Emission Sources - Maximum Allowable Emission Rates

Permit Number 7369 and PSDTX120M3

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 (4)	
			lbs/hour	TPY (5)
KS-1a	Dry Kiln Exhaust Baghouse Duct	PM (filterable) (6)	14.44	63.25
		PM_{10} (filterable)(6)	12.13	53.12
		$PM_{2.5}$ (filterable)(6)	6.5	28.46
		PM (total)	27.64	116.24
		PM_{10} (total)	25.33	106.12
		$PM_{2.5}$ (total)	19.7	81.46
		NO_x (7)(8)	280	1124.2
		SO_2 (7)	(9)	(9)
		H_2SO_4	(9)	(9)
		CO	522.5	2,288.55
		VOC	97.55	320.44
		HCl	2.74	12
		NH_3	6.34	3.7
4	Coal Bins Baghouse Stack	PM	0.17	0.75
		PM_{10}	0.17	0.75
7	Blend Silo Roof Baghouse Stack	PM	0.69	3
		PM_{10}	0.69	3
7a	Dry Kiln Preheat Tower Baghouse	PM	0.35	1.52
		PM_{10}	0.35	1.52
8	Dry Process Blend Tank Bottom Baghouse Stack	PM	0.25	1.1

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		PM_{10}	0.25	1.1
		$PM_{2.5}$	0.04	0.17
9a	Alkali Bypass Baghouse Stack	PM filterable (6)	3.06	13.41
		PM_{10} filterable (6)	2.57	11.27
		$PM_{2.5}$ filterable (6)	1.38	6.03
		PM total	5.86	24.65
		PM_{10} total	5.37	22.51
		$PM_{2.5}$ total	4.18	17.28
		NO_x (7)	150	219
		SO_2 (7)	(9)	(9)
		H_2SO_4	(9)	(9)
		CO	100	438
		VOC	2.87	9.44
9b	Alkali Bypass Bin Baghouse Stack	PM	0.21	0.9
		PM_{10}	0.21	0.9
10	Coke Silo Dust Collector	PM	0.17	0.75
		PM_{10}	0.17	0.75
11	Dry System Clinker Cooler Baghouse Stack	PM	12.25	53.66
		PM_{10}	12.25	53.66
14	Underground Clinker Tunnel Baghouse Stack	PM	0.28	1.22
		PM_{10}	0.28	1.22
15	Lime Injection Silo Baghouse	PM	0.09	0.38
		PM_{10}	0.09	0.38
17	Finish Mill 1 and 2 Separator	PM	0.64	2.82
		PM_{10}	0.32	1.41

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18A	Silo 400 Baghouse Stack	PM	0.26	1.13
		PM_{10}	0.13	0.56
19	Finish Mill 1 Fringe Bin	PM	0.13	0.56
		PM_{10}	0.06	0.28
19A	Finish Mill 1 Separator	PM	0.6	2.63
		PM_{10}	0.3	1.31
20	Finish Mill 5 Separators	PM	0.92	4.04
		PM_{10}	0.46	2.02
21	Finish Mill 5	PM	4.29	18.77
		PM_{10}	2.14	9.39
22	Cement Storage Silos	PM	0.6	2.63
		PM_{10}	0.3	1.31
23A	Cement Storage Silos	PM	0.39	1.73
		PM_{10}	0.2	0.86
23B	Cement Storage Silos	PM	0.12	0.52
		PM_{10}	0.06	0.26
25	Cement Silo No. 12 Baghouse	PM	0.69	3
		PM_{10}	0.69	3
		$PM_{2.5}$	0.1	0.45
26A	Cement Silo No. 14 Baghouse	PM	0.18	0.77
		PM_{10}	0.18	0.77
		$PM_{2.5}$	0.03	0.12
26B	Cement Silo No. 14 Baghouse	PM	0.18	0.77
		PM_{10}	0.18	0.77
		$PM_{2.5}$	0.03	0.12

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28A	Cement Bulk Loadout	PM	0.3	1.31
		PM_{10}	0.15	0.66
28B	Cement Bulk Loadout	PM	0.3	1.31
		PM_{10}	0.15	0.66
29	Cement Bagging Bins	PM	0.39	0.49
		PM_{10}	0.2	0.25
30	Cement Bagging Bins	PM	0.39	0.49
		PM_{10}	0.2	0.25
31	Solid Fuel Mill and Heater Dust Collectors	PM	2.63	11.51
		PM_{10}	2.63	11.51
		SO_2	0.17	0.76
		NO_x	1.21	5.32
		CO	1.02	4.47
		VOC	0.07	0.29
32	Fuel Bin Baghouse Stack	PM	1.18	5.18
		PM_{10}	1.18	5.18
35	Diesel Fuel Tank	VOC	0.01	0.12
36	Gasoline Fuel Tank	VOC	0.18	1.67
37	No. 5 Fringe Bin	PM	0.26	1.13
		PM_{10}	0.26	1.13
		$PM_{2.5}$	0.04	0.17
38	Fringe Material Baghouse Stack	PM	0.13	0.56
		PM_{10}	0.13	0.56
39	Turn Head Material Diverter Baghouse Stack	PM	0.26	1.13
		PM_{10}	0.26	1.13

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39A	Finish Mill 5 Feed Bins Baghouse	PM	0.6	2.63
		PM_{10}	0.3	1.31
40	Feed Tank Baghouse Stack	PM	0.26	1.13
		PM_{10}	0.26	1.13
41a	Separator Baghouse Stack (10)	PM	2.98	13.06
		PM_{10}	2.98	13.06
41b	Mill Baghouse Stack (10)	PM	1.2	5.26
		PM_{10}	1.2	5.26
43a	Limestone Feeding Bin Baghouse	PM	0.86	3.75
		PM_{10}	0.86	3.75
45	Cement Storage Silo 15A	PM	0.77	3.38
		PM_{10}	0.77	3.38
46	Cement Storage Silo 15B	PM	0.77	3.38
		PM_{10}	0.77	3.38
47	Cement Storage Silo 16	PM	0.77	3.38
		PM_{10}	0.77	3.38
48	Cement Bulk Loadout Baghouse	PM	0.26	1.13
		PM_{10}	0.26	1.13
49	Cement Bulk Loadout Baghouse	PM	0.26	1.13
		PM_{10}	0.26	1.13
61	Cement Storage Silo	PM	0.43	1.88
		PM_{10}	0.43	1.88
62	Dust Collector for FM Fly Ash Bin	PM	0.17	0.75
		PM_{10}	0.17	0.75
		$PM_{2.5}$	0.03	0.11

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63	Fluidized Conveyor Dust Collector	PM	0.03	0.14
		PM_{10}	0.03	0.14
		$PM_{2.5}$	0.01	0.02
321	CKD Return Baghouse	PM	0.04	0.19
		PM_{10}	0.04	0.19
361	Clinker Conveyor Belt	PM	0.38	1.65
		PM_{10}	0.38	1.65
		$PM_{2.5}$	0.02	0.1
411	Bagging Machine Feed Bin Baghouse	PM	0.13	0.56
		PM_{10}	0.13	0.56
700	Coal Railcar Unloading	PM	0.51	2.25
		PM_{10}	0.51	2.25
		$PM_{2.5}$	0.08	0.34
F-A-2	Additives Trucks Drop (11)	PM	0.56	1.4
		PM_{10}	0.27	0.66
F-A-4	Additives Loader Drops (11)	PM	0.56	1.4
		PM_{10}	0.27	0.66
F-A-5	Additives Hopper Drop (11)	PM	0.56	1.4
		PM_{10}	0.27	0.66
F-A-8	Additives Drop (11)	PM	0.04	0.07
		PM_{10}	0.02	0.03
F-B-1	Solid Fuel Drop to Bin (11)	PM	0.04	0.02
		PM_{10}	0.02	0.01
F-B-2	Solid Fuel Bin Drop to Conveyor (11)	PM	<0.01	0.02
		PM_{10}	<0.01	0.01

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F-B-3	Solid Fuel Conveyor Drop to Bins (11)	PM	<0.01	0.02
		PM_{10}	<0.01	0.01
F-B-4	Feed Tank Drop to Drag Chain (11)	PM	<0.01	0.02
		PM_{10}	<0.01	0.01
F-C-1	Clinker Drop to Shuttle Belt (11)	PM	0.3	1.3
		PM_{10}	0.14	0.61
F-C-2	Shuttle Belt Drop to Clinker Barn (11)	PM	0.3	1.3
		PM_{10}	0.14	0.61
F-C-8	Clinker Belt Transfer (11)	PM	0.15	0.07
		PM_{10}	0.07	0.03
F-C-11	Enclosed Weigh Feeder Fugitives (11)	PM	0.45	0.7
		PM_{10}	0.21	0.33
F-C-12	Feed Belt Drop (11)	PM	0.45	0.7
		PM_{10}	0.21	0.33
F-H-2	Solid Fuel Drop to Conveyor (11)	PM	0.04	0.02
		PM_{10}	0.02	0.01
F-LC-1	Solid Fuel Lump Crusher (11)	PM	0.04	0.02
		PM_{10}	0.02	0.01
F-L-2	Solid Fuel Drop to Hopper (11)	PM	0.04	0.02
		PM_{10}	0.02	0.01
F-P-1	Solid Fuel Storage Drop to Pile (11)	PM	---	0.29
		PM_{10}	---	0.15
		$PM_{2.5}$	---	0.02
F-P-2	Wind Pile Erosion (11)	PM	---	3.61
		PM_{10}	---	1.81

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		$PM_{2.5}$	---	0.27
F-P-3	Material Pile (11)	PM	---	14.45
		PM_{10}	---	7.23
		$PM_{2.5}$	---	1.04
F-P-6	CKD Loader (11)	PM	-	1.24
		PM_{10}	-	0.32
F-P-7	Kiln Dust Drop to Piles (11)	PM	---	0.6
		PM_{10}	---	0.3
		$PM_{2.5}$	---	0.05
F-P-12	CKD Dry Kiln Pug Mill to Truck (11)	PM	0.01	<0.01
		PM_{10}	0.01	<0.01
		$PM_{2.5}$	<0.01	<0.01
F-PH-1	Bagging Machine Fugitives (11)	PM	0.06	0.12
		PM_{10}	0.03	0.06
F-Q-1	Quarry Drilling (11)	PM	-	10.88
		PM_{10}	-	8.16
F-Q-2	Dozer Ripping Fugitives (11)	PM	-	1.93
		PM_{10}	-	0.5
F-Q-3	Quarry Loader (11)	PM	-	0.94
		PM_{10}	-	0.25
F-Q-7	Grader (11)	PM	-	0.06
		PM_{10}	-	0.02
F-Q-4	Quarry Loader Drop to Truck (11)	PM	0.14	0.44
		PM_{10}	0.06	0.21
		$PM_{2.5}$	0.01	0.03

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F-Q-6	Primary Crusher (11)	PM	0.03	0.03
		PM_{10}	0.01	0.01
		$PM_{2.5}$	<0.01	<0.01
F-R-2	Belt Transfer Drop (11)	PM	0.05	0.04
		PM_{10}	0.02	0.02
		$PM_{2.5}$	<0.01	<0.01
F-R-3	Belt Drop to Tabernacle Transfer (11)	PM	0.05	0.04
		PM_{10}	0.02	0.02
		$PM_{2.5}$	<0.01	<0.01
F-R-4	Shuttle Belt Drop (11)	PM	0.32	0.11
		PM_{10}	0.15	0.05
F-R-6	Feed Belt Drop to RMS Shuttle Belt (11)	PM	0.05	0.04
		PM_{10}	0.02	0.02
		$PM_{2.5}$	<0.01	<0.01
F-R-7	RMS Shuttle Belt Drop to Pile (11)	PM	0.09	0.4
		PM_{10}	0.04	0.19
F-R-8	RMS Feeder Drop to Belt (11)	PM	0.15	0.13
		PM_{10}	0.07	0.06
		$PM_{2.5}$	0.01	0.01
F-R-9	RMS Belt Drop to Cross Plant Belt (11)	PM	0.05	0.04
		PM_{10}	0.02	0.02
		$PM_{2.5}$	<0.01	<0.01
F-R-10	Cross Plant Belt Drop to Shuttle Belt (11)	PM	0.05	0.04
		PM_{10}	0.02	0.02
		$PM_{2.5}$	<0.01	<0.01

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F-R-11	Shuttle Belt Drop to Dry Feed Bins (11)	PM	0.3	0.27
		PM_{10}	0.14	0.13
		$PM_{2.5}$	0.02	0.02
F-R-12	Feed Bins Drop to Roller Mill Belt (11)	PM	0.06	0.22
		PM_{10}	0.03	0.1
		$PM_{2.5}$	<0.01	0.02
FR 700	Coal Railcar Unloading Fugitives (11)	PM	0.05	0.02
		PM_{10}	0.02	0.01
		$PM_{2.5}$	<0.01	<0.01
F-TR-2	Solid Fuel Truck Unloading Drop (11)	PM	0.37	0.16
		PM_{10}	0.18	0.07
D-2	Dry Kiln Emergency Diesel Engine	NO_x	2.26	0.99
		CO	0.49	0.21
		VOC	0.18	0.08
		PM_{10}	0.16	0.07
		SO_2	0.15	0.07
D-3	Emergency Fire Pump Diesel Engine	NO_x	3.88	1.7
		CO	0.84	0.37
		VOC	0.31	0.14
		PM_{10}	0.28	0.12
		SO_2	0.26	0.11
FEL-DRY	Front End Loader (Dry Process) (11)	PM	<0.01	<0.01
		PM_{10}	<0.01	<0.01
		$PM_{2.5}$	<0.01	<0.01
DROP-DRY	Conveyor Drop (Dry Process) (11)	PM	0.09	0.01

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		PM_{10}	0.04	<0.01
		$PM_{2.5}$	<0.01	<0.01
DEG 1- 6	Degreasers (11)	VOC	10.31	1.34
TMH 1	Synthetic Gypsum Unloading (11)	PM	0.01	0.03
		PM_{10}	0.01	0.01
		$PM_{2.5}$	<0.01	<0.01
TMH 2	Synthetic Gypsum Hopper Loading (11)	PM	0.01	0.01
		PM_{10}	<0.01	<0.01
		$PM_{2.5}$	<0.01	<0.01
TMH 3	Synthetic Gypsum Transfer Drop (11)	PM	<0.01	<0.01
		PM_{10}	<0.01	<0.01
		$PM_{2.5}$	<0.01	<0.01
TMH 4	Synthetic Gypsum Transfer Drop (11)	PM	<0.01	<0.01
		PM_{10}	<0.01	<0.01
		$PM_{2.5}$	<0.01	<0.01
TMH 6	Synthetic Gypsum Unloading (11)	PM	<0.01	0.01
		PM_{10}	<0.01	0.01
		$PM_{2.5}$	<0.01	<0.01
TMH 7	Synthetic Gypsum Hopper Loading (11)	PM	<0.01	<0.01
		PM_{10}	<0.01	<0.01
		$PM_{2.5}$	<0.01	<0.01
TMH 8	Synthetic Gypsum Transfer Drop (11)	PM	<0.01	<0.01
		PM_{10}	<0.01	<0.01
		$PM_{2.5}$	<0.01	<0.01
NH3 FUG	Ammonia Piping Fugitives (11)	NH_3	2.25	9.84

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Blast-1	Abrasive Blasting	PM	<0.01	<0.01
		PM_{10}	<0.01	<0.01
MSSFUG1	Inherently Low-Emitting (ILE) Planned Maintenance Activities (11)	NO_x	0.01	<0.01
		CO	0.06	<0.01
		SO_2	0.02	<0.01
		VOC	6.67	0.04
		PM	2.34	0.88
		PM_{10}	1.29	0.77
		$PM_{2.5}$	0.37	0.36

(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 emissions, as defined in Title 30 Texas Administrative Code (TAC) § 101.1, including PM_{10} and $PM_{2.5}$
PM_{10} - particulate matter emissions equal to or less than 10 microns in diameter, including $PM_{2.5}$.
$PM_{2.5}$ - direct particulate matter emissions equal to or less than 2.5 microns in diameter.
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
H_2SO_4 - sulfuric acid
CO - carbon monoxide
VOC - volatile organic compounds as defined in Title 30 TAC § 101.1
HCl - hydrogen chloride
NH_3 - ammonia
(4) Planned maintenance, startup, and shutdown (MSS) emissions are included.
(5) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.
(6) The PM and PM_{10} filterable rates are based on front-half of sampling train only.
(7) The hourly emission limit is based on a 30-day rolling emissions average. A 30-day rolling average is generated for each day as the average of all the day's hourly emission data and the preceding 29 days of hourly emission data (representing only those hours during kiln operation including all hours of planned maintenance, startup, and shutdown). The gaseous monitoring data shall be reduced to units of the permit allowable emission rate in lb/hr, calculated as a 30-day rolling average at least once every week. **(11/10)**
(8) The facility is complying with the alternative reduction technologies allowed under Title 30 Texas Administrative Code Chapter 117.
(9) The SO_2 emissions from EPNs KS-1a and 9a combined are limited to 1,560.00 pounds per hour (lb/hr) and 1,043.42 tons per year (tpy). The H_2SO_4 emissions from EPNs KS-1a and 9a combined are limited to 138.00 lb/hr and 81.48 tpy.
(10) EPNs 41a and 41b will not exhaust to the atmosphere simultaneously.
(11) Emission rate is an estimate and is enforceable through compliance with the applicable special conditions and permit application representations.

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Date: October 3, 2014