

Uncontrolled Potential Emissions

Source No.	Emission Unit	Emission Source	Information Provided by Facility				PM		PM ₁₀		SO ₂		CO		VOC		NO _x	
			Design Input (lbs./hr.)	Design Input (tons/hr.)	Flow Rate (cfm)	Design Heat Input (MMBtu/hr.)	lbs./hr.	tons/yr.	lbs./hr.	tons/yr.	lbs./hr.	tons/yr.	lbs./hr.	tons/yr.	lbs./hr.	tons/yr.	lbs./hr.	tons/yr.
01	TF 1	XWA 650 Silo	35,000	17.5	800	--	0.16	0.68	--	--	--	--	--	--	--	--	--	--
02	Boiler 1	700 HP NG Boiler	--	--	--	28.60	0.22	0.95	--	--	0.02	0.08	2.40	10.52	0.16	0.69	1.43	6.26
	Boiler 2	700 HP NG Boiler	--	--	--	28.60	0.22	0.95	--	--	0.02	0.08	2.40	10.52	0.16	0.69	1.43	6.26
03	TF 2	Zeodent Silo	35,000	17.5	800	--	0.16	0.68	--	--	--	--	--	--	--	--	--	--
04		Sylodent 783 Silo	34,000	17	600	--	0.15	0.66	--	--	--	--	--	--	--	--	--	--
05	C-3	Emergency Diesel Generator	--	--	--	4.03	1.25	0.31	1.25	0.31	1.17	0.29	3.83	0.96	1.45	0.36	17.77	4.44
06	C-4	Fire Pump Diesel Generator	--	--	--	1.55	0.48	0.12	--	--	0.45	0.11	1.47	0.37	0.56	0.14	6.84	1.71
07	C-5	Fire Pump Diesel Generator	--	--	--	2.42	0.75	0.19	--	--	0.70	0.18	2.30	0.57	0.87	0.22	10.67	2.67
08	DS-1	Dump Station Tote	900	0.45	3,000	--	18.00	15.77	--	--	--	--	--	--	--	--	--	--
TOTAL EMISSIONS:							21.38	20.32	1.25	0.31	2.35	0.73	12.40	22.95	3.19	2.10	38.14	21.35

Controlled Potential = Actual Emissions

Source No.	Emission Unit	Emission Source	Information Provided by Facility				PM		PM ₁₀		SO ₂		CO		VOC		NO _x	
			Design Input (lbs./hr.)	Design Input (tons/hr.)	Flow Rate (cfm)	Design Heat Input (MMBtu/hr.)	lbs./hr.	tons/yr.	lbs./hr.	tons/yr.	lbs./hr.	tons/yr.	lbs./hr.	tons/yr.	lbs./hr.	tons/yr.	lbs./hr.	tons/yr.
01	TF 1	XWA 650 Silo	35,000	17.5	800	--	0.0078	0.0049	--	--	--	--	--	--	--	--	--	--
02	Boiler 1	700 HP NG Boiler	--	--	--	28.60	0.22	0.95	--	--	0.02	0.08	2.40	10.52	0.16	0.69	1.43	6.26
	Boiler 2	700 HP NG Boiler	--	--	--	28.60	0.22	0.95	--	--	0.02	0.08	2.40	10.52	0.16	0.69	1.43	6.26
03	TF 2	Zeodent Silo	35,000	17.5	800	--	0.0078	0.0049	--	--	--	--	--	--	--	--	--	--
04		Sylodent 783 Silo	34,000	17	600	--	0.01	0.03	--	--	--	--	--	--	--	--	--	--
05	C-3	Emergency Diesel Generator	--	--	--	4.03	1.25	0.31	1.25	0.31	1.17	0.29	3.83	0.96	1.45	0.36	17.77	4.44
06	C-4	Fire Pump Diesel Generator	--	--	--	1.55	0.48	0.12	--	--	0.45	0.11	1.47	0.37	0.56	0.14	6.84	1.71
07	C-5	Fire Pump Diesel Generator	--	--	--	2.42	0.75	0.19	--	--	0.70	0.18	2.30	0.57	0.87	0.22	10.67	2.67
08	DS-1	Dump Station Tote	900	0.45	3,000	--	0.00	0.00	--	--	--	--	--	--	--	--	--	--
TOTAL EMISSIONS:							2.94	2.57	1.25	0.31	2.35	0.73	12.40	22.95	3.19	2.10	38.14	21.35

Allowable PM Emissions

Source No.	Emission Unit	Emission Source	Information Provided by Facility				Calculations Based on TN APC Chapter 7: Process Emission Standards Regulations				Actual = Controlled Potential PM		Uncontrolled Potential PM		Allowable Limits			
			Design Input (lbs./hr.)	Design Input (tons/hr.)	Flow Rate (cfm)	Design Heat Input (MMBtu/hr.)	PWR Table 2 (lbs./hr.)	0.02 gr./dscf (lbs./hr.)	0.25 gr./dscf (lbs./hr.)	Emission per Chapter 7 Rules (lbs./hr.)	lbs./hr.	tons/yr.	lbs./hr.	tons/yr.	Allowable (lbs./hr.)	Operating Hours	Allowable (tpy)	
01	TF 1	XWA 650 Silo	35,000	17.5	800	--	21.17	0.14	1.71	1.71	0.0078	0.0049	0.16	0.68	1.71	8760	7.51	Based on 0.25 gr./dscf
02	Boiler 1	700 HP NG Boiler	--	--	--	28.60	Non-Process Emission Source - Subject to Ch. 6 and 14				0.2174	0.952	0.22	0.95	6.50	8760	28.47	Based on 1200-03-06-.02
	Boiler 2	700 HP NG Boiler	--	--	--	28.60	Non-Process Emission Source - Subject to Ch. 6 and 14				0.22	0.95	0.22	0.95	6.50	8760	28.47	Based on 1200-03-06-.02
03	TF 2	Zeodent Silo	35,000	17.5	800	--	21.17	0.14	1.71	1.71	0.0078	0.0049	0.16	0.68	1.71	8760	7.51	Based on 0.25 gr./dscf
04		Sylodent 783 Silo	34,000	17	600	--	20.80	0.103	1.286	1.29	0.008	0.033	0.151	0.663	1.29	8760	5.631	Based on 0.25 gr./dscf
05	C-3	Emergency Diesel Generator	--	--	--	4.03	Non-Process Emission Source - Subject to Ch. 6 and 14				1.25	0.31	1.25	0.31	2.42	500	0.60	Based on 1200-03-06-.02
06	C-4	Fire Pump Diesel Generator	--	--	--	1.55	Non-Process Emission Source - Subject to Ch. 6 and 14				0.48	0.12	0.48	0.12	0.93	500	0.23	Based on 1200-03-06-.02
07	C-5	Fire Pump Diesel Generator	--	--	--	2.42	Non-Process Emission Source - Subject to Ch. 6 and 14				0.75	0.19	0.75	0.19	1.45	500	0.36	Based on 1200-03-06-.02
08	DS-1	Dump Station Tote	900	0.45	3,000	--	2.19	0.514	6.43	2.19	0.00	0.00	18.00	15.77	2.19	1752	1.92	Based on PWR Table 2
TOTAL EMISSIONS:											2.94	1.95	21.38	20.32	17.72		80.71	

Allowable SO₂ Emissions

Source No.	Emission Unit	Emission Source	Information Provided by Facility				TN APC Chapter 14: Control of Sulfur Dioxide Emissions				Actual = Controlled Potential SO ₂		Uncontrolled Potential SO ₂		Allowable Limits			
			Design Input (lbs./hr.)	Design Input (tons/hr.)	Flow Rate (cfm)	Design Heat Input (MMBtu/hr.)	Non-Process Emission Source (lbs/hr)	Process Emissions Source (lbs/hr)		Emission per Chapter 14 Rules (lbs./hr.)	lbs./hr.	tons/yr.	lbs./hr.	tons/yr.	Allowable (lbs./hr.)	Operating Hours	Allowable (tpy)	
01	TF 1	XWA 650 Silo	35,000	17.5	800	--	--	--		--	--	--	--	--	--	8760	--	
02	Boiler 1	700 HP NG Boiler	--	--	--	28.60	143.00	--		143.00	0.02	0.08	0.02	0.08	143.00	8760	626.34	Based on 1200-03-14-.02
	Boiler 2	700 HP NG Boiler	--	--	--	28.60	143.00	--		143.00	0.02	0.08	0.02	0.08	143.00	8760	626.34	Based on 1200-03-14-.02
03	TF 2	Zeodent Silo	35,000	17.5	800	--	--	--		--	--	--	--	--	--	8760	--	
04		Sylodent 783 Silo	34,000	17	600	--	--	--		--	--	--	--	--	--	8760	--	
05	C-3	Emergency Diesel Generator	--	--	--	4.03	20.15	--		20.15	1.17	0.29	1.17	0.29	20.15	500	5.04	Based on 1200-03-14-.02
06	C-4	Fire Pump Diesel Generator	--	--	--	1.55	7.75	--		7.75	0.45	0.11	0.45	0.11	7.75	500	1.94	Based on 1200-03-14-.02
07	C-5	Fire Pump Diesel Generator	--	--	--	2.42	12.10	--		12.10	0.70	0.18	0.70	0.18	12.10	500	3.03	Based on 1200-03-14-.02
08	DS-1	Dump Station Tote	900	0.45	3,000	--	--	--		--	--	--	--	--	--	1752	--	
TOTAL EMISSIONS:											2.35	0.15	2.35	0.73	286.00		1262.68	

Permitted Emissions

Source No.	Emission Unit	Emission Source	Information Provided by Facility				[Limit (tpy)] / [Design Input (tons/hr.)] (hrs./yr.)	Actual = Controlled Potential PM		Facility Agreed Upon Permitted Limits											
			Design Input (lbs./hr.)	Design Input (tons/hr.)	Max. Annual Throughput (tons/yr.)	Throughput Restriction (tons/yr.)		lbs./hr.	tons/yr.	PM (lbs./hr.)	PM (tons/yr.)	PM ₁₀ (lbs./hr.)	PM ₁₀ (tons/yr.)	SO2 (lbs./hr.)	SO2 (tons/yr.)	CO (lbs./hr.)	CO (tons/yr.)	VOC (lbs./hr.)	VOC (tons/yr.)	NOX (lbs./hr.)	NOX (tons/yr.)
01	TF 1	XWA 650 Silo	35,000	17.5			8,760	0.0078	0.0049	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt
02	Boiler 1	700 HP NG Boiler	--	--			8,760	0.2174	0.9520	13.00	56.94	--	--		0.15	4.50	21.05	0.31	1.38	2.86	12.53
	Boiler 2	700 HP NG Boiler	--	--			8,760	0.2174	0.9520												
03	TF 2	Zeodent Silo	35,000	17.5			8,760	0.0078	0.0049	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt
04		Sylodent 783 Silo	34,000	17			8,760	0.0076	0.0331	1.29	5.63	--	--	--	--	--	--	--	--	--	--
05	C-3	Emergency Diesel Generator	--	--			500	1.2493	0.3123	Insignificant	Insignificant	Insignificant	Insignificant	Insignificant	Insignificant	Insignificant	Insignificant	Insignificant	Insignificant	Insignificant	Insignificant
06	C-4	Fire Pump Diesel Generator	--	--			500	0.4805	0.1201	PBR	PBR	PBR	PBR	PBR	PBR	PBR	PBR	PBR	PBR	PBR	PBR
07	C-5	Fire Pump Diesel Generator	--	--			500	0.7502	0.1876	PBR	PBR	PBR	PBR	PBR	PBR	PBR	PBR	PBR	PBR	PBR	PBR
08	DS-1	Dump Station Tote	900	0.45			1,752	0.0002	0.0002	2.19	1.92	--	--	--	--	--	--	--	--	--	--
TOTAL EMISSIONS:								2.94	2.57	16.48	64.49	0.00	0.00	0.00	0.15	4.50	21.05	0.31	1.38	2.86	12.53

Sources 01 & 03: TF 1 XWA 650 Silo & TF 2 Zeodent Silo

Operation Hours:	24 hrs./day	[Application dated July 10, 2006]
	1 days/wk.	[Application dated July 10, 2006]
	52 wk./yr.	[Application dated July 10, 2006]
	52 days/yr.	[Application dated July 10, 2006]
Actual Operating Hours:	1,248 hrs./yr.	
Potential Operating Hours:	8,760 hrs./yr.	
Design Input:	35,000 lbs./hr.	[Application dated July 10, 2006]
	17.5 tons/hr.	
Flow Rate for Baghouse:	800 ft ³ /min.	[Application dated July 10, 2006]

Process Weight Rate Table II:

Design Input <= 30 tons/hr.

$$E = 3.59P^{0.62}$$

$$E = 21.17 \text{ lbs./hr.}$$

At 0.02 gr./dscf:

$$PM = \frac{(0.02 \text{ [gr./dscf]}) * (\text{Flow Rate [ft}^3/\text{min.]}) * (60 \text{ [min./hr.]})}{7000 \text{ [lbs./gr.]}}$$

$$PM = 0.14 \text{ lbs./hr.}$$

At 0.25 gr./dscf:

$$PM = \frac{(0.25 \text{ [gr./dscf]}) * (\text{Flow Rate [ft}^3/\text{min.]}) * (60 \text{ [min./hr.]})}{7000 \text{ [lbs./gr.]}}$$

$$PM = 1.71 \text{ lbs./hr.}$$

AP-42 Emission Factor:

AP 42 Emission Factor:	0.0089 lb. PM/ton	[Emission Factor with No Control]
Design Input Rate [tons/hr.]*AP 42 Emission Factor 11.12-2)		= 0.16 lb./hr.
Baghouse Control Efficiency: 95 %		= 0.68 tons/yr [Uncontrolled]
[Application dated July 10, 2006]		= 0.0078 lb./hr.
		= 0.0049 tons/yr [Controlled]

AP 42 Emission Factor:	lb. PM ₁₀ /ton	[Emission Factor with No Control]
Design Input Rate [tons/hr.]*AP 42 Emission Factor 11.12-2)		= 0.00 lb./hr.
Baghouse Control Efficiency: %		= 0.00 tons/yr [Uncontrolled]
[Application dated July 10, 2006]		= 0.0000 lb./hr.
		= 0.0000 tons/yr [Controlled]

Source 01: Two 800HP NG Boilers (not operated concurrently - one is a backup)

Subject to 40 CFR 60, Subpart Dc

Operation Hours: 24 hrs./day [Application dated July 10, 2006]
7 days/wk. [Application dated July 10, 2006]
52 wk./yr. [Application dated July 10, 2006]
365 days/yr. [Application dated July 10, 2006]
Actual Operating Hours: 8,760 hrs./yr.
Potential Operating Hours: 8,760 hrs./yr.
Heat Input Rate: MMBtu/hr. [Not given in application dated July 10, 2006]
Natural Gas Usage: ft³/yr. [Not given in application dated July 10, 2006]
Date Constructed: 2006 [Not given in application dated July 10, 2006]

Allowable Emissions

PM

TAPCR 1200-03-06-.02(2)(a): Non-process particulate, "New" design

$$E = 0.600 \left(\frac{10}{Q} \right)^{0.5566} \quad [TBD]$$

$$Q = 0.000 \text{ MMBtu/hr}$$

$$E = \#DIV/0! \text{ lb/MMBtu}$$

$$\text{PM (lbs./hr.)} = [E \text{ (lb/MMBtu)}] \times [\text{Heat Input Capacity (MMBtu/hr.)}] = \#DIV/0! \text{ lbs./hr.}$$

$$\text{PM (tons/yr.)} = \frac{[\text{PM}_{\text{allow}} \text{ (lbs./hr.)}] \times [\text{Potential Hours (hrs./yr.)}]}{2000 \text{ lbs./ton}} = \#DIV/0! \text{ ton/yr.}$$

SO₂

TAPCR 1200-03-14-.02(2)(a)

Class VI County 5.0 lbs. / MMBtu

$$\text{SO}_2 \text{ (lbs./hr.)} = [\text{Emission Standard (lbs./MMBtu)}] \times [\text{Heat Input Capacity (MMBtu/hr.)}] = 0 \text{ lbs./hr.}$$

$$\text{SO}_2 \text{ (ton/yr.)} = \frac{[\text{SO}_{2\text{allow}} \text{ (lbs./hr.)}] \times [\text{Potential Hours (hrs./yr.)}]}{2000 \text{ lbs./ton}} = 0.00 \text{ ton/yr.}$$

Controls Low Nox Burner & Flue Gas Recirculation
68% [Application dated July 10, 2006]

Potential Emissions

Pollutant		MMBtu/hr.		lb./MMBtu		lbs./hr.		hr./yr.		lbs./ton		ton/yr.
PM	=	0.000	x	0.0076	=	0.00	x	8,760	/	2,000	=	0.00
SO ₂	=	0.000	x	0.0006	=	0.0000	x	8,760	/	2,000	=	0.000
CO	=	0.000	x	0.084	=	0.00	x	8,760	/	2,000	=	0.00
VOC	=	0.000	x	0.0055	=	0.00	x	8,760	/	2,000	=	0.00
NO _x	=	0.000	x	0.032	=	0.00	x	8,760	/	2,000	=	0.00

AP 42, Chapter 1.4: Natural Gas Combustion

Tables 1.4-1 and 1.4-2

Pollutant	Emission Factor (lbs./10 ⁶ scf)	Conversion Factor (Btu/ft ³)	Factor (lbs./MMBtu)
PM	7.6	/	1000
SO ₂	0.6	/	1000
CO	84	/	1000
VOC	5.5	/	1000
NO _x	32	/	1000

Source 01: Emergency Generator

Subject to 40 CFR 63, Subpart ZZZZ

Operation Hours: hrs./day
days/wk.
wk./yr.
days/yr.

Actual Operating Hours: 500 hrs./yr. [Application dated July 10, 2006]
Potential Operating Hours: 500 hrs./yr.

EPA Memorandum September 6, 1995

Heat Input Rate: MMBtu/hr. [Not given in application dated July 10, 2006]

Fuel Oil Usage gal./yr. [Not given in application dated July 10, 2006]

Date Constructed: [Not given in application dated July 10, 2006]

Allowable Emissions

PM

TAPCR 1200-03-06-.02(2)(a): Non-process particulate, "New" design

E = 0.600 [TBD]

Q = 0.000 MMBtu/hr
E = 0.600 lb/MMBtu

PM (lbs./hr.) = [E (lb/MMBtu)] x [Heat Input Capacity (MMBtu/hr.)] = 0.00 lbs./hr.

PM (tons/yr.) = $\frac{[PM_{allow} \text{ (lbs./hr.)}] \times [\text{Potential Hours (hrs./yr.)}]}{2000 \text{ lbs./ton}}$ = 0.00 ton/yr.

SO₂

TAPCR 1200-03-14-.02(2)(a)

Class VI County 5.0 lbs. / MMBtu

SO₂ (lbs./hr.) = [Emission Standard (lbs./MMBtu)] x [Heat Input Capacity (MMBtu/hr.)] = 0 lbs./hr.

SO₂ (ton/yr.) = $\frac{[SO_{2allow} \text{ (lbs./hr.)}] \times [\text{Potential Hours (hrs./yr.)}]}{2000 \text{ lbs./ton}}$ = 0.00 ton/yr.

Potential Emissions

Pollutant		MMBtu/hr.		lb./MMBtu		lbs./hr.		hr./yr.		lbs./ton		ton/yr.
PM	=	0.000	x	0.31	=	0.00	x	500	/	2,000	=	0.00
SO ₂	=	0.000	x	0.29	=	0.0000	x	500	/	2,000	=	0.000
CO	=	0.000	x	0.95	=	0.00	x	500	/	2,000	=	0.00
VOC	=	0.000	x	0.36	=	0.00	x	500	/	2,000	=	0.00
NO _x	=	0.000	x	4.41	=	0.00	x	500	/	2,000	=	0.00

Actual Emissions

Pollutant		MMBtu/hr.		lb./MMBtu		lbs./hr.		hr./yr.		lbs./ton		ton/yr.
PM	=	0.000	x	0.31	=	0.00	x	500	/	2,000	=	0.00
SO ₂	=	0.000	x	0.29	=	0.0000	x	500	/	2,000	=	0.000
CO	=	0.000	x	0.95	=	0.00	x	500	/	2,000	=	0.00
VOC	=	0.000	x	0.36	=	0.00	x	500	/	2,000	=	0.00
NO _x	=	0.000	x	4.41	=	0.00	x	500	/	2,000	=	0.00

AP 42, Chapter 3.3: Gasoline And Diesel Industrial Engines
Table 3.3-1

Pollutant	Emission Factor (lbs./ 10 ⁶ scf)	Conversion Factor (Btu/ft ³)	Factor (lbs./MMBtu)
PM	/	/	0.31
SO ₂	/	/	0.29
CO	/	/	0.95
VOC	/	/	0.36
NO _x	/	/	4.41

Source 02: Two 700HP NG Boilers (operated concurrently)

Subject to 40 CFR 60, Subpart Dc

Operation Hours: 24 hrs./day [Application dated March 21, 2007]
7 days/wk. [Application dated March 21, 2007]
52 wk./yr. [Application dated March 21, 2007]
365 days/yr. [Application dated March 21, 2007]
Actual Operating Hours: 8,760 hrs./yr.
Potential Operating Hours: 8,760 hrs./yr.
Heat Input Rate: 28.600 MMBtu/hr. [Application dated March 21, 2007]
Natural Gas Usage: 245,400,000.00 ft³/yr. [Application dated March 21, 2007]
Date Constructed: 2006 [Application dated March 21, 2007]

Allowable Emissions

PM

TAPCR 1200-03-06-.02(2)(a): Non-process particulate, "New" design

$$E = 0.600 \left(\frac{10}{Q} \right)^{0.5566}$$

$$Q = 57.200 \text{ MMBtu/hr}$$

$$E = 0.227 \text{ lb/MMBtu}$$

$$\text{PM (lbs./hr.)} = [E \text{ (lb/MMBtu)}] \times [\text{Heat Input Capacity (MMBtu/hr.)}] = \underline{\underline{6.5006 \text{ lbs./hr.}}}$$

$$\text{PM (tons/yr.)} = \frac{[\text{PM}_{\text{allow.}} \text{ (lbs./hr.)}] \times [\text{Potential Hours (hrs./yr.)}]}{2000 \text{ lbs./ton}} = \underline{\underline{28.47 \text{ ton/yr.}}}$$

SO₂

TAPCR 1200-03-14-.02(2)(a)

Class VI County 5.0 lbs. / MMBtu

$$\text{SO}_2 \text{ (lbs./hr.)} = [\text{Emission Standard (lbs./MMBtu)}] \times [\text{Heat Input Capacity (MMBtu/hr.)}] = \underline{\underline{143 \text{ lbs./hr.}}}$$

$$\text{SO}_2 \text{ (ton/yr.)} = \frac{[\text{SO}_{2\text{allow.}} \text{ (lbs./hr.)}] \times [\text{Potential Hours (hrs./yr.)}]}{2000 \text{ lbs./ton}} = \underline{\underline{626.34 \text{ ton/yr.}}}$$

Controls Low Nox Burner & Flue Gas Recirculation
60% [Application dated March 21, 2007]

Potential Emissions

Pollutant		MMBtu/hr.		lb./MMBtu		lbs./hr.		hr./yr.		lbs./ton		ton/yr.
PM	=	28.600	x	0.0076	=	0.22	x	8,760	/	2,000	=	0.95
SO ₂	=	28.600	x	0.0006	=	0.0172	x	8,760	/	2,000	=	0.075
CO	=	28.600	x	0.084	=	2.40	x	8,760	/	2,000	=	10.52
VOC	=	28.600	x	0.0055	=	0.16	x	8,760	/	2,000	=	0.69
NO _x	=	28.600	x	0.05	=	1.43	x	8,760	/	2,000	=	6.26

AP 42, Chapter 1.4: Natural Gas Combustion

Tables 1.4-1 and 1.4-2

Pollutant	Emission Factor (lbs./ 10 ⁶ scf)		Conversion Factor (Btu/ft ³)	Factor (lbs./MMBtu)
PM	7.6	/	1000	0.0076
SO ₂	0.6	/	1000	0.0006
CO	84	/	1000	0.084
VOC	5.5	/	1000	0.0055
NO _x	50	/	1000	0.05

Source 04: Sylodent 783 Silo

Operation Hours:	24 hrs./day	[Application dated March 2, 2017]
	7 days/wk.	[Application dated March 2, 2017]
	52 wk./yr.	[Application dated March 2, 2017]
	365 days/yr.	[Application dated March 2, 2017]
Actual Operating Hours:	8,760 hrs./yr.	
Potential Operating Hours:	8,760 hrs./yr.	
Design Input:	34,000 lbs./hr.	[Calculations dated October 13, 2017, but in smog log under Nove
	17 tons/hr.	
Flow Rate for Baghouse:	600 ft ³ /min.	[Calculations dated October 13, 2017, but in smog log under Nove

Process Weight Rate Table II:

Design Input <= 30 tons/hr.

$$E = 3.59P^{0.62}$$

$$E = \underline{\underline{20.80 \text{ lbs./hr.}}}$$

At 0.02 gr./dscf:

$$PM = \frac{(0.02 \text{ [gr./dscf]}) * (\text{Flow Rate [ft}^3\text{/min.]}) * (60 \text{ [min./hr.]})}{7000 \text{ [lbs./gr.]}}$$

$$PM = \underline{\underline{0.10 \text{ lbs./hr.}}}$$

At 0.25 gr./dscf:

$$PM = \frac{(0.25 \text{ [gr./dscf]}) * (\text{Flow Rate [ft}^3\text{/min.]}) * (60 \text{ [min./hr.]})}{7000 \text{ [lbs./gr.]}}$$

$$PM = \underline{\underline{1.29 \text{ lbs./hr.}}}$$

AP-42 Emission Factor:

AP 42 Emission Factor:	0.0089 lb. PM/ton	[Emission Factor with No Control]
Design Input Rate [tons/hr.]*AP 42 Emission Factor 11.12-2)	=	<u>0.15 lb./hr.</u> [Uncontrolled]
Baghouse Control Efficiency: 95 %	=	<u>0.66 tons/yr</u>
[Calculations dated November 13, 2017]	=	<u>0.0076 lb./hr.</u> [Controlled]
	=	<u>0.0331 tons/yr</u>

AP 42 Emission Factor:	lb. PM ₁₀ /ton	[Emission Factor with No Control]
Design Input Rate [tons/hr.]*AP 42 Emission Factor 11.12-2)	=	<u>0.00 lb./hr.</u> [Uncontrolled]
Baghouse Control Efficiency: %	=	<u>0.00 tons/yr</u>
[Calculations dated November 13, 2017]	=	<u>0.0000 lb./hr.</u> [Controlled]
	=	<u>0.0000 tons/yr</u>

Source 05: Diesel-Powered Emergency Generator

Subject to 40 CFR 63, Subpart ZZZZ

Operation Hours: hrs./day
days/wk.
wk./yr.
days/yr.

Actual Operating Hours: 500 hrs./yr. [Application dated October 7, 2015]
Potential Operating Hours: 500 hrs./yr. EPA Memorandum September 6, 1995
Heat Input Rate: 4.030 MMBtu/hr. [Application dated October 7, 2015]
Fuel Oil Usage 14,600.00 gal/yr. [Application dated October 7, 2015]
Date Constructed: 1998 [Application dated October 7, 2015]

Allowable Emissions

PM

TAPCR 1200-03-06-.02(2)(a): Non-process particulate, "New" design

$$E = 0.600$$

$$Q = 4.030 \text{ MMBtu/hr}$$

$$E = 0.600 \text{ lb/MMBtu}$$

$$\text{PM (lbs./hr.)} = [E \text{ (lb/MMBtu)}] \times [\text{Heat Input Capacity (MMBtu/hr.)}] = 2.42 \text{ lbs./hr.}$$

$$\text{PM (tons/yr.)} = \frac{[\text{PM}_{\text{allow}} \text{ (lbs./hr.)}] \times [\text{Potential Hours (hrs./yr.)}]}{2000 \text{ lbs./ton}} = 0.60 \text{ ton/yr.}$$

SO₂

TAPCR 1200-03-14-.02(2)(a)

Class VI County 5.0 lbs. / MMBtu

$$\text{SO}_2 \text{ (lbs./hr.)} = [\text{Emission Standard (lbs./MMBtu)}] \times [\text{Heat Input Capacity (MMBtu/hr.)}] = 20.15 \text{ lbs./hr.}$$

$$\text{SO}_2 \text{ (ton/yr.)} = \frac{[\text{SO}_{2\text{allow}} \text{ (lbs./hr.)}] \times [\text{Potential Hours (hrs./yr.)}]}{2000 \text{ lbs./ton}} = 5.04 \text{ ton/yr.}$$

Potential Emissions

Pollutant		MMBtu/hr.		lb./MMBtu		lbs./hr.		hr./yr.		lbs./ton		ton/yr.
PM	=	4.030	x	0.31	=	1.25	x	500	/	2,000	=	0.31
SO ₂	=	4.030	x	0.29	=	1.1687	x	500	/	2,000	=	0.292
CO	=	4.030	x	0.95	=	3.83	x	500	/	2,000	=	0.96
VOC	=	4.030	x	0.36	=	1.45	x	500	/	2,000	=	0.36
NO _x	=	4.030	x	4.41	=	17.77	x	500	/	2,000	=	4.44

Actual Emissions

Pollutant		MMBtu/hr.		lb./MMBtu		lbs./hr.		hr./yr.		lbs./ton		ton/yr.
PM	=	4.030	x	0.31	=	1.25	x	500	/	2,000	=	0.31
SO ₂	=	4.030	x	0.29	=	1.1687	x	500	/	2,000	=	0.292
CO	=	4.030	x	0.95	=	3.83	x	500	/	2,000	=	0.96
VOC	=	4.030	x	0.36	=	1.45	x	500	/	2,000	=	0.36
NO _x	=	4.030	x	4.41	=	17.77	x	500	/	2,000	=	4.44

AP 42, Chapter 3.3: Gasoline And Diesel Industrial Engines
Table 3.3-1

Pollutant	Emission Factor (lbs./ 10 ⁶ scf)	Conversion Factor (Btu/ft ³)	Factor (lbs./MMBtu)
PM	/	/	0.31
SO ₂	/	/	0.29
CO	/	/	0.95
VOC	/	/	0.36
NO _x	/	/	4.41

Source 06: Diesel-Powered Emergency Fire Pump Engine

Subject to 40 CFR 60, Subpart IIII

Operation Hours: hrs./day
days/wk.
wk./yr.
days/yr.

Actual Operating Hours: 500 hrs./yr. [Application dated December 17, 2015]
Potential Operating Hours: 500 hrs./yr.

EPA Memorandum September 6, 1995

Heat Input Rate: 1.550 MMBtu/hr. [Application dated December 17, 2015]

Fuel Oil Usage 5,600.00 gal/yr. [Application dated December 17, 2015]

Date Constructed: 2006 [Application dated December 17, 2015]

Allowable Emissions

PM

TAPCR 1200-03-06-.02(2)(a): Non-process particulate, "New" design

$$E = 0.600$$

$$Q = 1.550 \text{ MMBtu/hr}$$

$$E = 0.600 \text{ lb/MMBtu}$$

$$\text{PM (lbs./hr.)} = [E \text{ (lb/MMBtu)}] \times [\text{Heat Input Capacity (MMBtu/hr.)}] = 0.93 \text{ lbs./hr.}$$

$$\text{PM (tons/yr.)} = \frac{[\text{PM}_{\text{allow}} \text{ (lbs./hr.)}] \times [\text{Potential Hours (hrs./yr.)}]}{2000 \text{ lbs./ton}} = 0.23 \text{ ton/yr.}$$

SO₂

TAPCR 1200-03-14-.02(2)(a)

Class VI County 5.0 lbs./MMBtu

$$\text{SO}_2 \text{ (lbs./hr.)} = [\text{Emission Standard (lbs./MMBtu)}] \times [\text{Heat Input Capacity (MMBtu/hr.)}] = 7.75 \text{ lbs./hr.}$$

$$\text{SO}_2 \text{ (ton/yr.)} = \frac{[\text{SO}_{2\text{allow}} \text{ (lbs./hr.)}] \times [\text{Potential Hours (hrs./yr.)}]}{2000 \text{ lbs./ton}} = 1.94 \text{ ton/yr.}$$

Potential Emissions

Pollutant		MMBtu/hr.		lb./MMBtu		lbs./hr.		hr./yr.		lbs./ton		ton/yr.
PM	=	1.550	x	0.31	=	0.48	x	500	/	2,000	=	0.12
SO ₂	=	1.550	x	0.29	=	0.4495	x	500	/	2,000	=	0.112
CO	=	1.550	x	0.95	=	1.47	x	500	/	2,000	=	0.37
VOC	=	1.550	x	0.36	=	0.56	x	500	/	2,000	=	0.14
NO _x	=	1.550	x	4.41	=	6.84	x	500	/	2,000	=	1.71

AP 42, Chapter 3.3: Gasoline And Diesel Industrial Engines
Table 3.3-1

Pollutant	Emission Factor (lbs./ 10 ⁶ scf)	Conversion Factor (Btu/ft ³)	Factor (lbs./MMBtu)
PM	/		0.31
SO ₂	/		0.29
CO	/		0.95
VOC	/		0.36
NO _x	/		4.41

Actual Emissions

Pollutant		MMBtu/hr.		lb./MMBtu		lbs./hr.		hr./yr.		lbs./ton		ton/yr.
PM	=	1.550	x	0.31	=	0.48	x	500	/	2,000	=	0.12
SO ₂	=	1.550	x	0.29	=	0.4495	x	500	/	2,000	=	0.112
CO	=	1.550	x	0.95	=	1.47	x	500	/	2,000	=	0.37
VOC	=	1.550	x	0.36	=	0.56	x	500	/	2,000	=	0.14
NO _x	=	1.550	x	4.41	=	6.84	x	500	/	2,000	=	1.71

Source 07: Diesel-Powered Emergency Fire Pump Engine

Subject to 40 CFR 60, Subpart IIII

Operation Hours: hrs./day
days/wk.
wk./yr.
days/yr.

Actual Operating Hours: 500 hrs./yr. [Application dated December 17, 2015]
Potential Operating Hours: 500 hrs./yr. EPA Memorandum September 6, 1995

Heat Input Rate: 2.420 MMBtu/hr. [Application dated December 17, 2015]

Fuel Oil Usage 8,750.00 gal/yr. [Application dated December 17, 2015]

Date Constructed: 2006 [Application dated December 17, 2015]

Allowable Emissions

PM

TAPCR 1200-03-06-.02(2)(a): Non-process particulate, "New" design

$$E = 0.600$$

$$Q = 2.420 \text{ MMBtu/hr}$$

$$E = 0.600 \text{ lb/MMBtu}$$

$$\text{PM (lbs./hr.)} = [E \text{ (lb/MMBtu)}] \times [\text{Heat Input Capacity (MMBtu/hr.)}] = 1.45 \text{ lbs./hr.}$$

$$\text{PM (tons/yr.)} = \frac{[\text{PM}_{\text{allow}} \text{ (lbs./hr.)}] \times [\text{Potential Hours (hrs./yr.)}]}{2000 \text{ lbs./ton}} = 0.36 \text{ ton/yr.}$$

SO₂

TAPCR 1200-03-14-.02(2)(a)

Class VI County 5.0 lbs. / MMBtu

$$\text{SO}_2 \text{ (lbs./hr.)} = [\text{Emission Standard (lbs./MMBtu)}] \times [\text{Heat Input Capacity (MMBtu/hr.)}] = 12.1 \text{ lbs./hr.}$$

$$\text{SO}_2 \text{ (ton/yr.)} = \frac{[\text{SO}_{2\text{allow}} \text{ (lbs./hr.)}] \times [\text{Potential Hours (hrs./yr.)}]}{2000 \text{ lbs./ton}} = 3.03 \text{ ton/yr.}$$

Potential Emissions

Pollutant		MMBtu/hr.		lb./MMBtu		lbs./hr.		hr./yr.		lbs./ton		ton/yr.
PM	=	2.420	x	0.31	=	0.75	x	500	/	2,000	=	0.19
SO ₂	=	2.420	x	0.29	=	0.7018	x	500	/	2,000	=	0.175
CO	=	2.420	x	0.95	=	2.30	x	500	/	2,000	=	0.57
VOC	=	2.420	x	0.36	=	0.87	x	500	/	2,000	=	0.22
NO _x	=	2.420	x	4.41	=	10.67	x	500	/	2,000	=	2.67

AP 42, Chapter 3.3: Gasoline And Diesel Industrial Engines

Table 3.3-1

Pollutant	Emission Factor (lbs./ 10 ⁶ scf)	Conversion Factor (Btu/ft ³)	Factor (lbs./MMBtu)
PM	/		0.31
SO ₂	/		0.29
CO	/		0.95
VOC	/		0.36
NO _x	/		4.41

Actual Emissions

Pollutant		MMBtu/hr.		lb./MMBtu		lbs./hr.		hr./yr.		lbs./ton		ton/yr.
PM	=	2.420	x	0.31	=	0.75	x	500	/	2,000	=	0.19
SO ₂	=	2.420	x	0.29	=	0.7018	x	500	/	2,000	=	0.175
CO	=	2.420	x	0.95	=	2.30	x	500	/	2,000	=	0.57
VOC	=	2.420	x	0.36	=	0.87	x	500	/	2,000	=	0.22
NO _x	=	2.420	x	4.41	=	10.67	x	500	/	2,000	=	2.67

Source 08: Dump Station Weigh Tote

Operation Hours:	hrs./day days/wk. wk./yr. days/yr.	<i>[Application dated June 22, 2020]</i>
		As it is a batch process, 1,752 hrs/yr is inherent limit
Actual Operating Hours:	1,752 hrs./yr.	
Potential Operating Hours:	1,752 hrs./yr.	
Design Input:	900 lbs./hr. 0.45 tons/hr.	<i>[Application dated June 22, 2020]</i>
Flow Rate for Baghouse:	3,000 ft ³ /min.	<i>[Application dated June 22, 2020]</i>

Process Weight Rate Table II:

Design Input <= 30 tons/hr.

$$E = 3.59P^{0.62}$$

$$E = \underline{\underline{2.19 \text{ lbs./hr.}}}$$

At 0.02 gr./dscf:

$$PM = \frac{(0.02 \text{ [gr./dscf]}) * (\text{Flow Rate [ft}^3\text{/min.]}) * (60 \text{ [min./hr.]})}{7000 \text{ [lbs./gr.]}}$$

$$PM = \underline{\underline{0.51 \text{ lbs./hr.}}}$$

At 0.25 gr./dscf:

$$PM = \frac{(0.25 \text{ [gr./dscf]}) * (\text{Flow Rate [ft}^3\text{/min.]}) * (60 \text{ [min./hr.]})}{7000 \text{ [lbs./gr.]}}$$

$$PM = \underline{\underline{6.43 \text{ lbs./hr.}}}$$

AP-42 Emission Factor:

Engineering Judgement:	40 lb. PM/ton	[Emission Factor with No Control]
Design Input Rate [tons/hr.]*Emissions Factor)		= 18.00 lb./hr.
Baghouse Control Efficiency:	99.999 %	= 15.77 tons/yr [Uncontrolled]
<i>[Application dated June 22, 2020]</i>		= 0.0002 lb./hr.
		= 0.0002 tons/yr [Controlled]
AP 42 Emission Factor:	lb. PM ₁₀ /ton	[Emission Factor with No Control]
Design Input Rate [tons/hr.]*AP 42 Emission Factor)		= 0.00 lb./hr.
Baghouse Control Efficiency:	%	= 0.00 tons/yr [Uncontrolled]
		= 0.0000 lb./hr.
		= 0.0000 tons/yr [Controlled]