

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit No. 2356

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. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	<u>TPY</u>
CSTS66	Bunker Conveyor	PM	0.026	0.05
CRH22	Crusher Baghouse	PM	0.129	0.257
PST23	Storage Hopper Baghouse	PM	0.02	0.04
PST24	Blender Conveyor Baghouse 0.04		PM	0.02
PMTH60	PM Stack Conveyor	PM	0.086	0.34
PMST61	PM Stack Conveyor	PM	0.034	0.137
BBV26	Blender Fill Baghouse	PM	0.004	0.003
SFS38	FM Stack	PM	0.069	0.27
PSE73	Stack No. 1 Conveyor	PM	0.069	0.27
PMFH77	PM Stack Conveyor	PM	0.02	0.03
MM1-29	PS1 Mix Baghouse	PM	0.004	0.015
PS1TH30	PS1 Conveyor Baghouse	PM	0.021	0.04
RM1-31	PS1 Sizer Baghouse	PM	0.004	0.017
MM2BV33	PS2 Mixer Baghouse	PM	0.004	0.015
RM2-34	PS2 Sizer Baghouse	PM	0.004	0.017

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

JSTH37	PS3 Conveyor Baghouse	PM	0.02	0.03
S5SHA72	PS5 Conveyor	PM	0.02	0.03

AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3) lb/hr</u>		<u>TPY</u>
S5SHB78	PS5 Conveyor	PM	0.02	0.03
S5TH75	PS5 Conveyor	PM	0.029	0.04
S5RH76	PS5 Conveyor	PM	0.018	0.027
CBFA64	Bunker Fugitives	PM	0.062	0.002
CBFB67	Bunker Fugitives	PM	0.052	0.0017
SFH44	Sizer Baghouse	PM	0.03	0.015
PPPP48	Bulk Fill Baghouse	PM	0.002	0.001
ACM2-83	Sizer Baghouse	PM	0.06	0.12
PPBGS84	Conveyor Discharge	PM	0.093	0.21
MTS39	Conveyor Baghouse	PM	0.02	0.043
ACMD46	Sizer Baghouse	PM	0.06	0.06
TPU10	Oxidizer	VOC	0.001	0.003
		PM	0.033	0.12
		NO _x	0.43	0.36
		SO ₂	0.28	0.18
		CO	0.01	0.01
		SO ₃	0.01	0.017
TPU80	Oxidizer	VOC	0.001	0.003
		PM	0.059	0.21
		NO _x	0.77	0.64
		SO ₂	0.49	0.31
		CO	0.013	0.014

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

SO ₃	0.014	0.03
-----------------	-------	------

AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
Point No. (1)	Name (2)	Name (3) lb/hr		TPY
TPUBS81	R&D Preconditioner Burner	VOC	0.0005	0.002
		PM	0.0014	0.005
		NO _x	0.012	0.046
		SO ₂	0.0001	0.0003
		CO	0.046	0.176
S1DC36	S1 Baghouse	PM	0.76	3.05
S1MT51	Storage Hopper Baghouse	PM	0.068	0.27
BFK1-13	Bake Furnace K-1	NO _x	1.0	1.8
		CO	1.4	6.1
		VOC	0.4	1.0
		H ₂ S	<0.01	0.005
		SO ₂	0.7	0.66
		SO ₃	0.06	0.08
		COS	0.22	0.37
		PM ₁₀	0.02	0.03
BFK2-14	Bake Furnace K-2	NO _x	1.0	1.8
		CO	1.4	6.1
		VOC	0.4	1.0
		H ₂ S	<0.01	0.005
		SO ₂	0.7	0.66
		SO ₃	0.06	0.08
		COS	0.22	0.37
		PM ₁₀	0.02	0.03
BFK3-15	Bake Furnace K-3	NO _x	1.0	1.8
		CO	1.4	6.1
		VOC	0.4	1.0
		H ₂ S	<0.01	0.005

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

SO ₂	0.7	0.66
SO ₃	0.06	0.08
COS	0.22	0.37
PM ₁₀	0.02	0.03

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3) lb/hr</u>		<u>TPY</u>
BFK4-16	Bake Furnace K-4	NO _x	1.0	1.8
		CO	1.4	6.1
		VOC	0.4	1.0
		H ₂ S	<0.01	0.005
		SO ₂	0.7	0.66
		SO ₃	0.06	0.08
		COS	0.22	0.37
		PM ₁₀	0.02	0.03
BFM1-17	Bake Furnace M-1	NO _x	1.0	1.8
		CO	1.4	6.1
		VOC	0.4	1.0
		H ₂ S	<0.01	0.005
		SO ₂	0.7	0.66
		SO ₃	0.06	0.08
		COS	0.22	0.37
		PM ₁₀	0.02	0.03
BFM2-18	Bake Furnace M-2	NO _x	1.0	1.8
		CO	1.4	6.1
		VOC	0.4	1.0
		H ₂ S	<0.01	0.005
		SO ₂	0.7	0.66
		SO ₃	0.06	0.08
		COS	0.22	0.37
		PM ₁₀	0.02	0.03
BFM3-19	Bake Furnace M-3	NO _x	1.0	1.8
		CO	1.4	6.1
		VOC	0.4	1.0
		H ₂ S	<0.01	0.005
		SO ₂	0.7	0.66
		SO ₃	0.06	0.08
		COS	0.22	0.37
		PM ₁₀	0.02	0.03

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	<u>TPY</u>
BFM4-20	Bake Furnace M-4	NO _x	1.3	2.4
		CO	1.9	8.1
		VOC	0.5	1.4
		H ₂ S	<0.01	0.007
		SO ₂	0.9	0.88
		SO ₃	0.08	0.10
		COS	0.29	0.49
		PM ₁₀	0.025	0.04
BFS1-21	Bake Furnace S-1	NO _x	0.17	0.27
		CO	0.22	0.34
		VOC	0.017	0.03
		H ₂ S	<0.0001	0.0013
		SO ₂	0.0058	0.012
		SO ₃	0.039	0.06
		COS	0.001	0.0026
		PM ₁₀	0.075	0.12
BFS2-90	Bake Furnace S-2	NO _x	0.27	0.42
		CO	0.35	0.54
		VOC	0.027	0.04
		H ₂ S	0.00005	0.0013
		SO ₂	0.0092	0.014
		SO ₃	0.062	0.10
		COS	0.001	0.0027
		PM ₁₀	0.12	0.19
BFS3-91	Bake Furnace S-3	NO _x	0.27	0.42
		CO	0.35	0.54
		VOC	0.027	0.04
		H ₂ S	0.00005	0.0013
		SO ₂	0.0092	0.014
		SO ₃	0.062	0.10
		COS	0.001	0.0027
		PM ₁₀	0.12	0.19

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3) lb/hr</u>		<u>TPY</u>
BFS4-87	Bake Furnace S-4	NO _x	0.27	0.42
		CO	0.35	0.54
		VOC	0.027	0.04
		H ₂ S	0.00005	0.002
		SO ₂	0.0092	0.012
		SO ₃	0.062	0.10
		COS	0.001	0.004
		PM ₁₀	0.12	0.19
BFOX3-74	Bake Furnace S-5	NO _x	0.27	0.42
		CO	0.35	0.54
		VOC	0.027	0.04
		H ₂ S	0.00005	0.002
		SO ₂	0.0092	0.012
		SO ₃	0.062	0.10
		COS	0.001	0.004
		PM ₁₀	0.12	0.19
BFS6-88	Bake Furnace S-6	NO _x	0.27	0.42
		CO	0.35	0.54
		VOC	0.027	0.04
		H ₂ S	0.00013	0.0013
		SO ₂	0.0092	0.016
		SO ₃	0.062	0.10
		COS	0.001	0.0027
		PM ₁₀	0.12	0.19
BFOX2-63	Bake Furnace S-7	NO _x	0.27	0.42
		CO	0.35	0.54
		VOC	0.027	0.04
		H ₂ S	0.00013	0.0013
		SO ₂	0.0092	0.016
		SO ₃	0.062	0.10
		COS	0.001	0.0027
		PM ₁₀	0.12	0.19

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3) lb/hr</u>		<u>TPY</u>
BFS8-89	Bake Furnace S-8	NO _x	0.27	0.42
		CO	0.35	0.54
		VOC	0.027	0.04
		H ₂ S	0.00013	0.0013
		SO ₂	0.0092	0.016
		SO ₃	0.062	0.10
		COS	0.001	0.0027
		PM ₁₀	0.12	0.19
BGDC4	"A" Graphitizer Baghouse 0.096		PM	0.257
BGTVS5	"A" Graphitizer Hopper Baghouse	PM	0.017	0.001
GSS3	"A" Graphitizer Scrubber 0.02		H ₂ S	0.11
HGTDC2	"B" Graphitizer Baghouse 0.129		PM	0.257
HGIS6	"B" Graphitizer Oxidizer 8.4		PM	3.8
		SO ₂	3.1	6.9
		NO _x	0.02	0.07
		VOC	0.001	0.003
		CO	0.004	0.014
		FeSO ₄	0.033	0.011
		SO ₃	2.1	3.9
		H ₂ S	0.029	0.045
CGRAPH59	"C" Graphitizer Oxidizer 11.0		PM	5.0

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

SO ₂	4.0	9.0
NO _x	0.04	0.17
VOC	0.002	0.006
CO	0.009	0.04
FeSO ₄	0.004	0.014
SO ₃	2.7	5.1
H ₂ S	0.029	0.045

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
Point No. (1)	Name (2)	Name (3) lb/hr		TPY
DGRAPH85	"D" Graphitizer Oxidizer 22.0		PM	10.0
		SO ₂	8.1	18.0
		NO _x	0.08	0.34
		VOC	0.004	0.012
		CO	0.018	0.08
		FeSO ₄	0.008	0.028
		SO ₃	5.38	10.26
		H ₂ S	0.058	0.09
DGDC86	D Graphitizer Baghouse	PM	0.86	0.43
SPC12	SIC and SP and GC Processes Scrubber	Chlorine HCl	0.14 0.033	0.28 0.043
BGVH53	BG Hood	VOC	0.02	0.01
VPE54	E2, BG and GC Vacuum Pump	VOC	3.2	0.64
BGD056	BG Oven	VOC	0.5	1.0
E2VH55	E2 Hood	VOC	0.2	0.01
GCVH68	GC Hood	HCl	0.007	0.001
GCDH71	GC Air Dry	VOC	0.50	0.06
GCD070	GC Oven	VOC	0.96	0.69
GC69	GC Furnace	VOC	0.4	0.012
HBf8	Harper Furnace Oxidizer	P ₂ O ₅	2.5	0.42
		HCl	5.1	0.87
		NO _x	0.12	0.16
		SO ₂	<0.01	0.001

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

CO	0.02	0.03
VOC	0.01	0.01
PM	0.01	0.01

AIR CONTAMINANTS DATA

<u>Emission</u> *	Source	Air Contaminant	<u>Emission Rates</u>	
Point No. (1)	Name (2)	Name (3) lb/hr		TPY
SF9	Stewart Furnace	VOC	0.025	0.013
IF11	SPE Furnace	VOC (methane)	4.6	11.5
FL7	"A" Graphitizer Vent	VOC (methane)	0.64	0.46
		NO _x	0.10	0.07
		SO ₂	<0.01	0.004
		PM	0.01	0.004
		CO	0.02	0.014
JSDC62	East Baghouse	PM	1.5	6.2
FESDC35	South Baghouse	PM	0.64	2.6
PPNDC43	PP North Baghouse	PM	0.21	0.21
PPWDC47	PP West Baghouse	PM	0.29	0.29
PPSDC45	PP South Baghouse	PM	0.26	0.26
MSP79	Concrete Storage Pad	PM		0.16
KILNS82	SC Kilns	PM	0.08	0.31

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

- (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
- PM₁₀ - particulate matter less than ten microns in diameter
 - VOC - volatile organic compounds as defined in General Rule 101.1
 - NO_x - total oxides of nitrogen
 - SO₂ - sulfur dioxide
 - CO - carbon monoxide
 - SO₃ - sulfur trioxide
 - H₂S - hydrogen sulfide
 - COS - carbonyl sulfide
 - FeSO₄ - ferrous sulfate
 - P₂O₅ - phosphorus pentoxide
 - HCl - hydrogen chloride

* Emission rates are based on and the facilities are limited by the following maximum operating schedule:

24 Hrs/day 7 Days/week 52 Weeks/year or 8,760 Hrs/year

Dated_____