COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Northern Virginia Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Marine Corps Base, Quantico
3250 Catlin Avenue, NREA Branch (B046)
Quantico, Virginia 22134-50533
Permit No. NVRO70267

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Marine Corps Base, Quantico has applied for a Title V Operating Permit for its military base operations. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact:__________________________________ Date:___________

Air Permit Manager:______________________________________ Date:___________

FACILITY INFORMATION

Permittee
Marine Corps Base, Quantico
3250 Catlin Avenue
Quantico, Virginia 22134-5001

Facility
Marine Corps Base, Quantico
Quantico, Virginia 22134

AIRS ID No. 51-153-00010

SOURCE DESCRIPTION

SIC Code: [9711] - [National Security]

Marine Corps Base Quantico is a 60,436-acre military base covering an area from southern Prince William to northern Stafford and western Fauquier Counties. The base employs about 11,000 military and civilian staff. Part of the base (in Stafford County) is used for the FBI Academy, but it is considered a separate source (Reg. No. 40368). There are 5 permitted boilers at the Central Heating Plant and two others at the Camp Barrett Heating Plant. There are currently about 9 small boilers, 8 diesel engine-driven emergency generators, 102 parts washers (cold solvent degreasers), 6 spray booths and 5 larger fuel oil storage tanks, which are subject to the air regulations. The fuel farm is conditionally exempt from the regulations based on tank sizes, fuel types and throughputs. Other insignificant activities listed include minor woodworking operations, closed landfills, smaller storage tanks, generators and gas or oil-fired boilers.

The facility is a Title V major source for oxides of nitrogen (as NO_2). The Prince William County and Stafford County portions of this source are located in a severe ozone nonattainment area for which volatile organic compounds (VOC) and NO_2 are precursor pollutants. The area is in attainment for other criteria pollutants. The minor NSR permit for the Central Heating Plant was amended and reissued on 4/17/2003. The Camp Barrett Heating Plant permit was also amended and reissued on 6/28/2002. A state operating permit for reasonably available control technology (RACT) was issued on 5/24/2000. The 825 kilowatt emergency generator at Building 3300 was permitted on 12/27/94. All other equipment are only subject to existing source regulations.

COMPLIANCE STATUS

The base is inspected at least once a year. It was last inspected on October 28, 2002, and determined to be in compliance with the state and federal air regulations.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emissions units at this facility consist of the following:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Fuel Burning Equipment – Central Heating Plant							
2012-1 (boiler #1)	001	Combustion Engineering	61.13 x10^6 Btu/hr	(switch to No. 2 oil)	-	-	4/17/03, and RACT 5/24/00 condition 3
2012-2 (boiler #2)	002	Combustion Engineering	61.13 x10^6 Btu/hr	(switch to No. 2 oil)	-	-	4/17/03, and RACT 5/24/00 condition 3
2012-3 (boiler #3)	003	Todd Combustion; 1994	84 x10^6 Btu/hr	Low NOx burner	3	NO_2	4/17/03, and RACT 5/24/00 condition 4
2012-4 (boiler #4)	004	Todd Combustion; 1994	114 x10^6 Btu/hr	Low NOx burner and Flue gas recirculation	4	NO_2	4/17/03, and RACT 5/24/00 condition 5
2012-5 (boiler #5)	005	Todd Combustion; 1994	114 x10^6 Btu/hr	Low NOx burner and Flue gas recirculation	4	NO_2	4/17/03, and RACT 5/24/00 condition 5
Fuel Burning Equipment – Camp Barrett Heating Plant							
24162-1	014	Engineering Co. ELX-15; 1988	22 x10^6 Btu/hr	-	-	-	6/28/02 and RACT 5/24/00 condition 9
24162-2	015	Engineering Co. ELX-15; 1988	22 x10^6 Btu/hr	-	-	-	6/28/02 and RACT 5/24/00 condition 9
Fuel Burning Equipment – Other Small Distillate Oil-fired Boilers							
2077		Iron Fireman model 35-5-400	3.35 x10^6 Btu/hr	-	-	-	5/24/00 (RACT)
24126		Burnham model 4W450A5	3.015 x10^6 Btu/hr	-	-	-	5/24/00 (RACT)
27200		Burnham model 4FW34550	2.15 x10^6 Btu/hr	-	-	-	5/24/00 (RACT)
27219		York Shipley model 5PHV602	2.009 x10^6 Btu/hr	-	-	-	5/24/00 (RACT)
27240-1		Burnham model FDO/15	2.937 x10^6 Btu/hr	-	-	-	5/24/00 (RACT)
3247-1		Cleaver Brooks model FLX100	4.67 x10^6 Btu/hr	-	-	-	5/24/00 (RACT)
3247-2		Heat Energy HN500-PE-2400	2.4 x10^6 Btu/hr	-	-	-	5/24/00 (RACT)
3247-3		Heat Energy HN500-PE-2400	2.4 x10^6 Btu/hr	-	-	-	5/24/00 (RACT)
3500		Burnham model 4FW450GP	3.015 x10^6 Btu/hr	-	-	-	5/24/00 (RACT)
Process A - Diesel Engines (for Emergency Generators)							
3300	23	Caterpillar – 3512; 1994	825 KW	-	-	-	12/27/94
2012		Kato Light - D900FRZ4	900 KW	-	-	-	-
3280		Spectrum Det. Diesel 1000 DS	1000 KW	-	-	-	-
3255-1		New Age Stamford, SC534E	625 KW	-	-	-	-
3255-2		New Age Stamford, SC534E	625 KW	-	-	-	-
Sewage Pt		Kato Light, model D500FRZ4	500 KW	-	-	-	-
Water Pt.		Kato Light, model D800FRZ4	800 KW	-	-	-	-

Process B – Gas Compressor (engine)							
2013		Caterpillar – G3304NA; 1994	95 bhp	-	-	-	-
Process C – Paint Spray Booths							
4		Paint Booth	-	-	-	-	-
2013P		Paint Booth	-	-	-	-	-
2101		Paint Booth	-	-	-	-	-
2103		Paint Booth	-	-	-	-	-
2112		Paint Booth	-	-	-	-	-
3252		Paint Booth	-	-	-	-	-
Process D – Cold Solvent Degreasing – 102 Aggregated Safety Kleen Part Washers							
PW		(17) Green Machine, model 23 premium solvent 150	12 gallons, each	-	-	-	-
PW		(18) Green Machine, model 33 premium solvent 150	17 gallons, each	-	-	-	-
PW		(26) Waste Min. Machine, model 34, premium solv. 150	26 gallons, each	-	-	-	-
PW		(19) Waste Min. Machine, model 44, premium solv. 150	34 gallons, each	-	-	-	-
PW		(14) Portable parts cleaner, model 14, premium solv. 150	5 gallons, each	-	-	-	-
PW		(8) Immersion Cleaner, model 110, solv. Monoethanolomine	5 gallons, each	-	-	-	-
Process E – Storage Tanks (NSPS)							
2012-T1		Above ground tank, No. 2 oil	125,000 gallons	-	-	-	4/17/03
2012-T2		Above ground tank, No. 2 oil	125,000 gallons	-	-	-	4/17/03
24162-T1		Underground tank, No. 6 oil	20,000 gallons	-	-	-	6/28/02
24162-T2		Underground tank, No. 6 oil	20,000 gallons	-	-	-	6/28/02
3300-T1		Underground tank, Diesel fuel	30,000 gallons	-	-	-	12/27/94
Process F – Building 27263, Fuel Farm – Storage Tanks (non-NSPS)							
27263-A		Above ground tank, No.2/Diesel	75,000 gal. tank	-	-	-	-
27263-B		Above ground tank, No.2/Diesel	75,000 gal. tank	-	-	-	-
27263-C		Above ground tank, jet fuel JP-8	75,000 gal. tank	-	-	-	-
27263-F		Above ground tank, jet fuel JP-8	75,000 gal. tank	-	-	-	-
27263-D		Above ground tank, No.2/Diesel	25,000 gal. tank	-	-	-	-
27263-E		Above ground tank, No.2/Diesel	25,000 gal. tank	-	-	-	-
27263-G		Above ground tank, Gasoline	12,500 gal. tank	-	-	-	-
27263-H		Above ground tank, Gasoline	25,000 gal. tank	-	-	-	-
Process G – Building 2056 – Gasoline Service Station							
2056-2		Stage I and II vapor recovery	10,000 gal. tank	-	-	-	-
2056-3		Stage I and II vapor recovery	12,000 gal. tank	-	-	-	-

*The Size/Rated capacity [and PCD efficiency] is provided for informational purposes only, and is not an applicable requirement.

EMISSIONS INVENTORY

A copy of the 2001 annual emission update is attached as Attachment A. Emissions are summarized in the following tables.

2001 Actual Emissions

Emission Unit	Criteria Pollutant Emission in Tons/Year				
	VOC	CO	SO_2	PM_{10}	NO_x
B-1* 2012-1 Combustion Eng.	0	0	0	0	0
B-2* 2012-2 Combustion Eng.	0.045	0.245	3.897	0.046	4.249
B-3* 2012-3 Todd Combustion	0.317	5.264	0.057	0.726	6.094
B-4* 2012-4 Todd Combustion	0.038	0.539	3.186	0.231	2.558
B-5* 2012-5 Todd Combustion	0.056	1.416	2.141	0.559	4.705
B-6* 2077 Iron Fireman boiler	0.000	0.000	0.000	0.000	0.000
B-8* 3247 Cleaver Br/Ht Energy	0.004	0.057	0.260	0.012	0.229
B-11* Burnham boiler	0.004	0.052	0.235	0.011	0.207
B-12* 24008 Cleaver Brooks	0	0	0	0	0
B-14* 24162-1 Eng. Co. ELX-15	0.031	0.546	18.325	1.169	8.300
B-14* 24162-2 Eng. Co. ELX-15	0.016	0.289	9.692	0.618	4.390
B-17* 27200 Burnham boiler	0.002	0.030	0.135	0.006	0.119
B-18* 27219 York-Shipley	0.001	0.020	0.092	0.004	0.081
B-19* 27240 Burnham boiler	0.001	0.017	0.079	0.004	0.070
G23* 3300 Caterpillar generator	0.015	0.033	0.021	0.004	0.380
P-1* Painting Operations	2.4				
P-2* Degreasing – Safety Kleen	11				
T-2* 2056 Gasoline service st.	0.264				
T-1* Gasoline service station	3.751				
T-3* 27263-D Gasoline service	0.764				
T-E* 27263-E Gasoline service	1.661				
Total	20.37	8.508	38.12	3.39	31.382

2001 Facility Hazardous Air Pollutant Emissions

Pollutant	Hazardous Air Pollutant Emission in Tons/Year
Methylene Chloride (from paint spray operations)	0.1

EMISSION UNIT APPLICABLE REQUIREMENTS - [emission unit(s)]

Fuel Burning Equipment Requirements - (emission units ID# 2012-1 (boiler #1), 2012-2 (boiler #2), 2012-3 (boiler #3), 2012-4 (boiler #4), 2012-5 (boiler #5)) - Building 2012 - Central Heating Plant

The conditions for the boilers at the Central Heating Plant have been taken from the New Source Performance Standards (NSPS) permit recently amended and reissued on 4/17/2003. The earlier revised permit of 7/1/2002 and also the original permit issued on 12/2/93, as amended on 9/29/97, have been superseded. A copy of the reissued permit is enclosed as Attachment B. Three conditions are also included from the state operating permit dated May 24, 2000, for application of reasonably available control technology (RACT). A copy of the RACT permit is enclosed as attachment D.

Limitations

Conditions 1 and 2 state the emission control requirements. For NO_2 control there are low NOx burners for boiler #3, and low NOx burner with flue gas recirculation for boilers #4 and #5. For SO_2 control, No. 2 fuel oil sulfur content is limited to 0.5% by weight. The emissions are also controlled by the proper operation and maintenance of the boilers, as stated in Condition 19.

Conditions 3, 4 and 5 specify the fuel types (natural gas and/or No. 2 fuel oil) and also the throughput limits on the fuels used in the boilers.

Conditions 6, 7 and 8 state the NO_2 emission standard in units of lbs/million Btu. The limits are taken from the state operating permit for RACT dated 5/24/2000, which also meet the earlier permit requirements for best available control technology (BACT).

Conditions 9 through 17 list the emission limits (hourly and annual) for the boilers. Actual NO_2 emissions are determined from the continuous emission monitors (CEM) data for boilers #3, #4 and #5. For boilers #1, #2 and for all other boiler criteria pollutant emissions, Conditions 10, 11, 12, 14, 16 and 17 require records of fuel throughput data be kept as well as DEQ-approved emission factors and equations needed to calculate the annual emissions for each consecutive 12 month period.

Condition 22 sets the visible emissions limit for each boiler stack at 10% opacity.

Monitoring

All of the central heating plant boilers have continuous opacity monitors. In addition, nitrogen oxides (NOx) continuous emission monitors (CEM) are installed on boilers #3, #4 and #5. The NOx CEM along with the O_2 diluent monitors are being operated in accordance with the federal requirements given in 40 CFR 60.13. In addition, a CO_2 diluent monitor is co-located and operated as backup to the O_2 monitor. The monitoring equipment is subject to periodic performance testing with the results reported to DEQ.

Recordkeeping

The permit includes requirements for maintaining records of all monitoring and testing conducted. These records include fuel supplier certification, daily and monthly records on fuel consumption in accordance with federal NSPS, Subpart Dc and Db standards. Quarterly fuel reports on fuel oil consumption to continue to be sent to DEQ. Also, records must be kept on any required training, written operating procedures and maintenance schedules for the boilers based on manufacturer recommendations.

Compliance with the visible emissions limit is demonstrated using the continuous opacity monitor data collected for the five boilers. The NO_2 emissions for boilers #3, #4 and #5 are obtained from the CEM data. Actual emissions of other pollutants from the central Heating Plant boilers (#1 through #5) will be calculated for compliance and emissions inventory purposes. The annual throughputs of natural gas and/or distillate fuel oil will be used, based on the monthly records, along with DEQ-approved emission factors based on manufacturer data or otherwise from EPA's Compilation of Air Pollutant Emission Factors (AP-42). The nitrogen oxide factor is lower for boilers #3 with low-NOx burners and boilers #4 and #5, with low NOx burners and flue gas recirculation control technology. However, CEM data will be used for the boilers. The following tables provide AP-42 emission factors, and also the permit factors based on manufacturer data, as well as the 1995 and 1996 stack testing results which are used to establish the emissions inventory factors.

AP-42 Emission Factors for Natural Gas Combustion

Pollutant	Large Boilers (>100 million Btu/hour)		Small Boilers (<100 million Btu/hour)	
	lbs/10^6 cubic feet	lbs/10^6 Btu*	lbs/10^6 cubic feet	lbs/10^6 Btu*
NO_2	190	0.19	100	0.10
SO_2	0.6	0.0006	0.6	0.0006
CO	84	0.084	84	0.084
VOC	5.5	0.0055	5.5	0.0055
PM	7.6	0.0076	7.6	0.0076
PM-10	7.6	0.0076	7.6	0.0076

* Conversion based on heating value of natural gas at 1000 But/cubic feet.

AP-42 Emission Factors for Distillate (No. 2) Oil Combustion

Pollutant	Large Boilers (>100 million Btu/hour)		Small Boilers (<100 million Btu/hour)	
	lbs/1000 gallon	lbs/10^6 Btu**	lbs/1000 gallon	lbs/10^6 Btu**
NO_2	24	0.174	20	0.145
SO_2	71 (142S, S=0.5)	0.5145	71 (142S, S=0.5)	0.5145
CO	5	0.036	5	0.036
VOC	0.2	0.00145	0.34	0.00246
PM	2	0.0145	2	0.0145
PM-10	1	0.00725	1	0.00725

** Conversion based on heating value of No. 2 fuel oil at 138,000 Btu/gal.

Distillate (No. 2) Oil Emission Factors, Based on Permit or Manufacturer Data

Pollutant	Boiler 1, 2 (61.13x10^6Btu/hr)		Boiler 3 (84 x 10^6 Btu/hr)		Boiler 4, 5 (114x10^6 Btu/hr)	
	lbs/10^6 Btu*	lbs/1000 gal.	lbs/10^6 Btu*	lbs/1000 gal.	lbs/10^6 Btu*	lbs/1000 gal.
NO_2	0.25	35	0.10	14	0.10	14
SO_2	0.51	71 **	0.51	71 **	0.51	71 **
CO	0.029	4	0.154	21	0.154	21
VOC	0.022	3	0.004	0.6	0.004	0.6
PM	0.015	2	0.057	8	0.057	8
PM-10	0.0075	1	0.029	4	0.029	4

* Conversion based on heating value of No. 2 fuel oil at 138,000 Btu/gal.

** SO_2 permit limits based on AP-42 factor (of 142 x S) for distillate fuel oil using maximum 0.5% sulfur content by weight.

Natural Gas Emission Factors, Based on Permit or Manufacturer Data

Pollutant	Boiler 1, 2 (61.13x10^6Btu/hr)		Boiler 3 (84 x 10^6 Btu/hr)		Boiler 4, 5 (114x10^6 Btu/hr)	
	lbs/10^6 Btu*	lbs/10^6 cu. ft.	lbs/10^6 Btu*	lbs/10^6 cu. ft.	lbs/10^6 Btu*	lbs/10^6 cu. ft.
NO_2	N/A (oil only)	N/A (oil only)	0.09	90	0.10	100
SO_2	N/A	N/A	0.015	15	0.016	16
CO	N/A	N/A	0.16	160	0.17	170
VOC	N/A	N/A	0.003	3	0.004	4
PM	N/A	N/A	0.01	10	0.011	11
PM-10	N/A	N/A	0.005	5	0.0055	5.5

* Conversion based on heating value of natural gas at 1000 But/cubic feet.

Distillate (No. 2) Oil Emission Factors, Based on 1995 Stack Test Data

Pollutant	Boiler 1 lbs/1000 gal.	Boiler 2 lbs/1000 gal.	Boiler 3 lbs/1000 gal.	Boiler 4 lbs/1000 gal.	Boiler 5 lbs/1000 gal.
NO_2	24.19	24.75	12.42*	13.49	12.04
SO_2	17.27	17.50	17.76	18.72	18.48
CO	1.08	1.43	0.56	2.08	2.70
VOC	0.15	0.26	0.10	0.11	0.11
PM	0.52	0.50	0.31	0.46	0.52

* Based on June 1996 NO_2 stack test data for boiler #3.

Natural Gas Emission Factors, Based on 1995 Stack Test Data

Pollutant	Boiler 1 lbs/10^6 cu. ft.	Boiler 2 lbs/10^6 cu. ft.	Boiler 3 lbs/10^6 cu. ft.	Boiler 4 lbs/10^6 cu. ft.	Boiler 5 lbs/10^6 cu. ft.
NO_2	N/A (oil only)	N/A (oil only)	78.78	61.33	52.18
SO_2	N/A	N/A	Not tested	Not tested	Not tested
CO	N/A	N/A	55.12	9.63	16.64
VOC	N/A	N/A	3.32	0.91	0.66
PM	N/A	N/A	Not tested	Not tested	Not tested

Comparison of Distillate (No. 2) Oil Emission Factors Using AP-42, Permit and Stack Test Data
Units of lbs/1000 gallons

Pollutant	AP-42	Boiler 1		Boiler 2		Boiler 3		Boiler 4		Boiler 5	
		Permit	Test	Permit	Test	Permit	Test	Permit	Test	Permit	Test
NO_2	24/ 20	35	24.19	35	24.75	14	12.42	14	13.49	14	12.04
SO_2	71	71	17.27	71	17.50	71	17.76	71	18.72	71	18.48
CO	5	4	1.08	4	1.43	21	0.56	21	2.08	21	2.70
VOC	0.2/0.34	3	0.15	3	0.26	0.6	0.10	0.6	0.11	0.6	0.11
PM	2	2	0.52	2	0.50	8	0.31	8	0.46	8	0.52
PM-10	1	1	-	1	-	4	-	4	-	4	-

Comparison of Natural Gas Emission Factors Using AP-42, Permit and Stack Test Data
Units of lbs/10^6 cubic feet

Pollutant	AP-42	Boiler 1		Boiler 2		Boiler 3		Boiler 4		Boiler 5	
		Permit	Test	Permit	Test	Permit	Test	Permit	Test	Permit	Test
NO_2	100	N/A	N/A	N/A	N/A	90	78.78	100	61.33	100	52.18
SO_2	0.6	N/A	N/A	N/A	N/A	15	-	16	-	16	-
CO	84	N/A	N/A	N/A	N/A	160	55.12	170	9.63	170	16.64
VOC	5.5	N/A	N/A	N/A	N/A	3	3.32	4	0.91	4	0.66
PM	7.6	N/A	N/A	N/A	N/A	10	-	11	-	11	-
PM-10	7.6	N/A	N/A	N/A	N/A	5	-	5.5	-	5.5	-

For boilers #3, #4 and #5, actual NO_2 emissions shall be determined using data from the continuous emission monitors. Otherwise, actual emissions are calculated by multiplying the appropriate emission factor from the emissions inventory and the fuel throughput in proper units. The emission inventory factors are based on the results of stack testing conducted in 1995 and 1996. For the case of natural gas, SO_2 and PM emissions were not tested, since they were considered negligible. The following are the sample calculated annual emissions for boilers #1 and #2 using the permit emission factors and the maximum permit limit of 1.814 x 10^6 gallons of distillate fuel oil per year:

<u>No. 2 Oil</u>
NOx = (1814x1000 gal/yr) x (35 lbs/1000 gal) ÷ 2000 lbs/ton = 31.7 tons/yr
SO2 = (1814x1000 gal/yr) x (71 lbs/1000 gal) ÷ 2000 lbs/ton = 64.4 tons/yr
CO = (1814x1000 gal/yr) x (4 lbs/1000 gal) ÷ 2000 lbs/ton = 3.6 tons/yr
VOC = (1814x1000 gal/yr) x (3 lbs/1000 gal) ÷ 2000 lbs/ton = 2.7 tons/yr
PM = (1814x1000 gal/yr) x (2 lb/1000 gal) ÷ 2000 lbs/ton = 1.8 tons/yr
PM-10= (1814x1000 gal/yr) x (1 lb/1000 gal) ÷ 2000 lbs/ton = 0.9 tons/yr

The following are the sample calculated annual emissions for the boiler #3 using the permit emission factors and the maximum permit limit of 387.2 x 10^6 cubic feet (cf) of gas and 640,000 gallons of distillate fuel oil per year:

<u>Natural Gas</u>
NOx = (387.2 million cf/yr) x (90 lbs/million cf) ÷ 2000 lbs/ton = 17.4 tons/yr
SO2 = (387.2 million cf/yr) x (15 lbs/million cf) ÷ 2000 lbs/ton = 2.9 tons/yr
CO = (387.2 million cf/yr) x (160 lbs/million cf) ÷ 2000 lbs/ton = 31.0 tons/yr
VOC = (387.2 million cf/yr) x (3 lbs/million cf) ÷ 2000 lbs/ton = 0.6 tons/yr
PM = (387.2 million cf/yr) x (10 lbs/million cf) ÷ 2000 lbs/ton = 1.9 tons/yr
PM-10= (387.2 million cf/yr) x (5 lbs/million cf) ÷ 2000 lbs/ton = 1.0 tons/yr

<u>No. 2 Oil</u>
NOx = (640x1000 gal/yr) x (14 lbs/1000 gal) ÷ 2000 lbs/ton = 4.5 tons/yr
SO2 = (640x1000 gal/yr) x (71 lbs/1000 gal) ÷ 2000 lbs/ton = 22.7 tons/yr
CO = (640x1000 gal/yr) x (21 lbs/1000 gal) ÷ 2000 lbs/ton = 6.7 tons/yr
VOC = (640x1000 gal/yr) x (0.6 lbs/1000 gal) ÷ 2000 lbs/ton = 0.2 tons/yr
PM = (640x1000 gal/yr) x (8 lbs/1000 gal) ÷ 2000 lbs/ton = 2.6 tons/yr
PM-10= (640x1000 gal/yr) x (4 lbs/1000 gal) ÷ 2000 lbs/ton = 1.3 tons/yr

The following are the sample calculated annual emissions for boilers #4 and #5 using permit limit of 572.1 x 10^6 cubic feet (cf) of gas and 1,420,00 gallons of distillate fuel oil:

Natural Gas
NOx = (572.1 million cf/yr) x (100 lbs/million cf) ÷ 2000 lbs/ton = 28.6 tons/yr
SO2 = (572.1 million cf/yr) x (16 lbs/million cf) ÷ 2000 lbs/ton = 4.6 tons/yr
CO = (572.1 million cf/yr) x (170 lbs/million cf) ÷ 2000 lbs/ton = 48.6 tons/yr
VOC = (572.1 million cf/yr) x (4 lbs/million cf) ÷ 2000 lbs/ton = 1.1 tons/yr
PM = (572.1 million cf/yr) x (11 lbs/million cf) ÷ 2000 lbs/ton = 3.2 tons/yr
PM-10= (572.1 million cf/yr) x (5.5 lbs/million cf) ÷ 2000 lbs/ton = 1.6 tons/yr

No. 2 Oil
NOx = (1420x1000 gal/yr) x (14 lbs/1000 gal) ÷ 2000 lbs/ton = 9.9 tons/yr
SO2 = (1420x1000 gal/yr) x (71 lbs/1000 gal) ÷ 2000 lbs/ton = 50.4 tons/yr
CO = (1420x1000 gal/yr) x (21 lbs/1000 gal) ÷ 2000 lbs/ton = 14.9 tons/yr
VOC = (1420x1000 gal/yr) x (0.6 lbs/1000 gal) ÷ 2000 lbs/ton = 0.4 tons/yr
PM = (1420x1000 gal/yr) x (8 lbs/1000 gal) ÷ 2000 lbs/ton = 5.7 tons/yr
PM-10= (1420x1000 gal/yr) x (4 lbs/1000 gal) ÷ 2000 lbs/ton = 2.8 tons/yr

Initial compliance test for total suspended particulate matter (PM), SO_2, NO_2, CO and VOC from the stack of boilers 1, 2, 3, 4 and 5 were successfully conducted which showed compliance with the hourly emission limits. Continuous opacity monitors will be used to show compliance with the visible emissions limits. Continuous emission monitors (CEM) for NOx shall be used to demonstrate continuous compliance for boilers #3, #4 and #5. The monitors meet the periodic monitoring requirements also. Records of fuel use and scheduled maintenance of the boilers shall be used to indicate continuous compliance with the other criteria pollutant emission limits.

The visible emission limit of 10% opacity shall also be used as an indicator of boiler problems. Properly operating boilers shall produce little visible emissions, especially when fired on natural gas. No. 2 fuel oil may produce more emissions during startup, shutdown or malfunction but the NSPS exempts those periods from consideration.

The permittee shall follow the manufacturer recommendations for proper operation and maintenance procedures and provide for operator training to minimize malfunctions and excess emissions. A record of repair and maintenance of the boilers shall be kept.

Testing

The permit does not require additional source testing, since initial stack testing of boilers #3, #4 and #5 in 1995 with follow-up testing of boiler #3 on fuel oil in 1996. The tests demonstrated compliance with the permit emission limits. There are opacity monitors on all 5 boilers and NO_2 continuous emission monitors (CEM) on boilers 3, 4 and 5 which provide actual emissions data. A table of test methods has been included in the permit if further testing is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

Quarterly fuel oil reports shall be submitted to the DEQ on any distillate fuel oil received from fuel suppliers, in accordance with the original NSPS Subpart Dc requirements.

Streamlined Requirements

There were no streamlined requirements for the boilers, except that conditions already met, such as stack testing, and general conditions for new source permits (such as right of entry, annual reporting requirements, transfer of permit, etc.) are not restated here.

Fuel Burning Equipment Requirements – (emission units ID#24162-1, 24162-2) - Building 24162 - Camp Barrett Heating Plant

The conditions for the Camp Barrett Heating Plant No. 6 oil-fired boilers have been taken from the state new source permit dated June 28, 2002, which superseded the earlier permits issued on May 7, 1999 and March 6, 1998. A copy of the current permit is enclosed as Attachment C. A condition is also included from the state operating permit for RACT dated May 24, 2000. A copy of the RACT permit is enclosed as Attachment D.

Limitations

Condition 1 states the requirement of reasonably available control technology (RACT) for replacement of current burner nozzles designed to reduce NOx emissions by at least 10% for each boiler.

Conditions 2, 3 and 4 specify the fuel for the boilers to be residual oil with maximum 1% sulfur content and annual throughput limit of 750,000 gallons.

Conditions 5 and 6 specify the permit emission limits for the boilers and the visible emission limit of 20% opacity.

Condition 7 is the general requirement that boiler emission shall also be minimized by proper operation and maintenance of equipment by trained personnel.

Monitoring and Recordkeeping

The recordkeeping requirements include fuel supplier certifications, with monthly records on fuel oil consumption. Also, records must be kept on any required training, written operating procedures and maintenance schedules based on manufacturer recommendations.

Actual emissions from the operation of the residual oil-fired boilers are calculated for the emissions inventory using the annual throughput of No. 6 fuel oil, based on monthly records and factors from the EPA's Compilation of Air Pollutant Emission Factors (AP-42), Section 1.3. The following table provides the factors for No. 6 fuel oil combustion.

Pollutant	No. 6 Oil Emission Factor AP-42		No. 6 Oil Emission Factor Manufacturer data	
	lbs/1000 gallons	lbs/10^6 Btu	lbs/1000 gallons	lbs/10^6 Btu
NO_2	55	0.362	(0.04+%N, with N=0.46) 76	0.5
SO_2	(157S, with S=1%) 157	(1.06 x S, S=1) 1.06	(167.8S with S=1) 167.8	(1.104 S, S=1) 1.104
CO	5	0.033	5	0.033
VOC	0.28	0.002	0.28	0.002
PM	(9.19S+3.22 with S=1) 12.41	0.082	(9.34S + 3.09, with S=1) 12.43	0.082
PM-10	8.6	0.057	(8.03S + 2.65, with S=1) 10.68	0.070

* Conversion based on heating value of No. 6 fuel oil at 152,000 Btu/gallon.

The emissions are calculated by multiplying the appropriate emission factor from the permit and the fuel throughput in proper units. Therefore, the following are the sample calculated annual emissions for the Camp Barrett boiler plant using the permit limit on fuel throughput of 750,000 gallons of residual oil per year.

<u>No. 6 Oil</u>
NOx = (750x1000 gal/yr) x (76 lbs/1000 gal) ÷ 2000 lbs/ton = 28.5 tons/yr
SO2 = (750x1000 gal/yr) x (167.8 lbs/1000 gal) ÷ 2000 lbs/ton = 62.9 tons/yr
CO = (750x1000 gal/yr) x (5 lbs/1000 gal) ÷ 2000 lbs/ton = 1.9 tons/yr
VOC = (750x1000 gal/yr) x (0.28 lbs/1000 gal) ÷ 2000 lbs/ton = 0.1 tons/yr
PM = (750x1000 gal/yr) x (12.4 lbs/1000 gal) ÷ 2000 lbs/ton = 4.7 tons/yr
PM-10= (750x1000 gal/yr) x (10.7 lbs/1000 gal) ÷ 2000 lbs/ton = 4.0 tons/yr

The boilers were installed in 1988; prior to the effective date of NSPS subpart Dc. The SO_2 emissions from the residual fuel oil combustion depend on the fuel sulfur content, not to exceed 1% by weight. Their NOx RACT permit requires use of low NOx burners with at least 10% control efficiency. No stack testing was required but instead the manufacturer guarantee of the minimum control efficiency was considered sufficient. Proper operation of the boilers by trained personnel along with records on the service and maintenance shall be used as means of ensuring compliance with the NOx limit as well as the other criteria pollutant emissions limits.

The standard visible emission limit of 20% opacity will also be used as an indicator of boiler problems. Properly operating equipment shall produce little visible emissions. For periodic monitoring purposes, the permittee is being required to observe the stack exhaust during each week of operation and record whether visible emissions appear normal which would indicate proper boiler operation. If excess visible emissions are observed, corrective action shall be taken to achieve proper boiler operation and minimize visible emissions. If observed problems persist, then a visible emission evaluation (VEE) shall be conducted by certified personnel and the results documented. If exceedance of opacity limit is confirmed, the boiler shall be serviced, repaired or adjusted as necessary and another VEE test conducted to demonstrate compliance before regular boiler operation is resumed. DEQ staff shall be kept informed about non-routine problems or malfunctions. Records of observation, VEE tests, boiler repairs and other corrective actions shall be kept on site for review upon request. The permittee shall continue to follow the manufacturer recommendations for proper operation and maintenance procedures and provide for operator training to minimize malfunctions and excess emissions.

Testing

The permit does not require source tests. A table of test methods has been included in the permit if testing is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

The permit does not have special reporting requirements for the Camp Barrett boilers, except as requested by DEQ, such as fuel throughput and emissions data for annual update and emission statement purposes.

Streamlined Requirements

There were no streamlined requirements for the boiler, except that general conditions included in new source permits (such as right of entry, annual reporting requirements, transfer of permits, etc.) are not restated here.

Fuel Burning Equipment Requirements – (emission unit ID#2077, 24126, 27200, 27219, 27240-1, 3247-1, 3247-2, 3247-3 and 3500) - Other small No. 2 oil-fired or No. 2 oil/gas-fired boilers

The conditions for several No. 2 oil-fired boilers with rated capacity range of 1-10 million Btu/hour is subject to the Virginia air regulations for existing sources (Rule 4-8) and the requirements of the state operating permit dated May 24, 2000 for reasonably available control technology (RACT). A copy of the RACT permit is enclosed as Attachment D.

Limitations

Conditions 1 and 2 limit the emissions of total suspended particulates (which includes PM-10), sulfur dioxide (SO_2) and visible emissions based on the existing source rule for fuel burning equipment (Rule 4-8).

Condition 3 is a statement of existing source rule on general processes (Rule 4-4), which for major sources of nitrogen oxides as (NO_2) in a non-attainment area, requires application of reasonably available control technology (RACT) to the equipment.

Condition 4 is a statement that routine replacement or addition of small boilers would be allowed if it is not subject to the new source permitting, but rather documented and reported to the DEQ as a registration update.

Monitoring and Recordkeeping

The facility was issued a state operating permit on May 24, 2000 (Attachment D) that stated the RACT requirements for the emission units, including the small distillate oil-fired boilers. Nine of the small boilers listed in the permit are still in operation. The applicable condition is restated in the Title V permit. RACT requirements for the small boilers consist of proper operation and maintenance in accordance with manufacturer recommendations to minimize air pollution emissions. Written operating procedures and maintenance schedule along with records of fuel supplier shipments shall be used to demonstrate compliance with the permit limits. The particulate matter limit is met by the use of cleaner distillate fuel oil and following good combustion and air pollution control practices. The monitoring and recordkeeping requirements in Condition 2 has been slightly modified to include sulfur content of the fuel which would verify compliance with the existing source rule SO_2 emission standard. The standard is more stringent in Northern Virginia region but can be met by using fuel oil of 1% sulfur content or less.

The emissions from the operation of the various, small boilers which use No. 2 oil is calculated for the emissions inventory using the annual throughputs and factors from the EPA's Compilation of Air Pollutant Emission Factors (AP-42), Section 1.3 and the Virginia air regulations limits.

Pollutant	AP-42 factor for No. 2 Oil lbs/1000 gal.	lbs/10^6 Btu*	Virginia Rule 4-8 lbs/10^6 Btu
NO_2	20	0.145	
SO_2	142 x S	1.03 x S	1.06
CO	5	0.036	
VOC	0.34	0.0025	
PM	2	0.0145	0.3
PM-10	1	0.0073	0.3

* Conversion based on heating value of No. 2 fuel oil at 138,000 Btu/gallon

Actual emissions are calculated by multiplying the appropriate emission factor and the fuel throughput in proper units. Therefore, the following are the sample calculated annual combined emissions from the small boilers listed in the emissions inventory, using 67,000 gallons of distillate fuel oil for 2001 calendar year,

<u>No. 2 Oil</u>
NO_2 = (67x1000 gal/yr) x (20 lbs/1000 gal) ÷ 2000 lbs/ton = 0.67 tons/yr
SO_2 = (67x1000 gal/yr) x (142x0.5 lbs/1000 gal) ÷ 2000 lbs/ton = 2.38 tons/yr
CO = (67x1000 gal/yr) x (5 lbs/1000 gal) ÷ 2000 lbs/ton = 0.17 tons/yr
VOC = (67x1000 gal/yr) x (0.34 lbs/1000 gal) ÷ 2000 lbs/ton = 0.011 tons/yr
PM = (67x1000 gal/yr) x (2 lbs/1000 gal) ÷ 2000 lbs/ton = 0.067 tons/yr
PM-10= (67x1000 gal/yr) x (1 lbs/1000 gal) ÷ 2000 lbs/ton = 0.034 tons/yr

Visible emissions will be used as an indicator of boiler problems. The standard limit of 20% opacity should not be exceeded with use of cleaner fuels, natural gas and distillate No. 2 fuel oil, if the small boilers are maintained and operated properly.

Boiler inspection reports by DEQ compliance staff have revealed no past violations of the opacity limitations contained in this permit. The permittee shall continue to follow the manufacturer recommendations for proper operation and maintenance procedures and provide for operator training to minimize malfunctions and excess emissions.

Testing

The permit does not require source tests. A table of test methods has been included in the permit if testing is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

No specific reporting requirement has been included in the permit, except that annual reporting to agency for emission inventory update and certified emission statement is required.

Streamlined Requirements

There were no streamlined requirements for the boilers.

Process Equipment Requirements – (emission unit ID#3300, 2012, 3280, 3255-1, 3255-2, Sewage Plant and Water Plant) - Diesel Engine-Driven Emergency Generators

The diesel engine-driven generator at Building 3300, rated at 825 kilowatts (KW) was issued a minor new source permit on December 27, 1994. A copy of the permit is enclosed as Attachment E. There are six other diesel engine-driven generators that are subject to the general process and visible emissions limits as stated in the regulations.

Limitations

Conditions 1 and 2 restrict the use of the generator for emergency purposes, not to exceed 500 hours per year. That operational limit is used to establish the potential emissions for emergency generators, in accordance with DEQ and EPA guidelines. Condition 3 sets the visible emissions limit for each generator at standard 20% opacity.

Monitoring and Recordkeeping

Recordingkeeping on the actual hours of operation or fuel throughput is required. The record of generator operating hours and DEQ-approved emission factors and equations shall be used to estimate the emissions. If an existing generator does not have an hour meter, then the fuel throughput data may be used to show level of generator operation and for calculating emissions. For the 825 KW Caterpillar 3512 generator, the emission factors are based on data provided by the manufacturer for their permit, except for SO_2 based on AP-42 factor. For the other diesel engine-driven generators, the emission factors are from AP-42, Table 3.4-1. The following table provides a comparison of the factors used in estimating the emergency generator emissions.

Pollutant	Caterpillar 3512 Generator Factors			AP-42 Diesel Generator Factors		
	lbs/hp-hr	lbs/10^6Btu	lbs/1000gal*	lbs/hp-hr	lbs/10^6Btu	lbs/1000 gal*
NO_2	0.021	3.0	415	0.024	3.2	434
SO_2	0.0014	0.21	28.5	0.00809 S	1.01S	142S
CO	0.0018	0.26	36.4	0.00055	0.81	113
VOC	0.0008	0.074	15.9	0.0007	0.09	12.4
PM-10	0.00034	0.082	6.8	0.0007	0.1	14

* Conversion based on heating value of No. 2 fuel oil at 138,000 Btu/gallon

The emissions are calculated by multiplying the appropriate emission factor from the manufacturer or AP-42 with the hours of operation. For the case of the permitted generator, rated at 825 KW or 1197 brake horsepower (hp), sample calculation based on maximum 500 hours of operation would be as following:

NOx = 1197 hp x (0.021 lbs/hp-hr) x 500 hrs/yr ÷ 2000 lbs/ton = 6.3 tons/yr
SO2 = 1197 hp x (0.00809 x 0.5 lbs/hp-hr) x 500 hrs/yr ÷ 2000 lbs/ton = 1.2 tons/yr
CO = 1197 hp x (0.0018 lbs/hp-hr) x 500 hrs/yr ÷ 2000 lbs/ton = 0.54 tons/yr
VOC = 1197 hp x (0.0008 lbs/hp-hr) x 500 hrs/yr ÷ 2000 lbs/ton = 0.24 tons/yr
PM-10= 1197 hp x (0.00034 lbs/hp-hr) x 500 hrs/yr ÷ 2000 lbs/ton = 0.1 tons/yr

No stack testing was required for the generators with the limited hours of operation. Visible emissions will be used as an indicator of generator problems. The standard limit of 20% opacity should not be exceeded with the use of diesel fuel and with proper operation and maintenance. Although, the new source permit exempts periods of startup, shutdown or malfunctions for opacity purposes based on 9 VAC 5-50-20 A.4., that statement was left out since federal requirements do not allow for such exemption.

For periodic monitoring purposes, the permittee is being required to observe the stack exhaust during the scheduled maintenance/test runs of the generators and record whether visible emissions appear normal which would indicate proper engine operation. If excess visible emissions are observed, corrective action shall be taken to achieve proper engine operation and minimize visible emissions. If observed problems persist, then a visible emission evaluation (VEE) shall be conducted by certified personnel and the results documented. If exceedance of opacity limit is confirmed, the diesel engine-driven generator shall be serviced, repaired or adjusted as necessary and another VEE test conducted to demonstrate compliance before regular generator operation is resumed. DEQ staff shall be kept informed about non-routine problems or malfunctions. Records of observation, VEE tests, engine repairs and other corrective actions shall be kept on site for review upon request.

Inspection reports by DEQ compliance staff have revealed no past violations of the opacity limitations contained in this permit. The permittee shall continue to follow the manufacturer recommendations for proper operation and maintenance procedures and provide for operator training to minimize malfunctions and excess emissions.

Testing

The permit does not require source tests for the emergency generator or the small gas compressor. A table of test methods has been included in the permit if testing is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

No specific reporting requirement has been included in the permit, except that annual reporting to agency for emission inventory update and certified emission statement is required.

Streamlined Requirements

There were no streamlined requirements.

Process Equipment Requirements – (emission unit ID#2013) – Gas Compressor Engine

The small 95 brake horsepower (bhp) gas compressor is used to operate the pumps and associated equipment for the natural gas vehicle refueling facility at Building 2013.

The compressor engine, Caterpillar G3304, is included in the permit only because it could not be considered an insignificant emission unit based on continuous operation and using AP-42 factors.

Limitations

The visible emission limit of 20% opacity from the air regulations is stated in the permit. However, it is not expected that there will be much emissions from the operation of the gas compressor.

Monitoring and Recordkeeping

No stack testing is required since only minor emissions are expected from the gas-fired engine. However, a record shall be kept of the annual hours of operation or the gas throughput for the engine, along with DEQ-approved emission factors and equations used to calculate the emissions from the gas compressor. The following table shows the factors from AP-42, Table 3.2-3, for 4-stroke rich burn gas-fired engines.

Pollutant	AP-42 Gas Engine Factors lbs/MMBtu	lbs/10^6cf*	lbs/hp-hr **
NO_2	2.27	2270	0.016
SO_2	0.000588	0.6	0.000004
CO	3.72	3720	0.026
VOC	0.0296	29.6	0.00021
PM-10	0.01941	19.41	0.00014

* Conversion based on heating value of natural gas at 1000 Btu/cubic foot (cf)
** Engine fuel consumption rate is estimated at 7000 Btu/hp-hr

The emissions are calculated by multiplying the appropriate emission factor with the hours of operation or fuel throughput. For the case of the gas compressor, rated at 95 horsepower operating continuously (8760 hours per year), sample calculation would be as following:

NOx = 95 hp x (0.016 lbs/hp-hr) x 8760 hrs/yr ÷ 2000 lbs/ton = 6.7 tons/yr
SO2 = 95 hp x (0.000004 lbs/hp-hr) x 8760 hrs/yr ÷ 2000 lbs/ton = 0.002 tons/yr
CO = 95 hp x (0.026 lbs/hp-hr) x 8760 hrs/yr ÷ 2000 lbs/ton = 10.8 tons/yr
VOC = 95 hp x (0.00021 lbs/hp-hr) x 8760 hrs/yr ÷ 2000 lbs/ton = 0.09 tons/yr
PM-10= 95 hp x (0.00014 lbs/hp-hr) x 8760 hrs/yr ÷ 2000 lbs/ton = 0.06 tons/yr

No stack testing is required for the small gas compressor engine. Visible emissions will be used as an indicator of generator problems. The standard limit of 20% opacity should not be exceeded with the use of natural gas and with proper engine operation and maintenance.

Process Equipment Requirements – (emission unit ID#4, 2013P, 2101, 2103, 2112, 3252) - Paint Spray Booths

Paint Spray booths are being included in the permit, because of the use of methylene chloride in the clean-up process. Methylene chloride is considered a toxic air pollutant. The voluntary limit of 1500 gallons per year for all spray booths would cause emissions not exceeding 8.25 tons per year. That would keep the toxic emissions below the major source threshold of 10 tons per year for any single pollutant. The facility would not exceed the threshold of total 25 tons per year for combined toxic pollutants either.

Limitations

Condition 1 requires proper operation and maintenance of equipment with proper operator training to minimize air emissions.

Condition 2 limits the facility-wide throughput of methylene chloride (a toxic air pollutant) to 1500 gallons per year.

Monitoring and Recordkeeping

For the various spray booths, the records of Material Safety Data Sheet (MSDS) are to be kept for the coating and cleaning solvents used. Also, the throughput of the materials determined from receipts of purchases and inventory records. Actual emissions will be calculated based on material balance of solvents (and toxics) content of purchases during the year, except for material not used, recycled or kept in storage.

No stack testing is required for the spray booths. Visible emissions will also be used as indicator of problems with the filter control equipment or overspray. Inspection reports by DEQ compliance staff have revealed no past violations of the general requirements, such as visible emissions, from the equipment. The permittee shall continue to follow the manufacturer recommendations for proper operation and maintenance procedures to minimize excess emissions. Records needed to demonstrate compliance with the permit shall be kept on site for review by DEQ personnel upon request.

Testing

The permit does not require source testing of the spray booths, especially since emissions are calculated based on material balance and also minor usage and emissions are expected.

Reporting

No specific reporting requirement has been included in the permit, except that annual reporting to agency for emission inventory update and certified emission statement is required.

Streamlined Requirements

There were no streamlined requirements.

Process Equipment Requirements – (emission unit ID#PW) – Parts Washers

The cold cleaning degreasers are subject to the air regulations for existing sources under Emission Standards For Solvent Metal Cleaning Operations Using Non-Halogenated Solvents (Rule 4-24) in the Virginia air regulations.

Limitations

Conditions 1 through 7 require that volatile organic compound emissions (VOC) from the cold cleaning degreasers be controlled by at least 85% by weight of emissions. The requirement can be met by methods described in control technology guidelines of 9 VAC 5-40-3290 C and D.

Condition 8 is a statement that routine replacement or additions of similar small degreasing units is allowed since they are not subject to new source permitting. However, the permittee shall keep track of the changes and the solvent throughputs. The agency shall be kept informed of the changes through (annual) registration update.

Monitoring

Quarterly inspection of the condition of degreasers is also required.

Recordkeeping

Conditions 1 and 2 are the general requirement that records relating to emissions be kept on site along with all inspections and servicing of the degreaser units.

Testing
No testing is required for non-permitted equipment from which minor emissions are expected.

Reporting

No specific reporting requirement has been included in the permit, except that annual reporting to agency for emission inventory update and certified emission statement is required.

Streamlined Requirements
There were no streamlined requirements.

Process Equipment Requirements – (emission unit ID#2012-1, 2012-2, 24162-1, 24162-2, 3300) – (NSPS) Storage Tanks

Some fuel storage tanks with capacity greater than 10,569 gallons (40 m^3) are subject to minor recordkeeping requirements of the New Source Performance Standards (NSPS), under 40 CFR Part 60 Subpart Kb, Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) For Which Construction, Reconstruction, or Modification Commenced After July 23, 1984. Federal NSPS requirements are incorporated into Virginia air regulations, in 9 VAC 5-50-410 (Rule 5-5). Five tanks at Quantico Marine Base are subject to the rule. There are other large tanks that are not included either because they were constructed prior to the NSPS effective date or are at gasoline service stations which are considered exempt by the NSPS Subpart Kb.

Limitations

The following storage tanks at Marine Corps Base Quantico are subject to the minor recordkeeping provisions of the NSPS, subpart Kb:

	Building Number	Tank Capacity (gallons)	Tank Contents (material stored)	Comments
2012-T1 2012-T2	2012	125,000 gallons, each	Distillate No. 2 fuel (heating oil)	Central Heating Plant
24162-T1 24162-T2	24162	20,000 gallons, each	Residual No. 6 fuel (heating oil)	Camp Barrett Heating Plant
3300-T1	3300	30,000 gallons	Diesel fuel	Emergency Generator use

The tanks at the Central Heating Plant (2012-T1 and T2) are above ground and the others are underground tanks.

Recordkeeping

For the tanks used to store (low-volatile) fuel oils, the NSPS subpart Kb only requires records to be kept on their dimensions and capacity of the tanks over 10,569 gallons.

Testing

No testing is required for the storage tanks from which minor emissions are expected.

Reporting

No specific reporting requirements are state, except as requested for registration update, annual emissions inventory purposes or certified emissions statement.

Process Equipment Requirements – (emission unit ID#27263-A, -B, -C, -D, -E, -F, -G and 27263-H) - Fuel Farm Storage Tanks

The following eight large storage tanks, 27263-A, B, C, D, E, F, G and H, at the Marine Corps Base Quantico fuel farm (Building 27263) are considered insignificant emission units currently based on the tank features, fuel types and throughputs. However, the tanks may be subject to federal or state regulations or permitting if the tanks or fuel types are changed or the gasoline throughput greatly increased.

Tank No.	Year tank built	Tank Capacity (gallons)	Tank Contents (material stored)	Comments
27263-A	1983	75,000 gallons	Low sulfur Diesel fuel (or No. 2 fuel oil)	Internal floating pan (roof)
27263-B	1983	75,000 gallons	Low sulfur Diesel fuel (or No. 2 fuel oil)	Internal floating pan (roof)
27263-C	1983	75,000 gallons	Jet Fuel (kerosene based) JP-8	Internal floating pan (roof)
27263-F	1983	75,000 gallons	Jet Fuel (kerosene based) JP-8	Internal floating pan (roof)
27263-D	1983	25,000 gallons	Low sulfur Diesel fuel (or No. 2 fuel oil)	Internal floating pan (roof)
27263-E	1983	25,000 gallons	Low sulfur Diesel fuel (or No. 2 fuel oil)	Internal floating pan (roof)
27263-G	1983	12,500 gallons	Reformulated Gasoline	Pressure relief valve on vent

Tanks 27263-A, B, C and F have a capacity of 75,000 gallons, each. The federal NSPS, Subpart Ka, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction or Modification Commenced After May 18, 1978 and Prior to July 23, 1984, applies to storage tanks with over 40,000 gallons capacity. However, (No. 2) diesel fuel is exempted from the subpart. Also, the kerosene-based jet fuel, JP-8, has a vapor pressure below 1 pound per square inch absolute (psia) which excludes the tanks from the requirements of the NSPS. In addition, they are exempt from the state regulations, Article 37, Emission Standards for Petroleum Liquid Storage and Transfer Operations (Rule 4-37) since the vapor pressures of the fuels are below 1.5 psia.

Tanks D, E, G, and H are exempt from the NSPS Subpart Ka since they are less than 40,000 gallons in capacity. Also, the NSPS Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984 does not apply since the tanks were constructed in 1983. In addition, the standard is not applicable to vessels located at bulk gasoline plants. Regarding the state regulations, Article 37, the provision of 9 VAC 5-40-5220 D on “Gasoline bulk loading – bulk plants” is not applicable since the average daily throughput of gasoline is less than 4,000 gallons per day, when based on a 30-day rolling average. The gasoline throughput from the fuel farm currently averages less than 1000 gallons per day.

The Quantico Marine Base has two gasoline service stations. One is located at Building 2056 which is used only by military personnel and is included in the Title V permit, section XII. The other service station, at Building 3500, is not included in the permit since it can be used by the families and retirees which therefore is considered a public gasoline station. Both gasoline dispensing facilities have average monthly throughput exceeding 10,000 gallons per month. They are also equipped with Stage I vapor control and Stage II vapor recovery systems. Their gasoline is delivered from a gasoline terminal by tanker trucks equipped with vapor return lines. On the other hand, the fuel farm provides gasoline service for the smaller operations at the base including the golf course, marina, road and grounds equipment that includes lawn mowers. The FBI Academy is the biggest user of the gasoline but they are considered a separate source from the Quantico Marine Base.

According to Article 37, section 9 VAC 5-40-5220 E of the state regulations, "Transfer of gasoline – gasoline dispensing facilities – Stage I vapor control systems", the requirements are not applicable for transfers made to storage tanks that are either less than 250 gallons in capacity or located at facilities whose average monthly throughput of gasoline is less than 10,000 gallons. The gasoline tanks at the base are at or above 250 gallons and because of the gasoline service stations, transfers made to storage tanks throughout the base exceed the throughput limit of 10,000 gallons per month. However, the fuel farm has lower gasoline throughput for the tanks it serves on the base. In addition, since the fuel farm and the fuel delivery truck are exempt from the requirement to capture gasoline vapors because of the low daily throughput, application of Stage I or Stage II at the smaller gasoline operations would not be justified. The DEQ is considering each of the gasoline facilities at the base separately and does not consider the other smaller gasoline operations should be subject to Stage I and Stage II systems, unless increased throughputs require them.

Limitations

Condition 1 provides a list of the fuel farm storage tanks and their contents. A statement is added that any changes to the material stored could subject the facility to existing NSPS Subpart Ka or the state regulations, Article 37. A modification of the facility or tanks may also require a permit.

Condition 2 restates the provisions of 9 VAC 5-40-5220 D for "Gasoline bulk loading – bulk plants" that the requirements are not applicable to the facility gasoline operations as long as the average daily throughput is less than 4,000 gallons per working day. The gasoline throughput currently averages less than 1000 gallons per day.

Recordkeeping

The facility is being required to keep records to ensure that the operation remains exempt from the federal and state regulations. Records of daily gasoline throughput from the fuel farm will be maintained. In addition, information on the fuel stored in the other tanks (diesel and jet fuel JP-8) will be kept along with fuel supplier certifications.

Process Equipment Requirements – (emission unit ID#2056-2, 2056-3) - Building 2056 – Gasoline Service Station

Limitations

The gasoline service station at building 2056 is the only one of the two gasoline service stations included in the permit for the base, since its use is restricted only to military base personnel and employees (and not including families and retirees). Its throughput exceeds 10,000 gallons per month, which requires application of Stage I and Stage II vapor recovery. However, both gasoline service stations at the base are already equipped with both Stage I and Stage II vapor recovery controls. For the gasoline service station at Building 2056, the requirements given in the Virginia Administrative Code for air regulations (existing source Rule 4-37- Emission Standards for Petroleum Liquid Storage and Transfer Operations) are restated in the permit in case the gasoline throughput increases above the exemption level.

Facility Wide Conditions

The general visible emissions limit is stated for equipment other than the previously listed boilers, generators, and incinerators that have their own specific opacity limits. Also, the general regulatory requirement for proper operation and maintenance of emission units and their air pollution control equipment is restated here as well.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110, that apply to all Federal operating permit sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions, including those caused by upsets, within one business day. As a federal facility, compliance with the Regulations for General Conformity may be applicable, which is referenced at the end of the General Conditions as well.

Comments on General Conditions

B. Permit Expiration

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by '' 2.1-20.01:2 and ''10.1-1185 of the *Code of Virginia,* and the “Department of Environmental Quality Agency Policy Statement NO. 3-2001”.

This general conditions cites the entire Article(s) that follow:
B.2. Article 1 (9 VAC 5-80-50 et seq.), Part II of 9 VAC 5 Chapter 80. Federal Permits for Stationary Sources
B.3. Article 1 (9 VAC 5-80-50 et seq.), Part II of 9 VAC 5 Chapter 80. Federal Permits for Stationary Sources

This general condition cites the sections that follow:
B. 9 VAC 5-80-80. “Application”
B.2. 9 VAC 5-80-150. “Action on Permit Applications”
B.3. 9 VAC 5-80-80. “Application”
B.4. 9 VAC 5-80-80. “Application”
B.4. 9 VAC 5-80-140. “Permit Shield”
B.5. 9 VAC 5-80-80. “Application”

F. Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excesses emissions reporting within 4 hours. Section 9 VAC 5-80-250 also requires malfunction reporting; however, reporting is required within 2 days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to this section including Title 5 facilities. Section 9 VAC 5-80-250 is from the Title 5 regulations. Title 5 facilities are subject to both Sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within 4 day time business hours of the malfunction.

In order for emission units to be relieved from the requirement to make a written report in 14 days the emission units must have continuous monitors and the continuous monitors must meet the requirements of 9 VAC 5-50-410 or 9 VAC 5-40-41.

This general condition cites the sections that follow:

F.	9 VAC 5-40-50.	Notification, Records and Reporting
F.	9 VAC 5-50-50.	Notification, Records and Reporting
F.1.	9 VAC 5-40-50.	Notification, Records and Reporting
F.1.	9 VAC 5-50-50.	Notification, Records and Reporting
F.2.	9 VAC 5-40-50.	Notification, Records and Reporting
F.2.	9 VAC 5-50-50.	Notification, Records and Reporting
F.3.	9 VAC 5-40-50.	Notification, Records and Reporting
F.3.	9 VAC 5-40-41.	Emissions Monitoring Procedures for Existing Sources
F.3.a.	9 VAC 5-40-41.	Emissions Monitoring Procedures for Existing Sources

This general condition contains a citation from the Code of Federal Regulations as follows:

F.2.a. 40 CFR 60.13 (h). Monitoring Requirements.

U. Failure/Malfunction Reporting

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in section 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on general condition F.

This general condition cites the sections that follow:

U.2.d. 9 VAC 5-80-110. Permit Content
U.2.d. 9 VAC 5-20-180. Facility and Control Equipment Maintenance or Malfunction

STATE ONLY APPLICABLE REQUIREMENTS

There are no State Only Applicable Requirements. A state operating permit was issued on May 24, 2000 (Attachment D) for the application of reasonably available control technology (RACT) for the facility. However, the state operating permit conditions have been incorporated into the federal operating permit.

FUTURE APPLICABLE REQUIREMENTS

No such requirements were found for the source.

INAPPLICABLE REQUIREMENTS

The Department has determined that the following requirements are not applicable:

> New Source Performance Standards (NSPS) for Bulk Gasoline Terminals, as stated in 40 CFR Part 60, Subpart XX, and 9 VAC 5-40-410, are not applicable. The standard applies to facilities with gasoline loading racks at a bulk gasoline terminal having throughputs exceeding 20,000 gallons per day. Their facility is not considered a gasoline terminal.
>
> Maximum Achievable Control Technology (MACT) standard for Halogenated Solvent Cleaning as stated in 40 CFR Part 63 Subpart T, and 9 VAC 5 Chapter 50, are not currently applicable. The facility does not use any halogenated cleaning solvents in its parts washers.
>
> The MACT standard for Surface Coating of Miscellaneous Metal Parts and Products as stated in 40 CFR Part 63 Subpart MMM, and 9 VAC 5 Chapter 50, are not currently applicable. The spray painting operations at the base are not subject to the standard, especially since the toxics pollutants emissions from use of Methylene Chloride paint stripper is limited to below major source threshold of 10 tons/year.

In addition, NSPS Subpart Kb is applicable to storage tanks with greater than 40 m^3 (10,569 gallon) capacity and does not apply to gasoline service stations. One of the two gasoline service stations operated at the Quantico Marine Base, Building 3500, is also used by the families of military personnel and retired military personnel in their private vehicles as well as government vehicles. Therefore, they are being treated as commercial service stations, exempt from the subpart Kb and excluded from the base Title V permit. The other gasoline service station at Building 2056 is restricted to base personnel and could be considered as part of the base functions but the storage tanks are still exempt from NSPS subpart Kb. The other smaller storage tanks for petroleum products or used as oil-water separators are also exempt from the regulations.

As an amendment to their application dated May 16, 2003, the Quantico Marine Base has also reported a new 80,000 gallon capacity diesel/No. 2 fuel oil tank and two others to be added later (Ref. ID# CUP A, CUP B, and CUP C). However, the tanks are to be used by the FBI Academy, which is located on the base but considered a separate source (Registration No: 40368). The requirements of NSPS Subpart Kb would apply to the FBI Academy tanks instead.

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
AST 4	Used Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 25	Gasoline storage tank	9 VAC 5-80-720B	VOC	3000 gallons
AST 15	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	300 gallons
AST 69	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 659	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	125 gallons
AST 660	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	1,000 gallons
AST 1303	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	3,000 gallons
AST 1792	Diesel fuel tank	9 VAC 5-80-720B	VOC	250 gallons
AST 2012C	Used Oil storage tank	9 VAC 5-80-720B	VOC	250 gallons
AST 2033	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 2038	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 2043	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	250 gallons
AST 2047	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
UST 2056-F	Diesel fuel tank	9 VAC 5-80-720B	VOC	6,000 gallons
AST 2077	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	1,000 gallons
AST 2089	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 2101	Used Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 2112	Used Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 2117A	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	1,000 gallons
AST 2117B	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	1,000 gallons
AST 2130	Used Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 2172	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	550 gallons
AST 2200	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	300 gallons
AST 2200A	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	1,000 gallons
AST 2201A	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 2202	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 2204	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 2207	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons

AST 2603	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 2657	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 2666	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 2819	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	250 gallons
AST 2995	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 3063A	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 3066A	Gasoline storage tank	9 VAC 5-80-720B	VOC	550 gallons
AST 3066B	Diesel fuel tank	9 VAC 5-80-720B	VOC	250 gallons
AST 3149A	Gasoline storage tank	9 VAC 5-80-720B	VOC	250 gallons
AST 3149B	Diesel fuel tank	9 VAC 5-80-720B	VOC	250 gallons
AST 3201	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 3230	Diesel fuel tank	9 VAC 5-80-720B	VOC	1,000 gallons
AST 3247	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	2,000 gallons
AST 3254A	Gasoline storage tank	9 VAC 5-80-720B	VOC	250 gallons
AST 3254B	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 3255	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	6,000 gallons
AST 3303	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 3454C	Used Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 3500A	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	10,000 gallons
AST 3500B	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	300 gallons
AST 3500E	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	275 gallons
AST 5103D	100 Low Lead aviation Gasoline AVGAS tank	9 VAC 5-80-720B	VOC	10,000 gallons
AST 5121	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 5156A	Used Aviation Gasoline AVGAS storage tank	9 VAC 5-80-720B	VOC	6,000 gallons
AST 5156B	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	250 gallons
AST 24008	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 24009A	Diesel fuel tank	9 VAC 5-80-720B	VOC	10,000 gallons
AST 24009D	Used Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 24010	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	2,000 gallons
AST 24015	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	6,000 gallons
AST 24141	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	2,000 gallons
UST 24142A	Gasoline storage tank	9 VAC 5-80-720B	VOC	4,000 gallons
UST 24142B	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	1,000 gallons
AST 24144	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	1,000 gallons
AST 24147	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 24148	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	2,000 gallons
AST 24150	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	550 gallons
AST 24151	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	1,000 gallons
AST 24162	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	125 gallons
AST 24162A	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	250 gallons
AST 26102	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	1,000 gallons
AST 26107	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	250 or 1,000 gallons
AST 26109	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	2,000 gallons
AST 26145A	Used Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 26146	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	1,000 gallons
UST 26156A	Gasoline storage tank	9 VAC 5-80-720B	VOC	4,000 gallons
AST 27001	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	1,000 gallons

AST 27002A	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	2,000 gallons
UST 27002C	Gasoline storage tank	9 VAC 5-80-720B	VOC	10,000 gallons
AST 27002D	Used Oil storage tank	9 VAC 5-80-720B	VOC	250 gallons
AST 27054A	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	2,000 gallons
AST 27054C	Used Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 27067B	Diesel fuel tank	9 VAC 5-80-720B	VOC	300 gallons
AST 27200	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	2,000 gallons
AST 27202	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 27210A	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 27210B	Used Oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 27212A	Gasoline storage tank	9 VAC 5-80-720B	VOC	250 gallons
AST 27212B	Diesel fuel tank	9 VAC 5-80-720B	VOC	250 gallons
AST 27219A	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	2,000 gallons
AST 27240	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	2,000 gallons
AST 27241	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	1,000 gallons
AST 27263M	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	300 gallons
AST 27266	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	2,000 gallons
AST 27400	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	1,000 gallons
AST 27500A	Diesel fuel tank	9 VAC 5-80-720B	VOC	250 gallons
AST 27500B	Gasoline storage tank	9 VAC 5-80-720B	VOC	1,000 gallons
AST 28003	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	1,000 gallons
AST 28009	#2 Fuel Oil storage tank	9 VAC 5-80-720B	VOC	250 gallons
AST fuel farm	Diesel 32 fuel oil tank	9 VAC 5-80-720B	VOC	2,000 gallons
AST 27940C	Waste oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
AST 27972	Waste oil storage tank	9 VAC 5-80-720B	VOC	500 gallons
LR 2012	Diesel loading rack	9 VAC 5-80-720B	VOC	emissions < 5 tons/yr
LR 27263	Gasoline loading rack	9 VAC 5-80-720B	VOC	emissions < 5 tons/yr
OWS 2012	Oil-Water Separator	9 VAC 5-80-720B	VOC	emissions < 5 tons/yr
OWS 2013	Oil-Water Separator	9 VAC 5-80-720B	VOC	emissions < 5 tons/yr
OWS 2102A	Oil-Water Separator	9 VAC 5-80-720B	VOC	emissions < 5 tons/yr
OWS 2112	Oil-Water Separator	9 VAC 5-80-720B	VOC	emissions < 5 tons/yr
OWS 3016	Oil-Water Separator	9 VAC 5-80-720B	VOC	emissions < 5 tons/yr
OWS 3045	Oil-Water Separator	9 VAC 5-80-720B	VOC	emissions < 5 tons/yr 500 gallons
OWS 3056	Oil-Water Separator	9 VAC 5-80-720B	VOC	emissions < 5 tons/yr
OWS 3185	Oil-Water Separator	9 VAC 5-80-720B	VOC	emissions < 5 tons/yr
OWS 24007	Oil-Water Separator	9 VAC 5-80-720B	VOC	emissions < 5 tons/yr
OWS 24009-1	Oil-Water Separator	9 VAC 5-80-720B	VOC	emissions < 5 tons/yr 800 gallons
OWS 24009-2	Oil-Water Separator	9 VAC 5-80-720B	VOC	emissions < 5 tons/yr
OWS 26145	Oil-Water Separator	9 VAC 5-80-720B	VOC	emissions < 5 tons/yr
OWS 27002	Oil-Water Separator	9 VAC 5-80-720B	VOC	emissions < 5 tons/yr
OWS 27004B	Oil-Water Separator	9 VAC 5-80-720B	VOC	emissions < 5 tons/yr
OWS 27054	Oil-Water Separator	9 VAC 5-80-720B	VOC	emissions < 5 tons/yr
OWS 27263	Oil-Water Separator	9 VAC 5-80-720B	VOC	emissions < 5 tons/yr
OWS 28000	Oil-Water Separator	9 VAC 5-80-720B	VOC	emissions < 5 tons/yr
	MCB-2 Landfill	9 VAC 5-80-720B	Non-methane organic	Emissions less than

			compounds (NMOC)	5 tons per year
	Russell Road Landfill	9 VAC 5-80-720B	Non-methane organic compounds (NMOC)	Emissions less than 5 tons per year
	Old Landfill	9 VAC 5-80-720B	Non-methane organic compounds (NMOC)	Emissions less than 5 tons per year
	CARPENTRY OPER.	9 VAC 5-80-720B	Particulate Matter	emissions < 5 tons/yr
	Stationary Saws	9 VAC 5-80-720B	Particulate Matter	emissions < 5 tons/yr
	Stationary Sanders	9 VAC 5-80-720B	Particulate Matter	emissions < 5 tons/yr
	Wastewater Treatment	9 VAC 5-80-720B	VOC	emissions < 5 tons/yr
	(78) Aggregated Distillate Oil-fired boilers less than 1 million Btu/hr each	9 VAC 5-80-720C	NOx, VOC, CO, PM, SOx	Each rated less than 1 million Btu/hour
	(12) Aggregated Natural Gas Fired Boilers each rated at less than 10 mil.Btu/hr	9 VAC 5-80-720C	NOx, VOC, CO, PM	Each rated less than 10 million Btu/hour
	(87) Aggregated Propane-fired boilers each rated at less than 10 mil. Btu/hr	9 VAC 5-80-720C	NOx, VOC, CO, PM	Each rated less than 10 million Btu/hour
	(21) Aggregated diesel fueled reciprocating emergency generators	9 VAC 5-80-720C	NOx, VOC, CO, PM SOx	Each rated less than 100 horsepower
Bldg-15	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	112 bhp or 75 KW
Bldg-659	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	298 bhp or 200 KW
Bldg-660	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	447 bhp or 300 KW
Bldg-1303	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	447 bhp or 300 KW
Bldg-2004	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	149 bhp or 100 KW
Bldg-2033	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	447 bhp or 300 KW
Bldg-2038	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	224 bhp or 150 KW
Bldg-2047	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	164 bhp or 110 KW
Bldg-2113	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	149 bhp or 100 KW
Bldg-2200-1	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	149 bhp or 100 KW
Bldg-2200-2	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	522 bhp or 350 KW
Bldg-2201	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	224 bhp or 150 KW
Bldg-2204	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	112 bhp or 75 KW
Bldg-2666	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	149 bhp or 100 KW
Bldg-2818	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	231 bhp or 155 KW
Bldg-2995	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	149 bhp or 100 KW
Bldg-3201	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	149 bhp or 100 KW
Bldg-3247	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	522 bhp or 350 KW
Bldg-3250	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	149 bhp or 100 KW
Bldg-3252	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	149 bhp or 100 KW
Bldg-3950	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	224 bhp or 150KW
Bldg-5109-1	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	298 bhp or 200 KW
Bldg-5109-2	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	298 bhp or 200 KW
Bldg-5121	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	134 bhp or 90 KW
Bldg-24008	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	268 bhp or 180 KW

Bldg-24150	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	149 bhp or 100 KW
Bldg-24162	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	149 bhp or 100 KW
Bldg-27001	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	149 bhp or 100 KW
Bldg-27054	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	149 bhp or 100 KW
Bldg-27229	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	186 bhp or 129 KW
Bldg-27263	Emergency diesel gen.	9 VAC 5-80-720C	NOx, VOC, CO, PM	298 bhp or 200 KW

These emission units are presumed to be in compliance with all requirements of the federal Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping, or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

CONFIDENTIAL INFORMATION

There are no confidential information included in their permit application.

PUBLIC PARTICIPATION

A public notice regarding the draft permit was placed in the Potomac News/Manassas Journal Messenger Newspaper on July 8, 2003. The proposed permit, application, statement of basis and other related documents were available for review by the public at the DEQ regional office from July 8, 2003, to August 7, 2003. The EPA was sent a copy of the draft permit along with other documents, including a copy of the public notice, on July 8, 2003. The draft permit was submitted to the EPA also for concurrent review as a proposed permit. The affected states of Maryland and West Virginia were sent a copy of the public notice on July 9, 2003, as well as the City of Washington, D.C., the City of Alexandria and Fairfax County. All persons on the Title V mailing list were sent a copy of the public notice in letters dated July 9, 2003, or by E-mail.

Public comments were accepted from July 8, 2003 to August 7, 2003. The concurrent EPA review period of the proposed permit ended on August 22, 2003. No comments were received from the public or the EPA. Therefore, the permit is being issued on September 2, 2003.