

STATEMENT OF LEGAL AND FACTUAL BASIS

Virginia Polytechnic Institute and State University
Blacksburg, Virginia
Permit No. VA-20124

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, Virginia Polytechnic Institute and State University has applied for a Title V Operating Permit for its Blacksburg institution of higher education facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact: _____ Date: _____

FACILITY INFORMATION

Permittee

Virginia Polytechnic Institute and State University
112 Sterrett Facilities Complex (0127)
Blacksburg, VA 24061

Facility

Virginia Polytechnic Institute and State University
Physical Plant, VPI & SU campus
Blacksburg, VA

AIRS ID No. 51-121-0002

SOURCE DESCRIPTION

SIC Code 8221 – VPI & SU is a publicly funded institute for higher education located in Blacksburg. Emission sources include boilers, other fuel burning equipment, fuel storage tanks, an incinerator, an ethylene oxide sterilizer, laboratories, research facilities, and maintenance and painting operations.

The plant is by definition a Title V major source due to potential emissions of criteria pollutants PM-10, sulfur dioxide, nitrogen oxides and carbon monoxide in excess of 100 tpy, potential emissions of hydrogen chloride in excess of 10 tpy, and potential emissions of total HAPs in excess of 25 tpy. It is located in an attainment area for criteria pollutants, and is a PSD major source. The facility has been previously permitted under a number of minor NSR permits: Boiler #7 permit issued on June 10, 1977; Boiler #11 permit issued on December 12, 1994 and amended on December 13, 1995; diesel generator permit issued on December 20, 1995; and ethylene oxide sterilizer permit issued on November 18, 1999 (which superseded February 12, 1999 permit) and amended on May 25, 2001. A PSD permit was also issued to the facility on August 30, 2001, to modify and operate Boiler 11; this permit superceded the minor NSR permits for that boiler listed above.

The boilers predate NSPS applicability, with the exception of Boiler 11, which is subject to NSPS Subpart Db as it existed prior to the November 16, 1998 rule revisions incorporating more stringent NOx emissions limits. No alternative operating scenarios have been requested.

COMPLIANCE STATUS

The facility is inspected twice a year. It was inspected on April 1, 2003 and is currently considered in compliance.

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							
BO-E07	BO-S01	Union Iron Works coal-fired boiler	156 x 10 ⁶ BTU/hr	Multicyclone dust collector	BO-C03	Particulate	6/10/77
BO-E08	BO-S01	E. Keeler gas/oil-fired boiler	104.9 x 10 ⁶ BTU/hr (gas); 102.2 x 10 ⁶ BTU/hr (oil)	-	-	-	-
BO-E09	BO-S01	E. Keeler gas/oil-fired boiler	104.9 x 10 ⁶ BTU/hr (gas); 102.2 x 10 ⁶ BTU/hr (oil)	-	-	-	-
BO-E10	BO-S01	E. Keeler gas/oil-fired boiler	104.9 x 10 ⁶ BTU/hr (gas); 102.2 x 10 ⁶ BTU/hr (oil)	-	-	-	-
BO-E11	BO-S01	Riley Stoker coal-fired boiler	146.7 x 10 ⁶ BTU/hr	Procedair pulse jet baghouse filter	BO-C01	Particulate	8/30/01 (superceded 12/12/94 permit, 12/13/95 permit amendment)
				92% efficient Procedair dry scrubber	BO-C02	SO2	

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
GEN-E01	GEN-S01	Caterpillar 3512 diesel generator rated at 1250 kW	12.35 x 10 ⁶ BTU/hr	-	-	-	12/20/95
Process A							
IN-E01	IN-S01	Dual-chamber incinerator	1200 lbs/hr animal waste	-	-	-	-
Process B							
ETO-E01	ETO-S01	3M Model 5XL ethylene oxide sterilizer and auxiliary aerator	-	Donaldson 50 SCFM catalytic abator	ETO-C01	Ethylene oxide	11/18/99, as amended 5/25/01 (superseded 2/12/99 permit)
Process C							
WW-E01	-	Woodworking operations	-	Fabric filters	WW-C01	Particulate	-
TK-E01	-	Fuel oil storage tank	137,000 gallons storage capacity	-	-	-	-
TK-E02	-	Fuel oil storage tank	137,000 gallons storage capacity	-	-	-	-

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

EMISSIONS INVENTORY

Emissions summarized in the following table are derived from the 2002 emission inventory report. A copy of the report is attached as Attachment A.

2002 Pollutant Emissions (Plantwide Total)	
Pollutant	Tons Emitted
Criteria Pollutants	
PM10	29.25
VOC	1.68
NO _x	123.35
SO ₂	275.69
CO	80.93
Lead	0.02
Hazardous Air Pollutants (HAPs)	
Ethylene Oxide	0.06
Hydrogen Fluoride (HF)	0.56
Hydrochloric Acid (HCl)	4.41

EMISSION UNIT APPLICABLE REQUIREMENTS - Boilers BO-E7, -E8, -E9, -E10 and -E11; Diesel Generator GEN-E01

Limitations

The following applicable limitations are State BACT requirements from the minor NSR permit for #7 Boiler issued on June 10, 1977; the PSD permit for #11 Boiler issued on August 30, 2001; and the minor NSR permit for the diesel generator issued on December 20, 1995. Copies of the permits are attached as Attachment B.

#7 BOILER:

Unnumbered condition, requiring particulate emissions to be controlled by a multicyclone dust collector.

Unnumbered condition, specifying coal as the approved fuel.

Condition 3, limiting particulate emissions to 0.294 lbs per million Btu input.

#11 BOILER:

Condition 14, requiring boiler to be operated in compliance with Federal emissions requirements under 40 CFR 60, Subpart Db as it existed prior to the November 16, 1998 rule revisions.

Condition 3, requiring particulate emissions to be controlled by a baghouse.

Condition 4, requiring sulfur dioxide emissions to be controlled by a dry scrubber flue gas desulfurization (FGD) system or DEQ-approved equivalent having a minimum control efficiency of 92.0 percent on a 30-day rolling average.

Condition 5, requiring nitrogen oxides emissions to be controlled by a mass-feed stoker configuration with low excess air/staged combustion (LEA/SC) to achieve an emissions rate not exceeding 0.246 lbs/10⁶ Btu.

Condition 11, specifying coal as the approved fuel.

Condition 11, limiting coal throughput to 42,000 tons per year, calculated monthly as the sum of the previous consecutive twelve (12) month's usage.

Condition 11, limiting the maximum sulfur and ash content of the coal to 1.4 percent and 8 percent by weight, respectively, per shipment.

Condition 12, limiting emissions as follows:

Total Suspended Particulate: 2.9 lbs/hr, 11.1 tons/yr, 0.020 lbs/million BTU input

PM-10: 2.6 lbs/hr, 10.0 tons/yr, 0.018 lbs/million BTU input

Sulfur Dioxide: 23.6 lbs/hr (30-day rolling average), 89.4 tons/yr, 0.161 lbs/million BTU input (30-day rolling average)

Nitrogen Oxides: 36.1 lbs/hr (30-day rolling average), 136.9 tons/yr (as NO₂), 0.246 lbs/million BTU input (30-day rolling average)

Carbon Monoxide: 33.2 lbs/hr, 126.0 tons/yr, 0.226 lbs/million BTU input

Volatile Organic Compounds: 0.3 lbs/hr, 1.1 tons/yr, 0.002 lbs/million BTU input

Condition 13, limiting visible emissions to ten (10) percent opacity, except during one six-minute period in any one hour in which visible emissions shall not exceed twenty (20) percent opacity.

DIESEL GENERATOR:

Condition 3, limiting hours of operation to 175 hours per year, calculated as the sum of each consecutive 12 month period.

Condition 4, limiting emissions as follows:

Sulfur Dioxide: 7.35 lbs/hr, 0.6 tons/yr

Nitrogen Oxides (as NO₂): 43.63 lbs/hr, 3.8 tons/yr

Carbon Monoxide: 9.62 lbs/hr, 0.8 tons/yr

Condition 5, limiting visible emissions to ten (10) percent opacity, except during one six-minute period in any one hour in which visible emissions shall not exceed twenty (20) percent opacity.

Condition 7, limiting the maximum sulfur content of the oil to 0.5 percent by weight per shipment.

Condition 9, specifying distillate oil as the approved fuel.

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

#7 BOILER:

9 VAC 5-80-110, Federal Operating Permits for Stationary Sources (specifying air pollution control equipment, approved fuels, and operation and maintenance of equipment)

9 VAC 5-40-900, Emission Standards for Fuel Burning Equipment (standard for particulate matter). See discussion below under #8, 9 and 10 Boilers.

9 VAC 5-40-930, Emission Standards for Fuel Burning Equipment (standard for sulfur dioxide). Allowable emissions, in pounds of sulfur dioxide per hour, are calculated using the following formula:

$$\text{Maximum Allowable Emissions (S)} = 2.64K$$

where K is the allowable heat input at total capacity in mmBTU/hr. Therefore:

$$S = 2.64 \times 156 = 411.8 \text{ lbs/hr}$$

9 VAC 5-40-80 and 5-40-940, Existing Source Standard for Visible Emissions

#8, 9 and 10 BOILERS:

9 VAC 5-80-110, Federal Operating Permits for Stationary Sources (specifying air pollution control equipment, approved fuels, and operation and maintenance of equipment)

9 VAC 5-40-900, Emission Standards for Fuel Burning Equipment (standard for particulate matter). Allowable emissions, in pounds of particulate per million BTU input, are calculated using the following formula:

$$\text{Maximum Allowable Emission Ratio (E)} = 1.0906H^{-0.2594}$$

where H is the total capacity of all fuel burning units at a fuel burning equipment installation in millions of BTU per hour. The total capacity was initially established in a DEQ letter to VPI dated 2/5/1980, which was based upon concurrent usage of no more than three of the existing boilers: #6 Boiler, which had a separate particulate emission limit of 0.294 lbs per million Btu input established by its 1979 permit to modify, but which is no longer in use (as a condition of the #11 Boiler permit); #7 Boiler, rated at 156 mmBTU, which has a separate particulate emission limit of 0.294 lbs per million Btu input established by its 1977 permit to modify and operate (see page 6); and one (only) of Boilers #8, 9 or 10, with the other two being standby units. That allocation was calculated as follows:

$$E = 1.0906 \times (39 + 102.2/104.9^* + 156)^{-0.2594} = 0.25 \text{ lbs/mmBTU input}$$

(* Note that Boilers 8, 9 and 10 are rated at 102.2 mmBTU/hr when burning oil and 104.9 mmBTU/hr when using natural gas.)

With the removal of Boiler 6 and the facility's request to lift the restriction on concurrent usage of Boilers 8, 9 and 10, the allocation is now calculated as follows:

$$E = 1.0906 \times (102.2/104.9^* + 156)^{-0.2594} = 0.22 \text{ lbs/mmBTU input}$$

Allowable particulate emissions are the product of the emission ratio E and the allowable heat input in mmBTU/hr. Therefore:

$$\text{Maximum Allowable Emissions} = 0.222 \times 462.6 = 102.7 \text{ lbs/hr (total) oil OR } 0.221 \times 470.7 = 104.0 \text{ lbs/hr (total) gas}$$

Since Boiler #7's permitted emission limit equates to mass emissions of 45.9 lbs/hr (0.294 lbs per million Btu x 156 million Btu), the remaining amount is allocated to Boilers #8, 9 and 10. Therefore:

$$102.7 - 45.9 \text{ (#7)} = 56.8 \text{ (oil) or } 58.1 \text{ (gas) lbs/hr (#8, 9 and 10)}$$

resulting in the following maximum allowable emission ratios for Boilers #8, 9 and 10:

$$56.8/306.6 = 0.185 \text{ lbs/mmBTU (oil) and}$$
$$58.1/314.7 = 0.185 \text{ lbs/mmBTU (gas)}$$

9 VAC 5-40-930, Emission Standards for Fuel Burning Equipment (standard for sulfur dioxide). Allowable emissions, in pounds of sulfur dioxide per hour, are calculated using the following formula:

Maximum Allowable Emissions (S) = 2.64K

where K is the allowable heat input at total capacity in mmbTU/hr. Therefore:

$$S = 2.64 \times 104.9 = 276.9 \text{ lbs/hr (each boiler \#8, 9, 10)}$$

9 VAC 5-40-80 and 5-40-940, Existing Source Standard for Visible Emissions

#11 BOILER and GENERATOR:

9 VAC 5-80-110, Federal Operating Permits for Stationary Sources (specifying air pollution control equipment, approved fuels, and operation and maintenance of equipment)

Monitoring

9 VAC 5-40-50 and 9 VAC 5-50-50 require that records of all emissions data and operating parameters necessary to demonstrate compliance with the permit be maintained. (See Recordkeeping, below.)

In addition, for #11 Boiler only, continuous emission monitors shall be used to measure and record opacity and the concentration of SO₂ and NO_x, and to determine compliance with the emissions and removal efficiency standards.

Recordkeeping

The permit includes requirements for maintaining records of all monitoring and testing required by the permit. These records include the monthly and annual throughput of coal and oil; coal shipments purchased (supplier fuel analyses), indicating sulfur, ash and heat content per shipment; continuous monitoring system calibrations and calibration checks, percent operating time, and excess emissions; sulfur content of the oil burned in the boilers and generator; total operating hours of the generator per month; maintenance and operator training; all stack tests, visible emission evaluations and performance evaluations; and differential pressure drop, as measured by the control monitoring device.

Testing

The permit for #11 Boiler required initial performance tests which were conducted in early 2000 and therefore are no longer required. The permits for #7 Boiler and for the generator do not require source tests. A table of test methods has been included in the permit if compliance 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 includes quarterly NSPS Subpart Db reporting requirements for the SO₂, NO_x and opacity monitoring systems for #11 Boiler only.

Streamlined Requirements

Conditions in the #11 Boiler permit regarding initial performance testing have not been included as these requirements have already been fulfilled (see "Testing" section above).

EMISSION UNIT APPLICABLE REQUIREMENTS – Incinerator IN-E01

Limitations

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-80-110, Federal Operating Permits for Stationary Sources (specifying air pollution control equipment, and operation and maintenance of equipment)

9 VAC 5-40-750, Emission Standards for Incinerators, limiting particulate emissions to 0.14 grains per standard cubic feet of dry flue gas corrected to 12% carbon dioxide (without the contribution of auxiliary fuel)

9 VAC 5-40-80 and 5-40-760, Existing Source Standards for Visible Emissions

Monitoring and Recordkeeping

9 VAC 5-40-50 requires that records of all emissions data and operating parameters necessary to demonstrate compliance with the permit be maintained.

Testing

The permit does not require source tests. A table of test methods has been included in the permit if compliance 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

NA

Streamlined Requirements

NA

EMISSION UNIT APPLICABLE REQUIREMENTS – Ethylene oxide sterilizer

Limitations

The following applicable limitations are State BACT requirements from the minor NSR permit for the ethylene oxide sterilizer issued on November 18, 1999, as amended May 25, 2001. A copy of the permit is attached as Attachment B.

Condition 16, specifying that ethylene oxide emissions from the sterilizer shall be controlled by a catalytic abator with a minimum ethylene oxide destruction efficiency of 99.9%.

Condition 4, limiting the sterilizer to no more than 520 cycles per year, calculated monthly as the sum of each consecutive twelve (12) month period.

Condition 17, limiting the annual throughput of ethylene oxide to 114.7 pounds, calculated monthly as the sum of each consecutive twelve (12) month period.

Condition 18, limiting EtO emissions from the sterilizer to 0.0003 lbs/hr and 0.00007 tons/yr

Condition 19, limiting EtO emissions from the aerator to 0.003 lbs/hr and 0.0007 tons/yr

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-80-110, Federal Operating Permits for Stationary Sources (specifying air pollution control equipment, and operation and maintenance of equipment)

Monitoring

9 VAC 5-50-50 requires that records of all emissions data and operating parameters necessary to demonstrate compliance with the permit be maintained.

Recordkeeping

The permit includes requirements for maintaining records of all monitoring and testing required by the permit. These records include the annual throughput of ethylene oxide and the number of cycles processed in the sterilizer, calculated monthly as the sum of each consecutive twelve (12) month period.

Testing

The permit does not require source tests. 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

NA

Streamlined Requirements

NA

EMISSION UNIT APPLICABLE REQUIREMENTS – Woodworking operations WW-E01, Tanks TK-E01 and TK-E02

Limitations

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-80-110, Federal Operating Permits for Stationary Sources (specifying air pollution control equipment, operation and maintenance of equipment)

9 VAC 5-40-2270, Emission Standards for Woodworking Operations, specifying that particulate emissions from woodworking operations be controlled by use of adequate duct work and fabric filters; and limiting particulate emissions to 0.05 grains per standard cubic feet of exhaust gas.

9 VAC 5-40-80, 9 VAC 5-40-320 and 9 VAC 5-40-2280, Existing Source Standards for Visible Emissions

Monitoring and Recordkeeping

9 VAC 5-40-50 requires that records of all emissions data and operating parameters necessary to demonstrate compliance with the permit be maintained.

Testing

The permit does not require source tests. A table of test methods has been included in the permit if compliance 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

NA

Streamlined Requirements

NA

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.

STATE ONLY APPLICABLE REQUIREMENTS

The following Virginia Administrative Code citation has specific requirements only enforceable by the State: 9 VAC 5-50-320, Toxic Pollutants (see "EMISSION UNIT APPLICABLE REQUIREMENTS – Ethylene oxide sterilizer" above).

FUTURE APPLICABLE REQUIREMENTS

A MACT standard for industrial/commercial/institutional boilers has been proposed and is expected to be finalized in 2004. In addition, a federal emission guideline for other solid waste incinerators (OSWI) is expected to be finalized in 2005.

INAPPLICABLE REQUIREMENTS

NA

COMPLIANCE PLAN

An Executive Compliance Agreement with the facility regarding emissions from the boilers was signed by Robert G. Burnley, Director, DEQ on January 26, 2002. Conditions of that agreement are incorporated in this section of the permit.

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 emissions units include the following as of June 26, 2003:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
AM-E01	Automotive maintenance	9 VAC 5-80-720A		
JE1	Allied Signal TFE109-1 jet engine	9 VAC 5-80-720A		
PB1	Blowtherm paint spray booth	9 VAC 5-80-720B	Volatile organic compounds	
-	3 Natural gas-fired hot air furnaces (Armory)	9 VAC 5-80-720C		< 10 MMBtu/hr each
-	2 Natural gas-fired steam boilers (Anaerobic Lab)	9 VAC 5-80-720C		2.344 MMBtu/hr each
-	2 oil furnaces (Beef Farms)	9 VAC 5-80-720C		0.2 MMBtu/hr each
-	Natural gas-fired steam generator (Brooks Center)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired hot water boiler (Central Stores)	9 VAC 5-80-720C		0.992 MMBtu/hr
-	2 LP gas-fired grain dryers (Dairy Farm)	9 VAC 5-80-720C		1.32 MMBtu/hr each
-	Oil furnace (Dairy Farm Maintenance Shop)	9 VAC 5-80-720C		< 1 MMBtu/hr
-	Natural gas-fired hot air furnace (317 Dairy Road)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired hot air furnace (315 Dairy Road)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired hot air furnace (316 Dairy Road)	9 VAC 5-80-720C		< 10 MMBtu/hr

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
-	Natural gas-fired hot air furnace (318 Dairy Road)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	2 Natural gas-fired hot water boilers (Durham Hall)	9 VAC 5-80-720C		< 10 MMBtu/hr each
-	Natural gas-fired hot water heater (Food Processing)	9 VAC 5-80-720C		2 MMBtu/hr
-	4 Natural gas-fired unit heaters (Food Processing)	9 VAC 5-80-720A		
-	Natural gas-fired steam boiler (Food Processing)	9 VAC 5-80-720C		2.986 MMBtu/hr
-	Oil-fired hot water boiler (Golf Course Club House)	9 VAC 5-80-720C		< 1 MMBtu/hr
-	6 Natural gas-fired unit heaters (Greenhouses)	9 VAC 5-80-720A		
-	Oil-fired hot water boiler (Grove)	9 VAC 5-80-720C		< 1 MMBtu/hr
-	Oil furnace (McCoy House)	9 VAC 5-80-720C		< 1 MMBtu/hr
-	4 Natural gas-fired unit heaters (Mining and Materials Engineering Lab)	9 VAC 5-80-720A		
-	Natural gas-fired furnace (Mining and Materials Engineering Lab)	9 VAC 5-80-720C		<10 MMBtu/hr
-	Natural gas-fired furnace (Orange House Bldg. 314)	9 VAC 5-80-720C		<10 MMBtu/hr

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
-	Natural gas-fired hot water heater (Parking Services)	9 VAC 5-80-720C		0.35 MMBtu/hr
-	Natural gas-fired hot water boiler (Plant Pathology)	9 VAC 5-80-720C		<10 MMBtu/hr
-	9 Natural gas-fired hot water boilers (Sterrett Center)	9 VAC 5-80-720C		<10 MMBtu/hr each
-	Natural gas furnace (Poultry Farms)	9 VAC 5-80-720C		1.883 MMBtu/hr
-	Natural gas-fired hot water boiler (Price House (Women's Center))	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Propane-fired unit heater (Research and Demonstration Facility)	9 VAC 5-80-720A		
-	14 Natural gas-fired unit heaters (Research and Demonstration Facility)	9 VAC 5-80-720A		
-	5 Natural gas-fired furnaces (Research and Demonstration Facility)	9 VAC 5-80-720C		< 10 MMBtu/hr each
-	Natural gas-fired hot water boiler (Rector Field House)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Oil furnace (Ruminant Center)	9 VAC 5-80-720C		0.1 MMBtu/hr
-	Natural gas-fired hot water boiler (Safety Building)	9 VAC 5-80-720C		1.03 MMBtu/hr

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
-	2 Natural gas-fired hot water heater (Special Purpose Housing)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired hot water boiler (Special Purpose Housing Bldg. 61A)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired hot water boiler (Special Purpose Housing Bldg. 62B)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired hot water boiler (Special Purpose Housing Bldg. 63C)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired hot water boiler (Special Purpose Housing Bldg. 66)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired hot water boiler (Special Purpose Housing Bldg. 66)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired hot water boiler (Special Purpose Housing Bldg. 67)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired hot water boiler (Special Purpose Housing Bldg. 68)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired hot water boiler (Special Purpose Housing Bldg. 69)	9 VAC 5-80-720C		< 10 MMBtu/hr

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
-	Natural gas-fired hot water boiler (Special Purpose Housing Bldg. 70)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired unit heater (Vet Medicine – Bldg. 439A)	9 VAC 5-80-720A		
-	Natural gas-fired unit heater (Vet Medicine – Bldg. 440L)	9 VAC 5-80-720A		
-	Natural gas-fired steam boiler (Vet Medicine – Bldg. 441)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired unit heater (Vet Medicine – Bldg. 442)	9 VAC 5-80-720A		
-	Oil-fired furnace (Vet Medicine – Bldg. 443)	9 VAC 5-80-720C		< 1 MMBtu/hr
-	Oil-fired furnace (Vet Medicine – Bldg. 444)	9 VAC 5-80-720C		< 1 MMBtu/hr
-	3 Natural gas-fired unit heaters (Vet Medicine – Bldg. 447)	9 VAC 5-80-720A		
-	Natural gas-fired steam boiler (Vet Medicine – Bldg. 447)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	3 Natural gas-fired furnaces (Vet Medicine – Bldg. 447)	9 VAC 5-80-720C		< 10 MMBtu/hr each
-	Natural gas-fired unit heater (Vet Medicine – Bldg. 448)	9 VAC 5-80-720A		
-	11 Natural gas-fired unit heaters (Vet Medicine – Bldg. 449)	9 VAC 5-80-720A		

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
-	Natural gas-fired unit heater (Vet Medicine – Bldg. 450)	9 VAC 5-80-720A		
-	Natural gas-fired unit heater (Vet Medicine – Bldg. 452)	9 VAC 5-80-720A		
-	Natural gas-fired hot water heater (Vet Medicine – IDU)	9 VAC 5-80-720C		< 10 MMBtu/hr
-	Natural gas-fired furnace (Welcome Center)	9 VAC 5-80-720C		< 10 MMBtu/hr

CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public view.

PUBLIC PARTICIPATION

A public notice appeared in the Roanoke Times and World-News on June 1, 2003 announcing a 30-day public comment period for the draft permit. The only comments received were from Virginia Tech, and minor revisions to the permit were made as a result, primarily to assist in clarification. Notice was also provided to West Virginia as an affected state.