

PTE/TSD – 1631 ST. Mary’s Hospital

Diesel Generators: 2 x 620 kw = 1662 hp

NOx: (1662hp)(8760 hr)(0.024 lb/hphr)(1 ton/2000 lbs) = 174.8 tons

CO: (1662hp)(8760 hr)(0.0055 lb/hphr)(1 ton/2000 lbs) = 40.1 tons

@500 hrs:

NOx: (1662hp)(500)(0.024 lb/hrhp)(1ton/2000 lbs) = 10.0 tons

CO: (1662hp)(500)(0.0055 lb/hrhp)(1ton/2000 lbs) = 2.3 tons

VOC: (1662hp)(500)(0.000705 lb/hrhp)(1ton/2000 lbs) = 0.3 tons

SOx: (1662hp)(500)(0.00809 lb/hrhp)(1ton/2000 lbs) = 3.4 tons

PM: (1662hp)(500)(0.0007 lb/hrhp)(1ton/2000 lbs) = 0.3 tons

Boilers: (10,043,000 Btu/hr + 14,064,000 Btu/hr) = 24,107,000 Btu/hr)

w/ Natural Gas:

(24,107,000 Btu/hr)(1 scf/1050 Btu)(1 MMSCF/1,000,000 scf)(8760 hr) = 201.1 MMSCF

NOx: (201.1 MMSCF)(100 lb/MMSF)(1 ton / 2000 lbs) = 10.1 tpy

CO: (201.1 MMSCF)(84 lb/MMSF)(1 ton / 2000 lbs) = 8.4 tpy

PM: (201.1 MMSCF)(7.6 lb/MMSF)(1 ton / 2000 lbs) = 0.8 tpy

VOC: (201.1 MMSCF)(11 lb/MMSF)(1 ton / 2000 lbs) = 1.1 tpy

w/ Diesel:

NOx: (24,107,000 Btu/hr)(1 gal/137,000 Btu)(8760 hr)(20 lb/1000 gal)(1 ton/2000 lbs) = 15.4 tpy

SOx: (24,107,000 Btu/hr)(1 gal/137,000 Btu)(8760 hr)(28 lb/1000 gal)(1 ton/2000 lbs) = 21.6 tpy

CO: (24,107,000 Btu/hr)(1 gal/137,000 Btu)(8760 hr)(5 lb/1000 gal)(1 ton/2000 lbs) = 3.9 tpy

PM: (24,107,000 Btu/hr)(1 gal/137,000 Btu)(8760 hr)(2 lb/1000 gal)(1 ton/2000 lbs) = 1.5 tpy

VOC: (24,107,000 Btu/hr)(1 gal/137,000 Btu)(8760 hr)(0.2 lb/1000 gal)(1 ton/2000 lbs) = 0.2 tpy

Maximum Emissions: tpy;lb/hr

NOx: 25.4 tons; 43.5 lb/hr

CO: 10.7 tons; 11.1 lb/hr

PM: 1.8 tons; 1.5 lb/hr

VOC: 1.4 tons; 1.5 lb/hr

SOx: 25.0 tons; 18.5 lb/hr

Compliance with II.C.1; $1.02Q^{0.769}$: $1.02(24.107)^{0.769} = 11.8$ lb/hr appx 1 order of magnitude > PTE

6/3/2 phone conversation confirmed the ratings of 10,350 and 12,075 BTU/hr for each boiler. However, the fuel use rate for the York boiler is 12560 SCF/hr of natural gas or 89.5 gal of diesel per hour.

(12560 SCF/hr)(1050 Btu/SCF) = 13,188,000 Btu/hr

(89.5 gal/hr)(137,000 Btu/gal) = 12,261,500 Btu/hr

*There are two values for each fuel with the Superior boiler – both of which are too high as well.

Equipment database and inspection record confirm BTU Ratings in the 10’s of millions.

It is PDEQ’s interpretation of the Pima County Code Title 17 that section 17.12.165.J applies only to sources subject to 17.12.165.I of which this source does not apply.