VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
Valley Regional Office
INTRA-AGENCY MEMORANDUM
Engineering Analysis

Permit Writer	DDM
Air Permit Manager	THW
Memo To	Air Permit File
Date	**DRAFT**
Facility Name	James Madison University
Virginia SCC Name	--
Virginia SCC Number	NA (state university)
Registration Number	80117
Application No.	26
Date Fee Paid	July 28, 2025
Amount ($)	$13,733
Distance to SNP (km)	17.6
Distance to JRF (km)	103.3
FLM Notification (Y/N)	N
Application Fee Classification (Title V, Synthetic Minor, True Minor)	Title V
Permit Writer Signature	
Permit Manager Signature	

I. Introduction

James Madison University (JMU or university) is a publicly funded institute for higher education located in The City of Harrisonburg, Virginia. JMU's campus facilities include classrooms, dormitories, laboratories, athletic complexes, research facilities, and various support facilities. The facility has a minor NSR permit dated March 29, 2018 to operate five boilers. JMU also has a minor NSR permit dated April 27, 2023 to operate a spray coating booth and four existing woodworking shops. JMU has a Title V operating permit, last renewed on June 1, 2024.

JMU submitted a Form 7, which was received on July 9, 2025 (CEDS026), for a state operating permit (SOP) that would limit the emissions from the existing natural gas-fired fuel burning units on campus that are designated FB3; the vast majority of the units are small boilers. This operating permit application comes subsequent to a Form 7 (minor NSR permit) received on December 13, 2024 (CEDS025) for the installation of two boilers at the East Campus Power Plant, which are each rated at 96.76 MMBtu/hr when firing natural gas (NG) and 92.93 MMBtu/hr when firing distillate oil.

This separate action requested by the facility will create a federal enforceable limit on the fuel throughput of fuel burning units designated as FB3 and thus limit the facility NOx PTE to less than the Major NSR threshold (250 tpy). The CEDS025 minor NSR permit action is awaiting the completion of this SOP action (CEDS026).

The application (CEDS026) was considered complete on July 28, 2025 upon receipt of the application fee for an SOP at a Title V source.

II. Emission Unit / Process Description

JMU operates multiple small fuel burning units, primarily boilers, rated between 1.6 and 5.0 MMBtu/hr, around the campus. The total aggregate heat input rated capacity is 142.466 MMBtu/hr. The existing FB3 fuel burning units list is attached to the permit.

Emissions from the operation of the fuel burning units include sulfur dioxide (SO2), nitrogen oxides (NOx), volatile organic compounds (VOC), carbon monoxide (CO), particulate matter with an aerodynamic diameter smaller than 100 micrometers (PM), particulate matter with an aerodynamic diameter of 10 micrometers or less (PM-10), particulate matter with an aerodynamic diameter of 2.5 micrometers or less (PM-2.5), and various toxics that are associated with the burning of fuel.

III. Regulatory Review

A. 9VAC5 Chapter 80, Part II, Article 6 – Minor New Source Review

This permit action is undertaken for the sole purpose of limiting the PTE of existing natural gas-fired fuel burning units designated as FB3 in order to maintain the JMU facility at less than the 250 tpy Major New Source Review threshold for NOx. Minor NSR permit requirements are not triggered by this SOP action. See Section III.C. for details on this Article 5 action.

B. 9VAC5 Chapter 80, Part II, Article 8 and Article 9 – PSD Major New Source Review and Non-Attainment Major New Source Review

This application is for an Article 5 State Operating Permit for existing natural gas-fired fuel burning units designated as FB3; there is no new construction or modification. Major NSR permitting is not implicated.

C. 9VAC5 Chapter 80, Part II, Article 5 – State Operating Permit (SOP)

JMU has requested issuance of this SOP in order to establish an annual fuel throughput limit for the campus-wide existing natural gas-fired fuel burning units designated as FB3. The emission factors used to determine uncontrolled and controlled emissions are contained in Table 1.

Emission Factors

Uncontrolled emissions for the existing natural gas-fired fuel burning units designated as FB3 are determined using AP-42 emission factors for natural gas - Chapter 1.4, Tables 1.4-1 and 1.4-2 as indicated in the DEQ DORONG spreadsheet (Calculations). The uncontrolled heat content used for natural gas is 1034 BTU/cubic foot (cf), a DEQ default value. In the application, the facility used a heat content of 1038 BTU/cf for its calculations.

Table 1: Emission Factors – AP-42 Ch 1.4

Pollutant	Factor (lb/mmcf)	Source
PM (filterable)	1.9	Table 1.4-2 (7/98)
PM10 (total)	7.6	Estimate from Table 1.4-2 (7/98)
PM2.5(total)	7.6	Estimate from Table 1.4-2 (7/98)
SO_2	0.6	Table 1.4-2 (7/98)
CO	84	Table 1.4-1 (7/98)
NOx[(1)]	100	Table 1.4-1 (7/98)
VOC	5.5	Table 1.4-2 (7/98)

[1] – Expressed as NO_2

The potential emissions from the existing fuel burning units designated as FB3 at a maximum annual throughput (8760 hours) for 1210 mmcf of natural gas are listed in Table 2:

Table 2: Potential to Emit (FB3) Prior to State Operating Permit

Pollutant	FB3 Fuel Burning Units (tpy)
PM (filterable)	1.15
PM-10	4.59
PM-2.5	4.59
SO2	0.36
NOx	60.35
CO	50.69
VOC	3.32

JMU proposes a combined annual throughput limit of 300 million cubic feet of natural gas for the existing natural gas-fired fuel burning units designated as FB3. See Section V for the controlled emissions from FB3.

D. 9VAC5 Chapter 50, Part II, Article 5 – NSPS

40 CFR 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial Institutional Steam Generating Units – is **not** applicable to the natural gas-fired units designated as FB3. Said units have individual maximum design heat capacity values that are less than 5 MMBtu/hr. Part of the applicability requirements for this subpart is steam generating units that have a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/h)) or less, but greater than or equal to 2.9 MW (10 MMBtu/h).

There are no applicable NSPS requirements pertinent for consideration relative to the proposed SOP limits.

E. 9VAC5 Chapter 60, Part II, Article 1 – NESHAPS

There are no applicable NESHAPS requirements pertinent for consideration relative to the proposed SOP limits.

F. 9VAC5 Chapter 60, Part II, Article 2 – MACT

The following MACT regulations apply to the FB3 boilers:

40 CFR 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial/Commercial/Institutional Boilers and Process Heaters.

40 CFR 63, Subpart DDDDD is applicable for major sources. JMU was a major source of HAP from October 26, 2009 (EPA Determination Letter – single source determination) until April 7, 2015. On April 8, 2015, JMU became an area source of HAP due to the shutdown of the Municipal Waste Combustor Units (MWCU) at the former Resource Recovery Facility, now the East Campus Power Plant. Any industrial/commercial/institutional boilers and process heaters units installed at JMU between October 26, 2009 and April 7, 2015, are required to adhere to the standards listed within the MACT 5D.

Several of the existing natural gas-fired fuel burning units designated as FB3 are subject to the MACT 5D – tune-ups required every 61 months after the previous tune-up. Compliance reporting is also required for the aforementioned sub-group of fuel burning units within FB3. The MACT 5D requirements are listed in the Title V permit for this facility.

40 CFR 63, Subpart JJJJJJ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial/Commercial/Institutional Boilers and Process Heaters.

JMU became an area source on April 8, 2015 due to the removal of two Municipal Waste Combustion Units (MWCU) from the former Resource Recovery Facility (RRF), now the East Campus Power Plant. JMU became an area source prior to the January 31, 2016 compliance date for existing boilers.

There are no requirements for the existing natural gas-fired fuel burning units designated as FB3 in the MACT 6J. The MACT is not applicable for natural gas-fired boilers.

There are no MACT applicable requirements pertinent for consideration relative to the proposed SOP limits.

G. State Only Enforceable (SOE) Requirements (9VAC5-80-1120 F)

State Only Enforceable (SOE) requirements are not applicable to the proposed limitation of fuel throughput for the existing natural gas-fired units designated as FB3. This is an Article 5 action and all permit requirements will be both federally and state enforceable.

H. 9VAC5 Chapter 40, Part II, Existing Sources - Emission Standards

The following regulations were reviewed and appear to apply to the FB3 emission units but are not pertinent for inclusion in the requested SOP

Rule 4-1: Visible Emissions and Fugitive Dust/Emissions

The emissions units are all gas-fired. Any unit not subject to Rule 5-1 (see below) is subject to Rule 4-1 and must comply with the regulation.

Rule 4-8: Emission Standards for Fuel Burning Equipment

The emission limits in the permit are equal to or more stringent than existing source emission standards.

I. 9VAC5 Chapter 50, Part II – New and Modified Stationary Sources

9VAC5 Chapter 50, Articles 1, 2, and 4 were reviewed.

Rule 5-1 (Article 1): Visible Emissions and Fugitive Dust/Emissions

Rule 5-1 is applicable to the natural gas-fired fuel burning units designated as FB3 if constructed or modified following the rule applicability date. Visible emissions and fugitive dust emissions from the affected FB3 units must comply with the regulation requirements.

The permit requires the facility to train operators in the proper operation of equipment and familiarize the operators with the written operating procedures and recordkeeping is required for assurance with this permit requirement.

Rule 5-2 (Article 2): Odorous Emissions

Odorous emissions are not expected from the FB3 equipment; therefore, Article 2 odor requirements are not deemed applicable at this time.

IV. Best Available Control Technology Review (BACT)

BACT does not apply to SOP actions.

V. Summary of Potential Emissions Increase

Prior to this SOP, the natural gas-fired units designated as FB3 operated as individually mNSR exempt units. These units had a total PTE as indicated in Table II (Section III).

Following the SOP issuance, the natural gas-fired units designated as FB3 have limited emissions as indicated in Table 3.

Table 3: Potential to Emit After Fuel Throughput Limitation

Pollutant	Future PTE (tpy)
PM	0.29
PM-10	1.14
PM-2.5	1.14
SO2	0.09
NOx	15.00
CO	12.60
VOC	0.83

The emission limits listed in the permit do not include those pollutants with emission limits less than 0.5 tpy, per DEQ policy.

VI. Dispersion Modeling

Modeling is not indicated for this SOP action.

VII. Boilerplates and Boilerplate Deviations

The SOP was completed using the *SOP_Skeleton boilerplate (12/19/2022)* and the *SOP_Generic boilerplate (06/03/2019).* There are no deviations from required Conditions.

VIII. Compliance Demonstration

Compliance with the permit limits for the fuel burning units designated as FB3 will be accomplished through:

- Monthly and annual throughput of natural gas (mmscf) and emissions (tons/yr) for fuel burning units (FB3).

  The permittee will use the following equation, as detailed in Condition 2 of the permit, to determine the natural gas throughput to the natural gas-fired units (FB3). All fuel throughput to the units is assumed to have been combusted in the FB3 units.

$$Q_{NG\_FB3} \leq \frac{FB3_{NG} * 2000\frac{lb}{ton}}{EF_{AP42}}$$

Where:

Where:		
Q_{NG_FB3}	=	Annual combined natural gas throughput (mmscf/yr) for the fuel burning units (FB3)

<table>
<tr><td>$FB3_{NG}$</td><td>=</td><td>Emissions (tons/yr) from the FB3 fuel burning units from combusting natural gas, as listed in Condition 3</td></tr>
<tr><td>EF_{AP42}</td><td>=</td><td>EPA AP-42 (July 1998), Chapter 1.4, Tables 1.4-1 and 1.4-2 emission factors (lb/mmscf).
<table>
<tr><td>PM</td><td>PM-10</td><td>PM-2.5</td><td>NOx</td><td>CO</td><td>VOC</td><td>SO2</td></tr>
<tr><td>1.9</td><td>7.6</td><td>7.6</td><td>100</td><td>84</td><td>5.5</td><td>0.6</td></tr>
</table></td></tr>
</table>

- Records of maintenance, operating procedures, and training
- Records of bypass, malfunction, shutdown or failure of the facility or its associated air pollution control equipment.

IX. Combination of Permits

This permit action is for a single permit. The provisions of 9VAC5-80-1255 do not apply because this project does not combine permits into a single permit document.

X. Title V Review – 9VAC5 Chapter 80 Part II Article 1 or Article 3

This SOP action does not affect JMU's status as a Title V source.

XI. Public Participation and Notifications

DEQ solicited written public comments by placing a newspaper advertisement in the *Daily News Record* on DATE. The required comment period provided by 9 VAC 5-80-1020 A closed on DATE + 30. The draft permit, engineering analysis, and public notice were provided via e-mail to EPA Region III on EPA DATE. The EPA comment period closed on EPA DATE + 30. ___ comments were received from either the public or from EPA Region III.

XII. Other Considerations

None.

XIII. Recommendations

Recommend approval of the draft permit.

Attachments - Emissions Calculations

A – Uncontrolled Emissions
B – Controlled Emissions
C – FB3 Boilers

FB3 NG-Fired Units_PERMIT DATE

AuxBoilerName	AuxBoilerDescription	Notes	mmBtuPerHr	Removed	Install_Date	Note
FB3 - 264	HURST, NG, Boiler/Hot Water Heater	6J GFB Exempt	2.1	FALSE		
FB3 - 265	HURST, NG, Boiler/Hot Water Heater	6J GFB Exempt	2.1	FALSE		
FB3 - 149	PATTERSON-KELLEY , NG, Boiler/Hot Water Heater	6J GFB Exempt	1	FALSE		
FB3 - 150	PATTERSON-KELLEY, NG, Boiler/Hot Water Heater	6J GFB Exempt	1	FALSE		
FB3 - 16	PATTERSON KELLEY N-1900, NG, Boiler/Hot Water Heater	6J GFB Exempt	1.9	FALSE		
FB3 - 17	CLEAVER BROOKS CB200-60, NG, Boiler/Hot Water Heater	6J GFB Exempt	2.5	FALSE		
FB3 - 224	PATTERSON-KELLEY, NG, Boiler/Hot Water Heater	6J GFB Exempt	2	FALSE		
FB3 - 225	PATTERSON-KELLEY, NG, Boiler/Hot Water Heater	6J GFB Exempt	2	FALSE		
FB3 - 226	PATTERSON-KELLEY, NG, Boiler/Hot Water Heater	6J GFB Exempt	2	FALSE		
FB3 - 232	PATTERSON-KELLEY, NG, Boiler/Hot Water Heater	6J GFB Exempt	2	FALSE		
FB3 - 235	VARIOUS KITCHEN EQUIPMENT, NG, Various Equipment	6J GFB Exempt	2.36	FALSE		
FB3 - 23	PATTERSON KELLEY N-1900, NG, Boiler/Hot Water Heater	6J GFB Exempt	1.9	FALSE		
FB3 - 24	PATTERSON KELLEY N-1900, NG, Boiler/Hot Water Heater	6J GFB Exempt	1.9	FALSE		
FB3 - 261	JMU Duke Hall, KILN, NG, Oven/Kiln, 0.36	5D HWB Exempt	0.36	FALSE		
FB3 - 262	JMU Duke Hall, KILN, NG, Oven/Kiln, 0.34	5D HWB Exempt	0.34	FALSE		
FB3 - 28	PATTERSON KELLEY N-2000, NG, Boiler/Hot Water Heater	6J GFB Exempt	2	FALSE		
FB3 - 29	PATTERSON KELLEY N-2000, NG, Boiler/Hot Water Heater	6J GFB Exempt	2	FALSE		
FB3 - 30	PATTERSON KELLEY N-2000, NG, Boiler/Hot Water Heater	6J GFB Exempt	2	FALSE		
FB3 - 31	(6) MODINE 160,000 BTU, NG, Boiler/Hot Water Heater	6J GFB Exempt	0.96	FALSE		
FB3 - 32	PATTERSON-KELLEY N-1900, NG, Boiler/Hot Water Heater	6J GFB Exempt	1.9	FALSE		
FB3 - 33	PATTERSON-KELLEY N-1900, NG, Boiler/Hot Water Heater	6J GFB Exempt	1.9	FALSE		
FB3 - 36	(10) HASTING GF-1505, NG, Boiler/Hot Water Heater	6J GFB Exempt	1.6	FALSE		
FB3 - 37	PATTERSON-KELLEY N-1900, NG, Boiler/Hot Water Heater	6J GFB Exempt	1.9	FALSE		
FB3 - 38	CLEAVER BROOKS CB200-60, NG, Boiler/Hot Water Heater	6J GFB Exempt	2.51	FALSE		
FB3 - 256	Endura FDR-1500, NG, Boiler/Hot Water Heater	5D HWB Exempt	1.5	FALSE		
FB3 - 257	Endura FDR-1500, NG, Boiler/Hot Water Heater	5D HWB Exempt	1.5	FALSE		
FB3 - 258	Endura FDR-1500, NG, Boiler/Hot Water Heater	5D HWB Exempt	1.5	FALSE		
FB3 - 259	PK Thermific SN-700, NG, Boiler/Hot Water Heater	5D HWB Exempt	0.7	FALSE		
FB3 - 260	PK Thermific SN-700, NG, Boiler/Hot Water Heater	5D HWB Exempt	0.7	FALSE		
FB3 - 50	WELL-MCLAIN PFG-6-PIN, NG, Boiler/Hot Water Heater	6J GFB Exempt	0.3	FALSE		
FB3 - 254	PATTERSON KELLY N1500-2, NG, Boiler/Hot Water Heater	5D HWB Exempt	1.5	FALSE		
FB3 - 255	PATTERSON KELLY N1500-2, NG, Boiler/Hot Water Heater	5D HWB Exempt	1.5	FALSE		
FB3 - 56	PATTERSON-KELLEY N-1900, NG, Boiler/Hot Water Heater	6J GFB Exempt	1.9	FALSE		
FB3 - 236	PATTERSON KELLEY N-2000, NG, Boiler/Hot Water Heater	6J GFB Exempt	2	FALSE		
FB3 - 248	PATTERSON KELLY N2000-MFD, NG, Boiler/Hot Water Heater	5D Gas 1	2	FALSE		
FB3 - 249	PATTERSON KELLY N2000-MFD, NG, Boiler/Hot Water Heater	5D Gas 1	2	FALSE		
FB3 - 62	PK Thermific N2000 MFD, NG, Boiler/Hot Water Heater	5D Gas 1	2	FALSE		
FB3 - 63	PK Thermific N2000 MFD, NG, Boiler/Hot Water Heater	5D Gas 1	2	FALSE		
FB3 - A31	Patterson-Kelley N-1500, NG, Boiler/Hot Water Heater	6J GFB Exempt	1.5	FALSE		
FB3 - A32	Patterson-Kelley N-1500, NG, Boiler/Hot Water Heater	6J GFB Exempt	1.5	FALSE		
FB3 - 263	JMU Memorial Hall, PATTERSON KELLY 2500-MFD, NG, Boiler/Hot W	6J GFB Exempt	2.5	FALSE		
FB3 - 244	PATTERSON KELLY N2000-MFD, NG, Boiler/Hot Water Heater	5D Gas 1	2	FALSE		
FB3 - 245	PATTERSON KELLY N2000-MFD, NG, Boiler/Hot Water Heater	5D Gas 1	2	FALSE		
FB3 - A23	PATTERSON/KELLY N1500-MFD, NG, Boiler/Hot Water Heater	6J GFB Exempt	1.5	FALSE		
FB3 - 219	PATTERSON KELLY N2000-MFD, NG, Boiler/Hot Water Heater	6J GFB Exempt	2	FALSE		

FB3 NG-Fired Units_PERMIT DATE

AuxBoilerName	AuxBoilerDescription	Notes	mmBtuPerHr	Removed	Install_Date	Note
FB3 - 220	PATTERSON KELLY N2000-MFD, NG, Boiler/Hot Water Heater	6J GFB Exempt	2	FALSE		
FB3 - 221	PATTERSON KELLY N2000-MFD, NG, Boiler/Hot Water Heater	6J GFB Exempt	2	FALSE		
FB3 - 229	AO SMITH MODEL BTF-80, NG, Boiler/Hot Water Heater	6J GFB Exempt	0.08	FALSE		
FB3 - 230	AO SMITH MODEL BTF-80, NG, Boiler/Hot Water Heater	6J GFB Exempt	0.08	FALSE		
FB3 - 114	PATTERSON-KELLEY N-2000, NG, Boiler/Hot Water Heater	6J GFB Exempt	2	FALSE		
FB3 - 115	PATTERSON-KELLEY N-2000, NG, Boiler/Hot Water Heater	6J GFB Exempt	2	FALSE		
FB3 - 239	LOCHINVAR KNIGHT KBN-285, NG, Boiler/Hot Water Heater	6J GFB Exempt	0.2	FALSE		
FB3 - 240	LOCHINVAR KNIGHT KBN-285, NG, Boiler/Hot Water Heater	6J GFB Exempt	0.2	FALSE		
FB3 - 252	A.O.Smith , NG, Boiler/Hot Water Heater	5D HWB Exempt	0.199	FALSE		
FB3 - 253	A.O.Smith , NG, Boiler/Hot Water Heater	5D HWB Exempt	0.199	FALSE		
FB3 - A33	FULTON EDR-1000, NG, Boiler/Hot Water Heater	6J GFB Exempt	1	FALSE		
FB3 - A34	AO SMITH 540 INDOOR, NG, Boiler/Hot Water Heater	6J GFB Exempt	0.199	FALSE		
FB3 - A35	AO SMITH 540 INDOOR, NG, Boiler/Hot water Heater	6J GFB Exempt	0.199	FALSE		
FB3 - 246	PATTERSON KELLY N2000-MFD, NG, Boiler/Hot Water Heater	5D Gas 1	2	FALSE		
FB3 - 247	PATTERSON KELLY N2000-MFD, NG, Boiler/Hot Water Heater	5D Gas 1	2	FALSE		
FB3 - 250	PATTERSON KELLY N2000-2, NG, Boiler/Hot Water Heater	5D Gas 1	2	FALSE		
FB3 - 251	PATTERSON KELLY N2000-2, NG, Boiler/Hot Water Heater	5D Gas 1	2	FALSE		
FB3 - A28	PATTERSON KELLY N2000-2, NG, Boiler/Hot Water Heater	5D Gas 1	2.03	FALSE		
FB3 - A29	PATTERSON KELLY SC-2000, NG, Boiler/Hot water Heater	6J GFB Exempt	2	FALSE		
FB3-A261	JMU Memorial Hall, Patterson Kelly 2500-MFD, NG, Boiler/Hot Wate	6J GFB Exempt	2.5	FALSE		Listed as FB3-261 in TV permit
FB3-A262	JMU Memorial Hall, Patterson Kelly 2500-MFD, NG, Boiler/Hot Wate	6J GFB Exempt	2.5	FALSE		Listed as FB3-262 in TV permit
FB3-281	JMU Memorial Hall, Patterson-Kelly HC-1000, NG 1 mmBtu/hr		1.00	FALSE		
FB3 - 271	JMU Paul Jennings Hall, Patterson Kelly N2000-MFD, Htg Water Boiler, 2.00 MBH		2.00	FALSE		
FB3 - 272	JMU Paul Jennings Hall, Patterson Kelly N2000-MFD, Htg Water Boiler, 2.00 MBH		2.00	FALSE		
FB3 - 273	JMU Paul Jennings Hall, Patterson Kelly N2000-MFD, Htg Water Boiler, 2.00 MBH		2.00	FALSE		
FB3 - 274	JMU Paul Jennings Hall, A O Smith - XWH500N, Domestic Hot Water Boiler, 0.50 MBH		0.50	FALSE		
FB3 - 275	JMU Paul Jennings Hall, A O Smith - XWH500N, Domestic Hot Water Boiler, 0.50 MBH		0.50	FALSE		
FB3 - 276	JMU Arena, Patterson Kelly SC-4000, Htg Water Boiler, 4.0 MBH		4.00	FALSE		
FB3 - 277	JMU Arena, Patterson Kelly SC-4000, Htg Water Boiler, 4.0 MBH		4.00	FALSE		
FB3 - 278	JMU Arena, Patterson Kelly SC-4000, Htg Water Boiler, 4.0 MBH		4.00	FALSE		
FB3 - 279	JMU Arena, PVI AquaPLEX, 100 L 900A-TPX, Domestic Hot Water Boiler, 1.00 MBH		1.00	FALSE		
FB3 - 280	JMU Arena, PVI AquaPLEX, 100 L 900A-TPX, Domestic Hot Water Boiler, 1.00 MBH		1.00	FALSE		
FB3 - 282	JMU McGraw-Long, Patterson Kelly N2000-MFD, Htg Water Boiler, 2.00 MBH		2.00	FALSE		
FB3 - 283	JMU McGraw-Long, Patterson Kelly N2000-MFD, Htg Water Boiler, 2.00 MBH		2.00	FALSE		
FB3 - 284	JMU CISAT Dining Hall (ECDH), Patterson Kelly HiDra HC-1000, Domestic Hot Water Boiler, 1		1.00	FALSE		
FB3 - 285	JMU CISAT Dining Hall (ECDH), Patterson Kelly HiDra HC-1000, Domestic Hot Water Boiler, 1		1.00	FALSE		
FB3 - 286	JMU CISAT Dining Hall (ECDH), Patterson Kelly HiDra HC-1000, Domestic Hot Water Boiler, 1		1.00	FALSE		
FB3-287	JMU ECPP GROUNDS MAINT, DET3 Tube Heater, DET3-20-75		0.08		Aug-23	
FB3-288	JMU ECPP GROUNDS MAINT, DET3 Tube Heater, DET3-30-75		0.08		Aug-23	
FB3-289	JMU ECPP GROUNDS MAINT, DET3 Tube Heater, DET3-30-75		0.08		Aug-23	
FB3-290	JMU ECPP GROUNDS MAINT, State, SUF 60-120-NEA-300		0.12		Aug-23	
FB3-291	JMU ECPP GROUNDS MAINT, Trane Furnace		0.06		Aug-23	
FB3-292	JMU Hartman Hall (COB), Outside Fire Pit		0.35		Jul-24	

FB3 NG-Fired Units_PERMIT DATE

AuxBoilerName	AuxBoilerDescription	Notes	mmBtuPerHr	Removed	Install_Date	Note
FB3-293	JMU Ikenberry Hall (Potomac Hall), Locinvar FCB2000N		1.99		Jun-25	New Building (renamed Potomac Hall), Not turned Over To JMU yet
FB3-294	JMU Ikenberry Hall (Potomac Hall), Locinvar FCB2000N		1.99		Jun-25	New Building (renamed Potomac Hall), Not turned Over To JMU yet
FB3-295	JMU Ikenberry Hall (Potomac Hall), A.O.Smith		0.50		Jun-25	New Building (renamed Potomac Hall), Not turned Over To JMU yet
FB3-296	JMU Ikenberry Hall (Potomac Hall), A.O.Smith		0.50		Jun-25	New Building (renamed Potomac Hall), Not turned Over To JMU yet
FB3-297	JMU Hanson Hall, Patterson Kelly N2000-MFD		2.00		Jun-25	In the process of replacing FB3-44
FB3-298	JMU Hanson Hall, Patterson Kelly N2000-MFD		2.00		Jun-25	In the process of replacing FB3-45
		Total	**142.466**	**MMBtu/hr**		