Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 5933 and PSDTX63M3

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)
Baghouse Controls				
1-AE-1	Rock Crushing and Transfer Baghouse	PM_{10}	0.92	4.04
1-AE-2	Sampling Tower Baghouse	PM_{10}	0.43	1.88
1-BE-1	Raw Material Baghouse	PM_{10}	0.43	1.88
1-BE-2	Raw Material Bin Baghouse	PM_{10}	0.43	1.88
1-DE-1	Transfer Blend Silos Baghouse	PM_{10}	0.59	2.58
1-DE-2	Blend Silos Pneumatic System Baghouse	PM_{10}	0.29	1.29
1-DE-2a	Air Slide Feed Bucket Elevator Baghouse	PM_{10}	0.21	0.94
1-DE-3	No. 1 Kiln System Stack	CO	660.2	2,891.80
		SO_2	50	35
		H_2SO_4	5	3.5
		PM_{10} (10)	50	219
		VOC	20	87.6
		HCl (6)	3.6	3.8
		NO_x (April 1 - Oct 31)	232	595.7
		NO_x (Nov 1 - Mar 31)	390	706.7
		NH_3 (7)	51	37.9
1-DE-4	Clinker Cooler Exhaust Baghouse	PM_{10}	13.5	59.13
1-EE-1	Coal Mill Baghouse	PM	0.94	3.77
		PM_{10}	0.94	3.77
		$PM_{2.5}$	0.24	0.94
1-FE-1	Clinker Bin Baghouse	PM_{10}	0.21	0.94
1-FE-2	Clinker Storage Building Baghouse	PM_{10}	0.43	1.88
1-FE-3	Gypsum and Anhydrite Silos Transfer Baghouse	PM_{10}	0.21	0.94
1-FE-4	Gypsum and Anhydrite Silos Bin Baghouse	PM_{10}	0.21	0.94
1-FE-5	Transfer Tower No. 2 Baghouse	PM_{10}	0.26	1.13
1-FE-6	Clinker Merrick Feeder Baghouse	PM_{10}	0.21	0.94

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1-FE-7	Clinker Transfer Point No. 1 Baghouse	PM_{10}	0.43	1.88
1-FE-8	Fringe Cement Tank Baghouse	PM_{10}	0.21	0.94
1-FE-9	Fringe Cement Tank Baghouse	PM_{10}	0.21	0.94
1-FE-14	Gypsum Merrick Feeder Baghouse	PM_{10}	0.21	0.94
1-FE-16	Clinker Bin Drop Baghouse	PM_{10}	0.21	0.94
1-FE-17	Clinker Reclaim Building Baghouse	PM_{10}	0.43	1.88
1-GE-1	Finish Mill No. 1 Baghouse	PM_{10}	0.88	3.86
1-GE-2	Finish Mill No. 2 Baghouse	PM_{10}	0.95	4.17
1-GE-4	Gypsum Transfer Tower No. 1 Baghouse	PM_{10}	0.13	0.56
1-GE-5	Gypsum Transfer Tower No. 2 Baghouse	PM_{10}	0.26	1.13
1-GE-7	Finish Mill No. 2 Baghouse	PM_{10}	0.49	2.15
1-GE-8	Finish Mill No. 1 Baghouse	PM_{10}	0.64	2.79
1-HE-1	Cement Silo Baghouse	PM_{10}	0.21	0.94
1-HE-2	Cement Silo Baghouse	PM_{10}	0.21	0.94
1-HE-3	Cement Loadout Pump No. 1 Baghouse	PM_{10}	0.21	0.94
1-HE-4	Loadout Bin No. 1 Baghouse	PM_{10}	0.21	0.94
1-HE-5	Loadout Bin No. 2 Baghouse	PM_{10}	0.21	0.94
1-HE-6	Cement Loadout Pump No. 2 Baghouse	PM_{10}	0.21	0.94
1-HE-7	Truck/Rail Loadout Baghouse	PM_{10}	0.21	0.94
1-HE-8	Truck/Rail Loadout Baghouse	PM_{10}	0.21	0.94
1-HE-10	Loadout Bin Baghouse	PM_{10}	0.21	0.94
2-BE-1	Steel Slag Feed Baghouse	PM_{10}	0.25	1.09
2-BE-2	Limestone/clay feed transfer	PM	0.13	0.51
		PM_{10}	0.13	0.51
		$PM_{2.5}$	0.03	0.13
2-BE-3	Drop to Raw Material Storage Dome	PM	0.28	1.11
		PM_{10}	0.28	1.11
		$PM_{2.5}$	0.07	0.28
2-BE-4	Drop to Conveyor from Raw Material Storage Dome	PM	0.09	0.38
		PM_{10}	0.09	0.38
		$PM_{2.5}$	0.02	0.09
2-DE-1a	Limestone/Clay and Sand Feed Bins Baghouse	PM_{10}	0.21	0.94
2-DE-1c	Limestone/Fluid Catalytic Cracking Catalyst Feed Bins Baghouse	PM_{10}	0.19	0.84

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2-DE-1d	Raw Bins Feed Conveyor Baghouse	PM	0.21	0.86
		PM_{10}	0.21	0.86
		$PM_{2.5}$	0.05	0.21
2-DE-1e	Limestone/Clay Bin Baghouse	PM	0.43	1.71
		PM_{10}	0.43	1.71
		$PM_{2.5}$	0.11	0.43
2-DE-1f	Limestone bin Baghouse	PM	0.15	0.60
		PM_{10}	0.15	0.60
		$PM_{2.5}$	0.04	0.15
2-DE-1g	FCC Bin Baghouse	PM	0.13	0.51
		PM_{10}	0.13	0.51
		$PM_{2.5}$	0.03	0.13
2-DE-2	Raw Bins to Roller Mill Pneumatic	PM_{10}	0.15	0.66
2-DE-2b	Air Slide/Screw Pump to Blend Silo Baghouse	PM	0.11	0.43
		PM_{10}	0.11	0.43
		$PM_{2.5}$	0.03	0.11
2-DE-2c	Air Slide to Blend Silo Baghouse	PM	1.03	4.11
		PM_{10}	1.03	4.11
		$PM_{2.5}$	0.26	1.03
2-DE-2d	Blend Silo Baghouse	PM	0.18	0.69
		PM_{10}	0.17	0.69
		$PM_{2.5}$	0.04	0.17
2-DE-2e	Raw Feed to Preheater Baghouse	PM_{10}	0.04	0.19
2-DE-2f	Recirculating Filter Dust Baghouse	PM	0.18	0.72
		PM_{10}	0.18	0.72
		$PM_{2.5}$	0.05	0.18
2-DE-2G	Airslide/screw pumps to Blend Silos	PM	0.09	0.38
		PM_{10}	0.09	0.38
		$PM_{2.5}$	0.02	0.09
2-DE-2H	Blend Silo Bucket Delivery to Day Bin	PM	0.11	0.43
		PM_{10}	0.11	0.43
		$PM_{2.5}$	0.03	0.11

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2-DE-3	No. 2 Kiln System Stack	PM_{10} total	34.2	144.68
		PM_{10} filterable	10.2	44.68
		PM_{10} condensable	24	100
		NO_x	292.5	1218.75
		SO_2	100	50
		H_2SO_4	10	5
		VOC	15	62.5
		CO	237	987.5
		HCl	4.5	18.97
		NH_3 (7)	9.02	39.51
1-DE-3 and 2-DE-3	Combined Annual NO_x Nos. 1 and 2 Kiln Stacks	NO_x	--	2,521.08
2-DE-4	No. 2 Clinker Cooler Exhaust Baghouse	PM_{10}	4.76	20.85
2-DE-5	Cement Kiln Dust Bin Baghouse	PM	0.16	0.65
		PM_{10}	0.16	0.65
		$PM_{2.5}$	0.04	0.16
2-EE-1	Coal Mill (B) Feed System Baghouse	PM	0.34	1.37
		PM_{10}	0.34	1.37
		$PM_{2.5}$	0.09	0.34
2-EE-2	Coal Mill Pumps (8)	PM	0.03	0.14
		PM_{10}	0.03	0.14
		$PM_{2.5}$	0.01	0.03
2-FE-1a	No. 1 Clinker Outhaul Baghouse	PM_{10}	0.13	0.56
2-FE-2	Offspec Clinker Bin Baghouse	PM	0.39	1.54
		PM_{10}	0.39	1.54
		$PM_{2.5}$	0.10	0.39
2-FE-2A	Clinker Transfer to Silo	PM	0.28	1.11
		PM_{10}	0.28	1.11
		$PM_{2.5}$	0.07	0.28
2-FE-2B	Clinker Transfer to Silo	PM	0.17	0.69
		PM_{10}	0.17	0.69
		$PM_{2.5}$	0.04	0.17
2-FE-4	Clinker Feed Bin Baghouse	PM	0.43	1.71
		PM_{10}	0.43	1.71
		$PM_{2.5}$	0.11	0.43
2-FE-5	FM Feed Bins Delivery	PM	0.15	0.60
		PM_{10}	0.15	0.60
		$PM_{2.5}$	0.04	0.15

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2-FE-6	Gypsum/Anhydrite and Limestone Finish Bins Baghouse	PM	0.26	1.03
		PM_{10}	0.26	1.03
		$PM_{2.5}$	0.06	0.26
2-FE-7	Gypsum/Anhydrite and Limestone Feeder Belts Baghouse	PM	0.32	1.29
		PM_{10}	0.32	1.29
		$PM_{2.5}$	0.08	0.32
2-FE-8	Limestone Feed Bin and Outhaul	PM	0.32	1.29
		PM_{10}	0.32	1.29
		$PM_{2.5}$	0.08	0.32
2-FE-10	Finish Mill No. 3 Material Feed Baghouse	PM_{10}	0.09	0.38
2-GE-1	Finish Mill No. 3 Baghouse	PM_{10}	2.7	11.81
2-GE-2	Finish Mill No. 3 Air Slides/Bucket Elevator Baghouse	PM	0.13	0.51
		PM_{10}	0.13	0.51
		$PM_{2.5}$	0.03	0.13
2-GE-3	Finish Mill No. 3 Air Slides/Cement Coolers Baghouse	PM_{10}	0.1	0.43
2-GE-4	Fringe Bin	PM	0.43	1.71
		PM_{10}	0.43	1.71
		$PM_{2.5}$	0.11	0.43
2-HE-1	Cement Silos	PM	0.43	1.71
		PM_{10}	0.43	1.71
		$PM_{2.5}$	0.11	0.43
2-HE-2	Cement Loadout Truck Terminal Baghouse	PM	0.17	0.69
		PM_{10}	0.17	0.69
		$PM_{2.5}$	0.04	0.17
2-HE-3	Cement Loadout Rail Terminal Baghouse	PM	0.17	0.69
		PM_{10}	0.17	0.69
		$PM_{2.5}$	0.04	0.17
2-HE-4	Old Cement Silos Vent	PM	0.51	2.06
		PM_{10}	0.51	2.06
		$PM_{2.5}$	0.13	0.51
Fugitive Emissions from Material Drops				
1-AE-4	Limestone Drop f/FE Loader to Truck (8), (9)	PM	4.36	8.3
		PM_{10}	2.06	3.93
1-AE-6	Off-Spec Clinker Drop f/Truck to Pile (8), (9)	PM	0.35	0.17
		PM_{10}	0.17	0.28
1-AE-11	Limestone Drop from Truck to Crusher Bldg Hopper (8)	PM	1.31	2.49
		PM_{10}	0.62	1.18

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1-AE-12	Clay Drop from Front End Loader to Clay Hopper (8)	PM	0.06	0.08
		PM_{10}	0.03	0.39
1-AE-14	Clay Drop from Truck to Clay Storage Shed (8)	PM	0.06	0.08
		PM_{10}	0.03	0.04
1-AE-15	Clinker Drop f/ FE Loader to Crusher Hopper (8), (9)	PM	0.7	1.19
		PM_{10}	0.33	0.56
1-AE-16	Hopper Drop to Stacker (8), (9)	PM	0.7	1.19
		PM_{10}	0.33	0.56
1-AE-17	Clinker Drop from FE Loader to Truck (8), (9)	PM	0.7	1.19
		PM_{10}	0.33	0.56
1-AE-18	Clinker Drop f/FE Loader to Crusher Hopper (8), (9)	PM	0.7	1.19
		PM_{10}	0.33	0.56
1-AE-19	Hopper Drop to Crusher and Crushing (8), (9)	PM	0.06	0.28
		PM_{10}	0.004	0.02
1-AE-20	Reclaimed Clinker Drop (8)	PM_{10}	0.3319	0.564
1-AE-21	Reclaimed Clinker Drop to Feed Hopper No. 1 (8)	PM_{10}	0.13	0.56
1-AE-22	Feed Hopper Drop to Screw Conveyor (8)	PM_{10}	0.02	0.08
1-BE-10	Iron Additive Drop from FE Loader to Hopper (8)	PM	0.02	0.04
		PM_{10}	0.01	0.02
1-DE-5	CKD Drop to Outhaul Truck (8)	PM_{10}	0.0011	0.0017
1-EE-3	Dump to Pile Fugitives (8)	PM	0.07	0.3
		PM_{10}	0.03	0.1
1-EE-4	Loader to Coal Hopper (8)	PM	0.07	0.3
		PM_{10}	0.01	<0.1
1-EE-4PC	Loader to Coke Hopper (8)	PM	0.04	0.2
		PM_{10}	<0.01	<0.1
1-EE-5	Hopper to Coal Belt (8)	PM	0.07	0.3
		PM_{10}	0.03	0.1
1-EE-5PC	Hopper to Coke Belt (8)	PM	0.04	0.2
		PM_{10}	0.02	0.1
1-EE-6PC	Coke Belt to Coke Feeder (8)	PM	0.04	0.2
		PM_{10}	0.02	0.1
1-EE-7PC	Coke Feeder to Coke Belt (8)	PM	0.04	0.2
		PM_{10}	0.02	0.1
1-EE-8	Coal Belt to Coal Bin (8)	PM	0.01	0.1
		PM_{10}	<0.01	<0.1
1-EE-8a	Belt A Drop to Coal Mill Belt B (8)	PM_{10}	0.0196	0.0137

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1-EE-9	Coal Belt B to Coal Bin B (8)	PM	<0.01	0.01
		PM_{10}	<0.01	<0.01
1-GE-9	Coal Railcar to Rail Hopper (8)	PM	0.043	0.055
		PM_{10}	0.02	0.026
1-GE-10	Coal Rail Hopper to Outhaul Belt (8)	PM	0.043	0.055
		PM_{10}	0.02	0.026
1-GE-11	Coal Outhaul Belt to Dump Truck via Chute (8)	PM	0.17	0.37
		PM_{10}	0.08	0.17
1-FE-18	Reclaim Clinker Drop from Truck to Hopper (8)	PM	0.35	0.6
		PM_{10}	0.17	0.28
PC-1A	FE Loader Drop to Grizzly Feeder (8)	PM_{10}	1.11	1.11
2-BE-5	Limestone and Sand Feed Hopper	PM	0.48	0.08
		PM_{10}	0.23	0.04
		$PM_{2.5}$	0.03	0.01
2-EE-1A	Loader Drop to Coal Hopper	PM	0.06	0.02
		PM_{10}	0.03	0.01
		$PM_{2.5}$	<0.01	<0.01
2-EE-1B	Apron Feeder to Coal Delivery Belt	PM	0.03	0.01
		PM_{10}	0.01	<0.01
		$PM_{2.5}$	<0.01	<0.01
Fugitive Emissions from Outdoor Material Storage Piles (includes windblown erosion and drops to piles)				
1-BE-3	Sand Stockpile (8)	PM	0.21	0.9
		PM_{10}	0.1	0.45
1-BE-6	Iron Additive Stockpile (8)	PM	0.12	0.54
		PM_{10}	0.06	0.27
1-BE-7	Coal Pile Wind Erosion (8)	PM	1.03	1.33
		PM_{10}	0.52	0.67
		$PM_{2.5}$	0.26	0.27
1-BE-7PC	Coke Pile Wind Erosion (8)	PM	0.16	0.7
		PM_{10}	0.07	0.3
1-GE-13	Gypsum Additive Stockpile (8)	PM	0.07	0.33
		PM_{10}	0.04	0.16
1-GE-14	Anhydrite Additive Stockpile (8)	PM	0.02	0.11
		PM_{10}	0.01	0.05
1-I-1	Clinker Stockpile (8), (9)	PM	0.2	0.87
		PM_{10}	0.09	0.41
Ammonia Emissions from SNCR Storage Tanks and Equipment Fugitive				
Tank-NH3	Ammonia Storage Tank	NH_3	1.33	5.91

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F-NH3	Component Fugitive (8)	NH_3	0.48	2.12
Fugitive Emissions from Material Handling of Alternate Fuels and Materials				
CAT-P-1	Catalyst Pile, Wind Blown Fugitive (8)	PM	0.04	0.18
		PM_{10}	0.02	0.09
		$PM_{2.5}$	0.01	0.04
FLTC-P-1	Filter Cake Pile, Wind Blown Fugitive (8)	PM	0.04	0.18
		PM_{10}	0.02	0.09
		$PM_{2.5}$	0.01	0.04
BIO-P-1	Biomass Pile, Wind Blown Fugitive (8)	PM	0.04	0.18
		PM_{10}	0.02	0.09
		$PM_{2.5}$	0.01	0.04
WD-P-1	Wood Products Pile, Wind Blown Fugitive (8)	PM	0.04	0.18
		PM_{10}	0.02	0.09
		$PM_{2.5}$	0.01	0.04
IRN-P-1	Alternate Iron, Wind Blown Fugitive (8)	PM	0.04	0.18
		PM_{10}	0.02	0.09
		$PM_{2.5}$	0.01	0.04
WB-P-1	Wall Board Pile, Wind Blown Fugitive (8)	PM	0.04	0.18
		PM_{10}	0.02	0.09
		$PM_{2.5}$	0.01	0.04
ALTM-1 ALTM-2 ALTF-1a, -1b ALTF-2a, -2b ALTF-3 ALTF-4-1 ALTF-4-2 ALTF-5-1 ALTF-5-2 ALTF-6-2a, -2b ALTF-7-2a, -2b ALTF-8-2a, -2b	Alt. material: - FEL drop to hopper - Hopper drop to belt Alt. fuel: - Truck drop to hopper - Screw to belt feed screw - Belt feed screw to inclined belt - Inclined belt to trough belt K1 - Inclined belt to transfer belt K2 - K1 trough belt to surge bin - Transfer belt to surge bin - Surge bin to transfer screws A, B - Transfer screws to weigh belts A, B - Weigh belts to feed screws **(5/13)**	PM	0.11	0.19
		PM_{10}	0.05	0.09
		$PM_{2.5}$	0.01	0.01
Fugitive Emissions from Planned Maintenance Activities				
MSS FUG ILE	Inherently Low emitting (ILE) Planned Maintenance Activities (8)	NO_x	0.03	0.10
		CO	0.87	3.1
		SO_2	<0.01	<0.01
		VOC	0.72	<0.01
		PM	0.68	1.1
		PM_{10}	0.60	0.93
		$PM_{2.5}$	0.29	0.49

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MSS NON-ILE	Non-ILE Planned Maintenance	VOC	16.3	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 (TAC) § 101.1
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
PM - particulate matter emissions, as defined in Title 30 TAC § 101.1, including PM_{10} and $PM_{2.5}$
PM_{10} - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
CO - carbon monoxide
H_2SO_4 - sulfuric acid
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) Maximum hourly HCl rate occurs during kiln system operation with mill down.
(7) Based on a 24-hour rolling average.
(8) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
(9) Source located in quarry area.
(10) Standard Permit Registration Number 100305 (for Pollution Control Projects) authorizes the replacement of an existing electrostatic precipitator with a baghouse on Kiln Line 1, EPN 1-DE-3. This authorization is listed here for reference purposes only. Upon operation of the baghouse on Kiln Line 1, the emission rate limits authorized by Standard Permit Registration Number 100305 for EPN 1-DE-3 are as follows: 11.91 lb/hr filterable PM_{10}, 52.15 tpy filterable PM_{10}, 19.09 lb/hr condensable PM_{10}, 83.60 tpy condensable PM_{10}, 5.58 lb/hr $PM_{2.5}$, and 24.44 tpy $PM_{2.5}$. **(10/12)**

Date: March 13, 2015