.37
		H_2SO_4	0.15	0.66
		TRS (note b)	1.80	7.88
		NO_X	1.80	7.88
		NH_3	2.51	8.99
SM02	No. 2 Smelt Tank Scrubber	PM_{10}	19.85	86.94
		VOC	2.50	10.95
		SO_2	6.78	29.70
		H_2SO_4	0.31	1.36
		TRS	3.28	14.35
		NO_X	3.28	14.35
		NH_3	4.57	16.37
LK01** (A^1)	Lime Kiln No. 1	PM_{10}	27.60	99.80
		VOC	2.20	8.10
		SO_2	2.30	8.40
		H_2SO_4	0.06	0.13
		TRS	2.60	9.30
		NO_X	18.90	49.50

Emission Sources - Maximum Allowable Emission Rates

		CO	6.80	14.20
PB01*** (A[1], A[2])	No. 1 Power Boiler (Natural Gas and Fuel Oil Firing)	PM_{10}	61.21	185.22
		VOC	8.26	16.70
		NO_X	567.60	1717.69
		SO_2	841.20	1328.25
		CO	264.88	801.59
		H_2SO_4	4.03	4.43
		TRS	0.67	0.26
LK02** (A[1])	Lime Kiln No. 2	PM_{10}	26.30	115.19
		NO_X	38.91	145.90
		SO_2	1.20	5.26
		H_2SO_4	0.25	1.07
		CO	4.44	19.45
		TRS	2.50	10.95
		VOC	4.00	17.52
PB02**** (A[1], A[2], A[3])	Power Boiler No. 2 (including MSS) (note c)	PM_{10}	108.70	466.58
		VOC	54.81	237.80
		NO_X	326.10	1399.75
		SO_2	770.00	780.66
		CO	1102.55	4732.57
		H_2SO_4	16.57	71.02
		TRS	1.66	6.74
RB01A** (A[1], A[2])	No. 1 Recovery Furnace North Stack (Normal ops)	PM_{10}	26.58	116.43
		VOC	13.13	57.52

Emission Sources - Maximum Allowable Emission Rates

		NO_X	63.12	276.45
		SO_2	210.94	307.98
		H_2SO_4	9.69	14.14
		CO	122.97	538.61
		TRS	1.87	8.19
RB01A** (A^4)	No. 1 Recovery Furnace North Stack (MSS)	PM_{10}	52.00	0.65
RB01B** (A^1, A^2)	No. 1 Recovery Furnace South Stack (Normal Ops)	PM_{10}	26.58	116.43
		VOC	13.13	57.52
		NO_X	63.12	276.45
		SO_2	210.94	307.98
		H_2SO_4	9.69	14.14
		CO	122.97	538.61
		TRS	1.87	8.19
RB01B** (A^4)	No. 1 Recovery Furnace South Stack (MSS)	PM_{10}	52.00	0.65
RB02A** (A^1, A^2)	No. 2 Recovery Furnace West Stack (Normal Ops)	PM_{10}	42.59	177.23
		VOC	23.92	99.51
		NO_X	112.42	467.76
		SO_2	375.71	521.11
		H_2SO_4	17.25	23.93
		CO	219.02	911.34
		TRS	3.33	13.86
RB02A** (A^4)	No. 2 Recovery Furnace West Stack (MSS)	PM_{10}	79.00	0.99
RB02B** (A^1, A^2)	No. 2 Recovery Furnace East Stack (Normal Ops)	PM_{10}	42.59	177.23

Emission Sources - Maximum Allowable Emission Rates

		VOC	23.92	99.51
		NO_X	112.42	467.76
		SO_2	375.71	521.11
		H_2SO_4	17.25	23.93
		CO	219.02	911.34
		TRS	3.33	13.86
RB02B** (A[4])	No. 2 Recovery Furnace East Stack (MSS)	PM_{10}	79.00	0.99
BG01 (A[1])	Lime System Baghouse No. 1	PM_{10}	0.06	0.21
BG02 (A[1])	Lime System Baghouse No. 2	PM_{10}	0.10	0.44
LS01	No. 1 Lime Slaker	PM_{10}	0.02	0.08
		VOC	0.39	1.41
		NH_3	9.39	33.63
LS02	No. 2 Lime Slaker	PM_{10}	0.02	0.10
		VOC	0.68	2.99
		NH_3	17.10	61.24
BP0351 (A[5])	Methanol Storage Tank	CH_3OH	19.03	0.73
BP0368 (A[5])	Hydrogen Peroxide Tank	H_2O_2	2.21	0.09
NCG01 (A[1], A[3])	NCG Oxidation Unit Scrubber	VOC	0.12	0.53
		NO_X	3.08	13.51
		SO_2	15.84	69.37
		CO	6.25	27.40
		H_2SO_4	6.01	26.28
		TRS	0.99	4.36

Emission Sources - Maximum Allowable Emission Rates

NCG02 (A[5])	Combined Contaminated Condensate Tank	TRS	<0.10	0.40
NCGF1	NCG Fugitives (4)	TRS	0.36	1.56
DIG1	Batch Digester Fugitives (4)	VOC	4.80	19.19
		TRS	0.87	3.46
WWTS1 (A[6], A[7])	Waste Water Treatment Fugitives (4)	VOC	348.16	740.78
		TRS	22.82	81.72
BP14#	B-Line Bleach Plant Scrubber (North)(5)	Cl_2	0.07	0.32
		ClO_2	4.23	18.51
		CO	29.22	117.37
		VOC	3.06	12.28
		TRS	0.09	0.37
BP15#	B-Line Bleach Plant Scrubber (South)(5)	Cl_2	0.07	0.32
		ClO_2	4.23	18.51
		CO	29.22	117.37
		VOC	3.06	12.28
		TRS	0.09	0.37
BP16#	A-Line Bleach Plant Scrubber (5)	Cl_2	0.20	0.86
		ClO_2	11.31	49.51
		CO	39.00	117.37
		VOC	4.17	12.28
		TRS	0.12	0.37
BP01	Bleach Plant Fugitives (4)	Cl_2	0.20	1.00
		ClO_2	0.20	1.00
CLT01 (A[5])	No. 1 Concentrated Liquor Storage Tank	VOC	0.11	0.48

Emission Sources - Maximum Allowable Emission Rates

		TRS	0.19	0.84
CLT02 (A[5])	No. 2 Concentrated Liquor Storage Tank (5)	VOC	0.11	0.48
		TRS	0.19	0.84
WLT01 (A[5])	No. 1 Weak Liquor Storage Tank (5)	VOC	0.54	2.37
		TRS	0.12	0.51
WLT02 (A[5])	No. 2 Weak Liquor Storage Tank (5)	VOC	0.54	2.34
		TRS	0.12	0.51
HLT01 (A[5])	No. 1 Strong/Heavy Liquor Storage Tank (5)	VOC	0.11	0.48
		TRS	0.19	0.84
HLT02 (A[5])	No. 2 Storage/Heavy Liquor Storage Tank (5)	VOC	0.11	0.48
		TRS	0.19	0.84
SCT01 (A[5])	No. 1 Soap Conc. Tank (5)	VOC	0.03	0.12
		TRS	0.05	0.21
SCT02 (A[5])	No. 2 Soap Conc. Tank (5)	VOC	0.03	0.12
		TRS	0.05	0.21
SS01 (A[5])	No. 1 Soap Separator (5)	VOC	0.03	0.12
		TRS	0.05	0.21
SS02 (A[5])	No. 2 Soap Separator (5)	VOC	0.03	0.12
		TRS	0.05	0.21
SST01 (A[5])	No. 1 Soap Storage Tank (5)	VOC	0.03	0.12
		TRS	0.05	0.21
SST02 (A[5])	No. 2 Soap Storage Tank (5)	VOC	0.03	0.12
		TRS	0.05	0.21
BLDF01 (A[5])	Black Liquor Digester Fill Tank (5)	VOC	0.54	2.37
		TRS	0.12	0.51

Emission Sources - Maximum Allowable Emission Rates

CT01 (A^5)	Spill Collection Tank (5)	VOC	0.54	2.37
		TRS	0.12	0.51
ST01 (A^5)	Swing Tank (5)	VOC	0.54	2.37
		TRS	0.12	0.51
SLST01 (A^5)	No. 1 Spare Liquor Storage Tank (5)	VOC	0.54	2.37
		TRS	0.12	0.51
SLST02 (A^5)	No. 2 Spare Liquor Storage Tank (5)	VOC	0.54	2.37
		TRS	0.12	0.51
SLST03 (A^5)	No. 3 Spare Liquor Storage Tank (5)	VOC	0.54	2.37
		TRS	0.12	0.51
BOT01 (A^5)	Evaporator Boil Out Tank (5)	VOC	0.11	0.48
		TRS	0.19	0.84
DT01 (A^5)	Black Liquor Dump Tank (5)	VOC	0.54	2.37
		TRS	0.12	0.51
WLSC01 (A^5)	Weak Liquor Soap Conc. Tank (5)	VOC	0.03	0.12
		TRS	0.05	0.21
FOT (A^5)	Fuel Oil Tank (5)	VOC	1.52	6.64
		TRS	0.19	0.84
CPFUG (note d)	Caustic Plant Fugitives (4)	NH_3	7.31	26.17
		VOC	16.25	68.30
		TRS	3.18	13.91
CP01 (A^5)	No. 1 Causticizer Tanks (5)	NH_3	2.59	9.28
		VOC	0.01	0.03
CP02 (A^5)	No. 2 Causticizer Tank (5)	NH_3	4.72	16.89

Emission Sources - Maximum Allowable Emission Rates

		VOC	0.01	0.06
WLOXT1 (A[5])	White Liquor Oxidation Tank (5)	NH_3	0.10	0.44
		VOC	0.26	1.16
		TRS	0.56	2.45
KNCONV	A-and B-Line Knotter Conveyor (4)	VOC	0.01	0.04
AQS	A-Line Quaternary Screen (4)	VOC	<0.01	0.01
		TRS	<0.01	<0.01
BQS	B-Line Quaternary Screen (4)	VOC	0.01	0.03
		TRS	<0.01	<0.01
ASDT (A[5])	A-Line Screen Dilution Tank (5)	VOC	0.01	0.02
		TRS	<0.01	<0.01
BSDT (A[5])	B-Line Screen Dilution Tank (5)	VOC	<0.01	0.01
		TRS	<0.01	<0.01
ADHV1/ADSP1	A-Line Decker Hood Vent and A-Line Decker Seal Pit Vent (5)	VOC	9.24	27.20
		TRS	4.06	11.95
BDHV1/BDSP1	B-Line Decker Hood Vent and B-Line Decker Seal Pit Vent (5)	VOC	13.55	54.41
		TRS	5.95	23.89
CPS1 (note e)	Chip/Bark Handling Fugitives (4)	PM	3.35	13.59
		PM_{10}	1.58	6.43
REJBIN2	Reject Bin	CH_3OH	0.03	0.10
LOG-1A	Log Processing 1A (4)	PM	0.73	3.20
		PM_{10}	0.22	0.96
HDST1 (A[5])	No. 1 Brown Stock High Density Stock Tank (5)	VOC	4.80	21.02
		TRS	0.44	1.94
HDST2 (A[5])	No. 2 Brown Stock	VOC	4.80	21.02

Emission Sources - Maximum Allowable Emission Rates

		TRS	0.44	1.94
ALDST (A[5])	A-Line Low Density Chest (5)	VOC	4.80	21.02
		TRS	0.44	1.94
BLDST (A[5])	B-Line Low Density Chest (5)	VOC	4.80	21.02
		TRS	0.44	1.94
AWTST (A[5])	A-Line Waste Stock Chest (5)	VOC	4.80	21.02
		TRS	0.44	1.94
BWTST (A[5])	B-Line Waste Stock Chest (5)	VOC	4.80	21.02
		TRS	0.44	1.94
(note f)	Extruder No. 5 Vents and Fugitives (4)	PM_{10}	3.18	13.91
		VOC	2.07	9.05
		NO_X	0.29	1.29
		CO	0.25	1.08
		SO_2	<0.01	0.01
(note f)	Extruder No. 7 Vents and Fugitives (4)	PM_{10}	3.18	13.92
		VOC	2.07	9.05
		NO_X	0.30	1.33
		CO	0.26	1.12
		SO_2	<0.01	0.01
(note g)	Nos. 1 and 3 Paper Machines and Dryer Exhaust (5)	PM_{10}	0.19	0.83
		VOC	8.74	38.27
		NO_X	2.50	10.93
		CO	2.10	9.18
		SO_2	0.01	0.07
TNK0115, TNK0116, and TNK0175 (A[1])	Starch Silo Nos. 1 -3	PM_{10}	0.02	0.02

Emission Sources - Maximum Allowable Emission Rates

PAINTYD (A^{8})	Sitewide Painting Activities (4)	PM_{10}	70.31	32.72
		VOC	96.05	28.94
BSS1 – BSS5 (A^{5})	Nos. 1-5 Bleached Stock Storage Tanks (4)	VOC	0.04	0.17
(note h)	Paper Machine Tanks and Chests (4)	VOC	0.16	0.68
HVLC-1	HVLC Vent	VOC	157.78	23.09
		CO	3.19	0.51
		TRS	33.30	4.77
AWSST (A^{5})	A-Line Washed Stock Chest (5)	VOC	0.72	3.16
		TRS	0.28	1.21
BWSST (A^{5})	B-Line Washed Stock Chest (5)	VOC	0.74	3.26
		TRS	0.28	1.21

(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) PM - particulate matter, suspended in the atmosphere, including PM_{10}.
PM_{10} - particulate matter equal to or less than 10 microns in diameter. When PM is not listed, it shall be assumed that no particulate matter greater than 10 microns is emitted.
VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code §101.1
SO_2 - sulfur dioxide
H_2SO_4 - sulfuric acid
TRS - total reduced sulfur
NO_x - nitrogen oxides
NH_3 - ammonia
Cl_2 - chlorine
ClO_2 - chlorine dioxide (chlorine peroxide)
CO - carbon monoxide
H_2S - hydrogen sulfide
CH_3OH - methanol
H_2O_2 - hydrogen peroxide
$CHCl_3$ - chloroform
$CHBrCl_2$ - bromodichloromethane
(4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.
(5) The VOC and TRS emission rates for this point are considered to be estimates only and are not intended to be enforceable limits.

Emission Sources - Maximum Allowable Emission Rates

(6) Planned startup and shutdown emissions are included, as well as planned maintenance activities identified as part of permit alteration issued on April 24, 2013.

A[1] Emissions from planned startup and shutdown activities included.
A[2] Emissions from soot blowing included.
A[3] Emissions from control device for evaporator and concentrators boil outs included.
A[4] Emissions from planned MSS activities included.
A[5] Emissions from draining/degassing included.
A[6] Emissions from dredging and other maintenance (e.g., ponds and collection system) included.
A[7] Emissions from maintenance throughout the mill included.
A[8] Emissions from maintenance painting included.

* Unless otherwise specified, emission rates are based on operating 8,760 hours per year or 817,803 air dried unbleached tons per year 736,022 bone dry unbleached tons per year of pulp.

** Pound per hour rates, TRS emissions based on a 12-hour averaging time, PM/PM_{10} and SO_2 based on a 3-hour averaging time, all other pollutants are based on a 24-hour averaging time.

*** Pound per hour rates, SO_2 and NO_x emissions are based on a 3-hour averaging time while all other pollutants are based on a 24-hour averaging time.

**** Pounds per hour rates, SO_2 emissions are based on a 3-hour averaging time while all other pollutants are based on a 24-hour averaging time.

Emissions from the Bleach Plant Scrubbers (EPNs BP14, BP15, and BP16) should be summed up when determining compliance since individual emissions may vary.

Notes:

(a)All VOCs are reported as carbon unless otherwise specified.
(b)All TRS emission rates are reported as H_2S unless otherwise specified.
(c) The SO_2 hourly rates for the Power Boiler No. 2 include combustion of total reduced sulfur compounds during periods when the NCG oxidizer is inoperable.
(d)Green liquor clarifiers (2), green liquor storage tanks (3), weak wash storage tanks (2), white liquor clarifiers (2), white liquor storage tanks (4), white liquor/digestor fill tank, mud washers (2), mud storage tanks (2), mud precoat filters (2), and dregs filter.
(e)These fugitives occur from the chip and RDF handling operations.
(f) Includes the pre-treater stacks (EX5PRE1, EX5PRE2, EX7PRE1, EX7PRE2), the laminator stack (EX5LAM1, EX5LAM2, EX7LAM1, EX7LAM2), the post-treater stack (EX5POSTTR, EX7POSTTR), and fugitives (EXFUG5, EXFUG7) for each extruder.
(g)The Paper Machine Nos.1 and 3 consist of 18 exhaust vents and fugitive emissions.
(h)Includes pine tanks (PINETK3, PINETK1S, PINETK1), hardwood tanks (HDWD1, HDWD3), machine chests (MACHCH1, MACHCH3), and broken storage tanks (BRST1A, BRST1B, BRST3A).

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Date: May 6, 2013