AIR AND RADIATION ADMINISTRATION
DRAFT PART 70 OPERATING PERMIT

DOCKET # 24-510-0077

COMPANY: Johns Hopkins Homewood Campus

LOCATION: 3400 N Charles Street
Baltimore, MD

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MARYLAND DEPARTMENT OF THE ENVIRONMENT
AIR AND RADIATION ADMINISTRATION
AIR QUALITY PERMITS PROGRAM

TITLE V – PART 70 OPERATING PERMIT PROGRAM OVERVIEW

Title V of the Clean Air Act (amended) requires each state to implement a federally enforceable operating permit program for major sources of air pollution. This program, the Part 70 Permit Program, also known as the Title V Permit Program, is designed to provide a comprehensive administrative document (a Part 70 Operating Permit) that identifies all air emissions sources at a given facility and the federal air quality regulations applicable to those sources. The permit establishes the methodology by which the owner/operator will demonstrate compliance, and includes testing, monitoring, record-keeping, and reporting requirements for each emissions source.

A Part 70 Operating Permit does not authorize new construction, and does not add any new emissions limitations, standards, or work practices on an affected facility. There may, however, be additional testing, record keeping, monitoring, and reporting requirements. A Part 70 Operating Permit is a five-year renewable permit. A responsible official for each facility subject to a Part 70 Operating Permit is required to annually certify compliance with each applicable requirement for that facility.

When an application for a Part 70 Operating Permit is received, the Department will complete a technical review of the application and will prepare a draft Part 70 Operating Permit and Fact Sheet. The Fact Sheet will explain the basis and technical analysis used by the Department to develop the federally enforceable permit conditions, including the required testing, monitoring, record keeping, and reporting provisions for each emissions unit at the permitted facility. The Fact Sheet will also include a description of the facility operations and the current compliance status with applicable requirements. If there are any discrepancies between the Part 70 Operating Permit application and the draft permit, the Fact Sheet will contain a discussion of the inconsistencies and the final resolution.

Public Participation Process

The Part 70 Operating Permit Program provides the public, adjacent states, and EPA the opportunity to review and submit comments on draft permits. The public may also request a public hearing on the draft permit.

The purpose of a public hearing is to give interested parties the opportunity to submit comments for the record which are germane to the draft federally enforceable permit conditions. Comments made at the hearing, or in writing to the Department during the comment period, should address errors and deficiencies in the permit such as unidentified emissions units, incorrect or deficient regulation citation, deficient record keeping, monitoring, reporting or testing requirements and unresolved compliance issues. After the public comment period has closed, the Department will review the formal testimony as part of the final review and prepare a Response to Comments document which will be sent to the EPA along with the draft Part 70 Operating Permit and Fact Sheet.

Testimony on state-only requirements will be kept on file at the Department as part of the formal record, however, state-only rules and regulations are not federally enforceable, and therefore are not within the scope of the EPA review. The Department will keep a record of the identity of the commenters, their statements, a summary of the issues raised during the public comment period, and the Response to Comments document for at least five years.

Citizen Petition to EPA to Object to Permit Issuance

Interested parties may petition the EPA to object to the Part 70 Permit if the EPA has not already objected, within 60 days after the 45-day EPA review period has ended. The petition period will be posted on the EPA website. The EPA will only consider objections to the federally enforceable provisions of the draft permit which were raised with reasonable specificity during the public comment period, unless: (1) the petitioner demonstrates that it was impractical to raise the objections within the public comment period, or (2) the grounds for the objection arose after the comment period. If the EPA agrees with the petition, the Department will reopen, revise, or revoke the permit as determined.

Applicant Objection to Permit Issuance and Recourse

If the applicant objects to the federally enforceable permit conditions contained in the issued Part 70 Operating Permit, the applicant has 15 days from receipt of the issued permit to request a contested case hearing. More information on that can be found in 40 CFR, Part 70, and COMAR 26.11.03.11.

MARYLAND DEPARTMENT OF THE ENVIRONMENT
AIR AND RADIATION ADMINISTRATION

NOTICE OF INTENT TO ISSUE PART 70 OPERATING PERMIT, OPPORTUNITY TO SUBMIT WRITTEN COMMENTS OR TO REQUEST A PUBLIC HEARING

The Department of the Environment, Air and Radiation Administration (ARA) has completed its review of the application for a renewal Part 70 Operating Permit submitted by Johns Hopkins Homewood Campus. The facility includes eight (8) emergency generators, thirty-six (36) natural gas-fired boilers, and one (1) 4.6 MW Combined Heat and Power (CHP) natural gas combustion turbine with a Heat Recovery Steam Generator (HRSG).

The applicant is represented by: Mr. Jay Murphy, Director
Facilities Operations
Johns Hopkins University
3910 Keswick Road Suite N-3100
Baltimore, MD 21211

The Department has prepared a draft Part 70 Operating Permit for review and is now ready to receive public comment. A docket containing the application, draft permit, and supporting documentation is available for review on the Department's website, under the Air Quality Permitting Page's Title V link under "Draft Title V Permits" and may be viewed here:

https://tinyurl.com/DraftTitleV

Interested persons may submit written comments or request a public hearing on the draft permit. Written comments must be received by the Department no later than 30 days from the date of this notice. Requests for a public hearing must be submitted in writing and must also be received by the Department no later than 30 days from the date of this notice.

Comments and requests for a public hearing will be accepted by the Department if they raise issues of law or material fact regarding applicable requirements of Title V of the Clean Air Act, and/or regulations implementing the Title V Program in Maryland found in COMAR.

A Request for public hearing shall include the following:

1) The name, mailing address, and telephone number of the person making the request;

2) The names and addresses of any other persons for whom the person making the request if representing; and

3) The reason why a hearing is requested, including the air quality concern that forms the basis for the request and how this concern relates to the person making the request.

All written comments and requests for a public hearing should be directed to the attention of Ms. Shannon Heafey via email at Shannon.heafey@maryland.gov or by post at Air Quality Permits Program, Air and Radiation Administration, 1800 Washington Boulevard Suite 720, Baltimore, Maryland 21230-1720. Further information may be obtained by calling Ms. Shannon Heafey at (410) 537-4433.

JOHNS HOPKINS UNIVERSITY – HOMEWOOD CAMPUS
3400 N. CHARLES STREET
BALTIMORE, MD 21218
PERMIT NO. 24-510-0077
PART 70 OPERATING PERMIT FACT SHEET

BACKGROUND

The Johns Hopkins University (JHU), Homewood Campus provides an educational and research setting for undergraduate and graduate students. The primary SIC code for the facility is 8221.

Johns Hopkins University operates several engines, boilers and hot water heaters for comfort heat, steam and electricity in several buildings at the Homewood Campus. Equipment at the Campus consists of eight (8) emergency generators, thirty-six (36) natural gas-fired boilers, and one (1) 4.6 MW Combined Heat and Power (CHP) natural gas combustion turbine with Heat Recovery Steam Generator (HRSG).

The facility's emission units have been organized for Title V permitting into the following categories:

1. Natural gas fired boilers with fuel oil backup rated between 10 and 100 MMBtu/hr constructed before June 9, 1989
   The four (4) boilers in this category are exempt from boiler MACT and NSPS requirement because they qualify as "gas-fired boilers" under 40 CFR Part 63 Subpart JJJJJJ and they were constructed before June 9, 1989, when NSPS requirements were enacted.

2. Boilers used for space heating
   The twenty-one (21) boilers under this heading are all rated below 10 MMBtu/hour, exempting them from further federal requirements, and meet the requirements of COMAR 26.11.09.08F – Requirements for Space Heaters.

3. NSPS Boilers
   The five (5) boilers of this category are all "gas-fired" and were all constructed after June 9, 1989 and thus are obligated to meet the NSPS requirements of 40 CFR Part 60 Subpart Dc.

4. Boilers rated less than 10 MMBtu/hr
   The eight (8) boilers under this heading are all rated below 10 MMBtu/hour, exempting them from further federal requirements, but do not meet the requirements to be considered space heaters under COMAR.

5. Emergency generators exempt from NSPS
   These three (3) emergency generators are all diesel fired and exempt from NSPS requirements as they were constructed before July 11, 2005. They are exempt from further regulation from 40 CFR Part 63 Subpart ZZZZ as

institutional engines as long as they operate in a manner that qualifies them as "emergency stationary RICE" as defined by the subpart.

6. NSPS emergency generators
   The five (5) emergency generators in this category are all diesel fired and constructed after July 11, 2005, making them applicable to NSPS requirements. Per 40 CFR §63.6590(c), these engines meet the requirements of 40 CFR Part 63 Subpart ZZZZ by complying with NSPS regulations.

7. CHP and HRSG
   This category consists of one (1) combined heat and power (CHP) system. The CHP system comprises one (1) natural gas fired combustion turbine with one (1) heat recovery steam generator (HRSG). This single emission unit is required to follow the NSPS regulations of 40 CFR Part 60 Subpart KKKK.

This will be the fourth renewal of JHU – Homewood Campus' Title V – Part 70 Operating Permit. The most recent renewal was issued on September 1, 2019 and will expire on August 31, 2024.

The following table summarizes the actual emissions from JHU-Homewood Campus based on its Annual Emission Certification Reports:

Table 1: Actual Emissions

Year	NO_x (TPY)	SO_x (TPY)	PM_{10} (TPY)	CO (TPY)	VOC (TPY)	Total HAP (TPY)
2018	30.33	1.48	3.09	15.77	1.12	0.00
2019	30.54	0.90	1.97	15.40	1.06	0.00
2020	28.52	0.59	2.04	14.71	1.16	0.00
2021	30.27	0.57	2.19	16.69	1.25	0.00
2022	27.72	0.41	2.02	17.85	1.30	0.00

The major source threshold for triggering Title V permitting requirements in Baltimore City is 25 tons per year for VOC, 25 tons for NO_X, and 100 tons per year for any other criteria pollutants and 10 tons for a single HAP or 25 tons per year for total HAPS. Since the actual NO_X emissions from the facility are greater than the major source threshold, JHU-Homewood Campus is required to obtain a Title V – Part 70 Operating Permit under COMAR 26.11.03.01.

The Department received the JHU-Homewood Campus's Part 70 renewal permit application on September 14, 2023. An administrative completeness review was conducted and the application was deemed to be administratively complete. A

completeness determination letter was sent to the JHU-Homewood Campus on September 21, 2023, granting the JHU-Homewood Campus an application shield.

CHANGES AND MODIFICATIONS TO THE PART 70 OPERATING PERMIT

The following changes and/or modifications have been incorporated into the renewal Title V – Part 70 Operating Permit for JHU-Homewood Campus.

Additions to the facility

The following emission units were added to the facility since the previous renewal of the Title V – Part 70 Operating Permit.

ARA Registration No.	Description	Installation Date
510-0077-5-2274	One (1) natural gas fired Riello Model AR 1500 boiler rated at 1.5 MMBtu/hr.	2020
510-0077-5-2275	One (1) natural gas fired Riello Model AR 1500 boiler rated at 1.5 MMBtu/hr.	2020
510-0077-5-2276	One (1) natural gas fired Riello Model AR 4000 boiler rated at 4.0 MMBtu/hr.	2020
510-0077-5-2376	One (1) natural gas fired Riello Model AR 1000 boiler rated at 1.0 MMBtu/hr.	2022
510-0077-5-2375	One (1) natural gas fired Lochinvar Model PBN 2001 boiler rated at 2.0 MMBtu/hr.	2022
510-0077-9-1386	One (1) diesel-fired Caterpillar emergency generator rated at 1,483 horsepower.	2019
510-0077-9-1387	One (1) diesel-fired MTU emergency generator rated at 1,839 horsepower.	2019

Removal from the facility

No emission units have been removed from the facility since the previous Title V – Part 70 Operating Permit renewal.

APPLICABLE FEDERAL REGULATIONS

The emission units from Johns Hopkins University – Homewood Campus are subject to the following Federal Regulations:

New Source Performance Standards (NSPS) – 40 CFR Part 60

Several emission units at Johns Hopkins University – Homewood Campus are subject to the following NSPS Requirements:

Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
Subpart IIII - Stationary Compression Ignition Internal Combustion Engines
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines

National Emission Standards for Hazardous Air Pollutants (NESHAP) – 40 CFR Part 63

Johns Hopkins University – Homewood Campus is not a major HAP Emissions Source. Instead it is an area HAP emission source and is subject to the following MACTs:

Subpart JJJJJJ - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources
Subpart ZZZZ - Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

COMPLIANCE ASSURANCE MONITORING

Johns Hopkins University – Homewood Campus does not have any emission units that have any control devices, therefore the CAM requirements do not apply.

GREENHOUSE GAS (GHG) EMISSIONS

The Johns Hopkins University (JHU) – Homewood Campus emits greenhouse gases, carbon dioxide and nitrous oxide, with associated requirements in the Clean Air Act. These greenhouse gases (GHGS) are produced almost exclusively from fuel burning equipment contained within the facility premises applicable to JHU – Homewood Campus. The facility has not triggered Prevention of Significant Deterioration (PSD) requirements for GHG emissions; therefore, there are no applicable GHG Clean Air Act requirements. Emission certification reports for the years 2020 through 2022, show that JHU – Homewood Campus does not exceed the major source threshold of 100,000 tons per year of CO_2e for GHGs (see Table 2 shown below). The Permittee shall quantify facility wide GHG emissions and report them in accordance with Section 3 of the Part 70 permit.

The following table summarizes the actual emissions from JHU-Homewood Campus based on Annual Emission Certification Reports:

Table 2: Greenhouse Gases Emissions Summary

GHG	Conversion factor	2020 tpy CO_2e	2021 tpy CO_2e	2022 tpy CO_2e
Carbon dioxide CO_2	1	35,284	33,150	33,568
Methane CH_4	25	2.03	1.65	1.64
Nitrous Oxide N_2O	298	0.73	0.63	0.55
Total GHG CO_{2eq}		**35,554**	**33,380**	**33,774**

EMISSION UNIT IDENTIFICATION

JHU-Homewood Campus has identified the following emission units as being subject to Title V permitting requirements and having applicable requirements.

Table 3: Emission Unit Identification

Emissions Unit Number	ARA Registration Number	Emissions Unit Name and Description	Date of Installation
5-0763	5-0763	One (1) Keeler natural gas fired boiler rated at 98 MMBtu/hr heat input with diesel as backup equipped with low NO_X burners. Boiler #1.	1980 Modified 12/2003
5-0533	5-0533	One (1) Babcock & Wilcox natural gas fired boiler rated at 62 MMBtu/hr heat input with diesel as backup equipped with low NO_X burners. Boiler #2	1962 Modified 05/2006
5-0534	5-0534	One (1) Babcock & Wilcox natural gas fired boiler rated at 62 MMBtu/hr heat input with diesel as backup equipped with low NO_X burners. Boiler #3	1948 Modified 12/2002
5-0535	5-0535	One (1) Babcock & Wilcox natural gas fired boiler rated at 62 MMBtu/hr heat input with diesel as backup equipped with low NO_X burners. Boiler #4.	1954 Modified 01/2008

Emissions Unit Number	ARA Registration Number	Emissions Unit Name and Description	Date of Installation
5-0964 & 5-0965	5-0964 & 5-0965	Two (2) HB Smith hot water natural gas fired boilers each rated at 1.6 MMBtu/hr heat input.	1982
5-2040 & 5-2041	5-2040 & 5-2041	Two (2) RayPak hot water heaters fired on natural gas and rated 1.069 MMBtu/hr heat input	1989
5-2024 & 5-2025	5-2024 & 5-2025	Two (2) Peerless natural gas-fired boilers each rated at 2.1 MMBtu/hr heat input	1991
5-2026 & 5-2027	5-2026 & 5-2027	Two (2) Teledyne-Laars natural gas-fired boiler rated at 1.2 MMBtu/hr heat input	1991
5-2028 & 5-2029	5-2028 & 5-2029	Two (2) Teledyne-Laars natural gas-fired hot water heaters each rated at 1.43 MMBtu/hr heat input	1993
5-2030	5-2030	One (1) Teledyne-Laars natural gas fired hot water heaters rated at 1.2 MMBtu/hr heat input	1993
5-2031 & 5-2032	5-2031 & 5-2032	Two (2) Teledyne-Laars natural gas-fired boilers each rated at 1.67 MMBtu/hr heat input	1993
5-2033 & 5-2034	5-2033 & 5-2034	Two (2) Jarco natural gas-fired hot water heaters each rated at 1.4 MMBtu/hr heat input	1996
5-2035 & 5-2036	5-2035 & 5-2036	Two (2) Teledyne Laars natural gas-fired boilers each rated at 3.05 MMBtu/hr heat input	1996
5-1728 & 5- 1729	5-1728 & 5- 1729	Two (2) Cleaver Brooks natural gas-fired boilers each rated at 10.206 MMBtu/hr equipped with low NO_X burners and flue gas recirculation	2004
5-1867 & 5-1868	5-1867 & 5-1868	Two (2) HB Smith natural gas-fired hot water boilers each rated at 17.6 MMBtu/hr	2006
5-1861 & 5-1862 & 5-1863	5-1861 & 5-1862 & 5-1863	Three (3) TurboPower Gas Water Heaters Model 1500N500A-TP fired on natural gas and rated at 1.2 MMBtu/hr heat input.	2007
5-1864 & 5-1865 & 5-1866	5-1864 & 5-1865 & 5-1866	Three (3) TurboPower Gas Water Heaters Model 2000N750A-TP fired on natural gas and rated at 1.6 MMBtu/hr heat input.	2007
5-1885	5-1885	One (1) Columbia Boiler Co. natural gas fired boiler rated at 1.26 MMBtu/hr heat input.	2007

Emissions Unit Number	ARA Registration Number	Emissions Unit Name and Description	Date of Installation
5-2067	5-2067	One (1) Combined Heat and Power (CHP) system consisting of 4.6 MW natural gas combustion turbine generator with Heat Recovery Steam Generator (HRSG)	2010
5-2173	5-2173	One (1) Tecogen/CM75 natural gas-fired boiler rated at 1.0 MMBtu/hr heat input. General Permit issued12/11/2013	2013
5-2206	5-2206	One (1) Cleaver Brooks CBEX Elite natural gas fired boiler rated at 12.5 MMBtu/hr	2015
5-2274	5-2274	One (1) natural gas fired Riello Model AR 1500 boiler rated at 1.5 MMBtu/hr.	2020
5-2275	5-2275	One (1) natural gas fired Riello Model AR 1500 boiler rated at 1.5 MMBtu/hr.	2020
5-2276	5-2276	One (1) natural gas fired Riello Model AR 4000 boiler rated at 4.0 MMBtu/hr.	2020
5-2376	5-2376	One (1) natural gas fired Riello Model AR 1000 boiler rated at 1.0 MMBtu/hr.	2022
5-2375	5-2375	One (1) natural gas fired Lochinvar Model PBN 2001 boiler rated at 2.0 MMBtu/hr.	2022
9-1179	9-1179	One (1) 650 kW Emergency Generator	2006
9-1282	9-1282	One (1) Kohler diesel-fired emergency generator rated at 1000 kW	2013
9-1379	9-1379	One (1) Detroit Diesel, Series 60 diesel fired emergency generator rated at 543 horsepower. (Manufacture Date: 9/2006)	2007
9-1380	9-1380	One (1) Detroit Diesel, model 6063HK35 diesel fired emergency generator rated at 685 horsepower. (Manufacture Date: 2/2003)	2003
9-1381	9-1381	One (1) Kohler, model KTTA19G diesel fired emergency generator rated at 685 horsepower. (Manufacture Date: 3/1989)	1989
9-1382	9-1382	One (1) Cummins, model QSX15-G9 diesel fired emergency generator rated at 755 horsepower. (Manufacture Date: 5/2011)	2011
9-1386	9-1386	One (1) diesel-fired Caterpillar emergency generator rated at 1,483 horsepower.	2019
9-1387	9-1387	One (1) diesel-fired MTU emergency generator rated at 1,839 horsepower.	2019

AN OVERVIEW OF THE PART 70 PERMIT

The Fact Sheet is an informational document. If there are any discrepancies between the Fact Sheet and the Part 70 permit, the Part 70 permit is the enforceable document.

Section I of the Part 70 Permit contains a brief description of the facility and an inventory list of the emissions units for which applicable requirements are identified in Section IV of the permit.

Section II of the Part 70 Permit contains the general requirements that relate to administrative permit actions. This section includes the procedures for renewing, amending, reopening, and transferring permits, the relationship to permits to construct and approvals, and the general duty to provide information and to comply with all applicable requirements.

Section III of the Part 70 Permit contains the general requirements for testing, record keeping and reporting; and requirements that affect the facility as a whole, such as open burning, air pollution episodes, particulate matter from construction and demolition activities, asbestos provisions, ozone depleting substance provisions, general conformity, and acid rain permit. This section includes the requirement to report excess emissions and deviations, to submit an annual emissions certification report and an annual compliance certification report, and results of sampling and testing.

Section IV of the Part 70 Permit identifies the emissions standards, emissions limitations, operational limitations, and work practices applicable to each emissions unit located at the facility. For each standard, limitation, and work practice, the permit identifies the basis upon which the Permittee will demonstrate compliance. The basis will include testing, monitoring, record keeping, and reporting requirements. The demonstration may include one or more of these methods.

Section V of the Part 70 Permit contains a list of insignificant activities. These activities emit very small quantities of regulated air pollutants and do not require a permit to construct or registration with the Department. For insignificant activities that are subject to a requirement under the Clean Air Act, the requirement is listed under the activity.

Section VI of the Part 70 Permit contains State-only enforceable requirements. Section VI identifies requirements that are not based on the Clean Air Act, but

solely on Maryland air pollution regulations. These requirements generally relate to the prevention of nuisances and implementation of Maryland's Air Toxics Program.

REGULATORY REVIEW/TECHNICAL REVIEW/COMPLIANCE METHODOLOGY

Emissions Unit Number(s): Natural gas fired boilers with fuel oil backup rated between 10 and 100 MMBtu/hr constructed before June 9, 1989

5-0763: One (1) Keeler natural gas fired boiler rated at 98 MMBtu/hr heat input with diesel as backup equipped with low NO_X burners. Boiler #1.

5-0533 thru 5-0535: Three (3) Babcock & Wilcox natural gas fired boilers each rated at 62 MMBtu/hr heat input with diesel as backup equipped with low NO_X burners. Boiler #2, #3, & #4 respectively.

Note: *These boilers were previously permitted as dual-fueled No.2 fuel oil/Natural gas fired boilers. The Permittee requested in a previous application that these boilers be classified as natural gas-fired boilers; burning fuel oil only during periods of gas curtailment. Per 40 CFR §63.11195(e), these boilers are exempt from additional requirements of Subpart JJJJJJ so long as they are "gas fired boilers." 40 CFR Part 63, Subpart JJJJJJ defines a "gas-fired boiler" as follows: "Gas-fired boiler includes any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year."*
[Reference: 40 CFR §63.11237]

Compliance Status:

The four (4) boilers are in compliance with all regulations. Annual Emission certification report (ECR) submitted yearly with the latest ECR received on May 2, 2023 along with their Compliance Certification Report. No excess emissions were reported.

Applicable Standards/Limits:

A. Visible Emissions Limitations

1. COMAR 26.11.09.05A(2), Fuel Burning Equipment. "Areas III and IV. In Areas III and IV, a person may not cause or permit the discharge of

emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity."

2. COMAR 26.1.09.05A(3), Exceptions. "Section A(1) and (2) of this regulation do not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if:
   a. The visible emissions are not greater than 40 percent opacity; and
   b. The visible emissions do not occur for more than 6 consecutive minutes in any sixty minute period.

Compliance Demonstration

- The Permittee shall:
  a. Properly operate and maintain the boilers in a manner to prevent visible emissions; and
  b. Verify no visible emissions when burning No. 2 fuel oil. The Permittee shall perform a visual observation for a 6-minute period once for each 168 hours that the boiler burns oil or at a minimum of once per year. **[Authority: COMAR 26.11.03.06C]**

     Note: *If a unit burns No. 2 fuel oil for less than 100 hours in a calendar year, this requirement is waived for that unit for that calendar year.*

- The Permittee shall perform the following, if emissions are visible:
  a. Inspect combustion control system and boiler operations,
  b. Perform all necessary adjustments and/or repairs to the boiler within 48 hours, so that visible emissions are eliminated;
  c. Document in writing the results of the inspections, adjustments and/or repairs to the boiler; and
  d. After 48 hours, if the required adjustments and/or repairs had not eliminated the visible emissions, perform Method 9 observations once daily for 18 minutes until corrective actions have eliminated the visible emissions. **[Authority: COMAR 26.11.03.06C]**

- The Permittee shall:
  a. Maintain an operation manual and prevention maintenance plan on site;
  b. Maintain a record of the maintenance preformed that relates to combustion performance;

c. Maintain a log of visible emissions observations performed and make it available to the Department's representative upon request; and
d. Maintain a record of the hours that No. 2 fuel oil is burned. **[Reference: COMAR 26.11.03.06C]**

- The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III, Plant Wide Conditions, "Report of Excess Emissions and Deviations".

Rationale for Periodic Monitoring

Boilers that burn natural gas fuel with No. 2 fuel oil as back up rarely have visible emissions if properly operated and maintained. The Permittee is required to maintain on site an operations manual, a preventative maintenance plan, and records of maintenance performed that relate to combustion performance. If visible emissions occur, it will happen when burning No. 2 fuel oil. The Permittee is required to perform a visual observation of the exhaust gases from the boiler stack for a 6-minute period, once each 168 hours that No. 2 fuel oil is burned. This is waived for any unit that burns No. 2 fuel oil less than 100 hours in a calendar year for that calendar year. If a unit burns No. 2 fuel oil for less than 100 hours in a calendar year, this requirement is waived for that calendar year. The Permittee is required to maintain a record of the results of the observations and number of hours that No. 2 fuel oil is burned.

B. Control of Sulfur Oxides

COMAR 26.11.09.07A(2), Sulfur Content Limitations for Fuel.
"A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas III and IV: (b) Distillate fuel oils, 0.3 percent."

Note: *Condition B applies only while burning fuel oil which may only occur during times of natural gas curtailment.*

Compliance Demonstration

- The Permittee shall obtain a certification from the fuel supplier indicating that the oil complies with the limitation on the sulfur content of the fuel oil. **[Reference: COMAR 26.11.03.06C]**

- The Permittee shall report fuel supplier certification to the Department upon request. **[Reference: COMAR 26.11.09.07C]**

Rationale for Periodic Monitoring

The strategy for the compliance demonstration is based on the compliance demonstration for NSPS Subpart Dc boilers that burn fuel oil.

C. Control of Nitrogen Oxides

1. COMAR 26.11.09.08B(5), Operator Training.
   a. For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.
   b. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department.

2. COMAR 26.11.09.08E, Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of 100 MMBtu/hr or Less. A person who owns or operates fuel-burning equipment with a rated heat input capacity of 100 MMBtu/hr or less shall:
   a. Submit to the Department an identification of each affected installation, the rated heat input capacity of each installation, and the type of fuel burned in each;
   b. Perform a combustion analysis for each installation at least once each year and optimize combustion based on the analysis;
   c. Maintain the results of the combustion analysis at the site for at least 2 years and make this data available to the Department and the EPA upon request;
   d. Once every 3 years, require each operator of the installation to attend operator training programs on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and
   e. Prepare and maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request.

Compliance Demonstration

- The Permittee shall perform a combustion analysis once a year. **[Reference: COMAR 26.11.09.08E(2)]**

- The Permittee shall optimize combustion based on the annual combustion analysis. **[Reference: COMAR 26.11.09.08E(2)]**

- The Permittee shall maintain:
  a. Records of the results of the annual combustion analysis on site.
  b. Record of training program attendance for each operator at the site. **[Reference: COMAR 26.11.09.08E(5)]**

- The Permittee shall submit:
  a. The results of combustion analysis to the department and the EPA upon request. **[Reference: COMAR 26.11.09.08E(3)]**
  b. A record of training program attendance for each operator to the Department upon request. **[Reference: COMAR 26.11.09.08E(5)]**

D. Operational Limit

1. The Permittee shall burn only natural gas or No. 2 fuel oil in the boilers unless the Permittee applies for and obtains a Permit to Construct from the Department to burn an alternate fuel. **[Reference: COMAR 26.11.02.09A]**

2. The Permittee shall burn gaseous fuel in the boiler not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year. **[Reference: 40 CFR §63.11237]**

Compliance Demonstration

- The Permittee shall maintain records of the quantity and types of fuel burned. **[Reference: COMAR 26.11.02.19C(1)(c)]**

- The Permittee shall submit records of the quantity and type of fuels burned with the annual emissions certification report. See permit condition 8 of Section III. **[Reference: COMAR 26.11.03.06C]**

Emissions Unit Number(s): Boilers used for Space Heating

5-0964 & 5-0965: Two (2) natural gas-fired boilers each rated at 1.6 MMBtu/hr heat input.

5-1861 thru 5-1863: Three (3) TurboPower Gas Water Heaters Model 1500N500A-TP fired on natural gas and each rated at 1.2 MMBtu/hr heat input.

5-1864 thru 5-1866: Three (3) TurboPower Gas Water Heaters Model 2000N750A-TP fired on natural gas and each rated at 1.6 MMBtu/hr heat input.

5-1885: One (1) Columbia Boiler Co. natural gas fired boiler rated at 1.26 MMBtu/hr heat input.

5-2024 & 5-2025: Two (2) Peerless natural gas fired boilers each rated at 2.1 MMBtu/hr heat input

5-2031 & 5-2032: Two (2) Teledyne-Laars natural gas fired boilers each rated at 1.67 MMBtu/hr heat input

5-2035 & 5-2036: Two (2) Teledyne Laars natural gas fired boilers each rated at 3.05 MMBtu/hr heat input

5-2040 & 5-2041: Two (2) Raychak hot water heaters fired on natural gas and each rated 1.069 MMBtu/hr heat input

5-2274 & 5-2275: Two (2) natural gas fired Riello Model AR 1500 boiler rated at 1.5 MMBtu/hr.

5-2276: One (1) natural gas fired Riello Model AR 4000 boiler rated at 4.0 MMBtu/hr.

5-2376: One (1) natural gas fired Riello Model AR 1000 boiler rated at 1.0 MMBtu/hr.

5-2375: One (1) natural gas fired Lochinvar Model PBN 2001 boiler rated at 2.0 MMBtu/hr.

Compliance Status:

The twenty-one (21) space heating boilers are in compliance with all regulations. Annual Emission certification report (ECR) submitted yearly with the latest ECR received on May 2, 2023 along with their Compliance Certification Report. No excess emissions were reported.

Applicable Standards/Limits:

A. Visible Emissions Limitations

1. COMAR 26.11.09.05A(2), Fuel Burning Equipment. “Areas III and IV. In Areas III and IV, a person may not cause or permit the discharge of

emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity."

2. COMAR 26.11.09.05A(3), Exceptions. "Section A(1) and (2) of this regulation do not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if:
   a. The visible emissions are not greater than 40 percent opacity; and
   b. The visible emissions do not occur for more than 6 consecutive minutes in any sixty minute period.

Compliance Demonstration

- The Permittee shall properly operate and maintain the boilers in a manner to prevent visible emissions. **[Reference: COMAR 26.11.03.06C]**

- The Permittee shall maintain an operations manual and preventive maintenance plan. The Permittee shall maintain a log of maintenance performed that relates to combustion performance. **[Reference: COMAR 26.11.03.06C]**

- The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III, Plant Wide Conditions, "Report of Excess Emissions and Deviations". **[Reference: COMAR 26.11.03.06C]**

Rationale for Periodic Monitoring

Boilers that burn natural gas fuel with a rated heat input capacity of less than 10 MM Btu/hr will not have visible emissions. Boilers in this size range are set up to operate in an automatic mode without oversight of an operator and require minimal preventative maintenance to maintain a level of combustion performance that does not cause visible emissions. Even though there is not a specific schedule to perform observations of the stack emissions, the Permittee is required under the general reporting requirement for excess emissions and deviations to report incidents when visible emissions are observed.

B. Control of Nitrogen Oxides

1. COMAR 26.11.09.08B(5), Operator Training.

a. For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.
b. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department.

2. COMAR 26.11.09.08F - Requirements for Space Heaters.
   a. A person who owns or operates a space heater as defined in Regulation .01B of this chapter shall:
      i. Submit to the Department a list of each affected installation on the premises and the types of fuel used in each installation;
      ii. Develop an operating and maintenance plan to minimize NO_X emissions based on the recommendations of equipment vendors and other information including the source's operating and maintenance experience;
      iii. Implement the operating and maintenance plan and maintain the plan at the premises for review upon request by the Department;
      iv. Require installation operators to attend in-State operator training programs once every 3 years on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and
      v. Prepare and maintain a record of training program attendance for each operator at the site and make these records available to the Department upon request.
   b. A person who owns or operates an installation that no longer qualifies as a space heater shall inform the Department not later than 60 days after the date when the fuel-burning equipment did not qualify, and shall meet the applicable fuel-burning equipment RACT requirement in this regulation.

Compliance Demonstration

- The Permittee shall develop and implement an operating and maintenance plan as recommended by the equipment vendor to minimize NO_X emissions. **[Reference: COMAR 26.11.09.08F(1)]**

  Note: COMAR 26.11.09.08B(5)(a) states that "for the purpose of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation."

- The Permittee shall maintain:
  a. Records of maintenance performed that relates to combustion performance in keeping with the requirements of an operations and maintenance plan. **[Reference: COMAR 26.11.09.08F(1)(c)]**
  b. Record of training program attendance for each operator. **[Reference: COMAR 26.11.09.08F(1)(e)]**
  c. An operations manual and preventive maintenance plan. **[Reference: COMAR 26.11.09.08F(1)(b)]**
  d. Records of fuel use that demonstrate that the boiler meets the definition of a space heater. **[Reference: COMAR 26.11.09.08K(3) and COMAR 26.11.03.06C]**

- The Permittee shall submit: a record of training program attendance for each operator to the Department upon request. **[Reference: COMAR 26.11.09.08F(1)(e)]**

C. Operational Limits

The Permittee shall burn natural gas only in the boilers unless the Permittee applies for and obtains a Permit to Construct from the Department to burn an alternate fuel. **[Reference: COMAR 26.11.02.09A]**

Compliance Demonstration

- The Permittee shall maintain records of the quantity and types of fuel burned. **[Reference: COMAR 26.11.02.19C(1)(c)]**

- The Permittee shall submit a record of the quantity of each type of fuel burned with the annual emission certification report that is due April 1 of each year. **[Reference: COMAR 26.11.02.19C(2)]**

Emissions Unit Number(s) – NSPS Boilers

5-1728 & 5- 1729: Two (2) Cleaver Brooks natural gas fired boilers each rated at 10.206 MMBtu/hr with diesel as backup equipped with low NO_X burners and flue gas recirculation.

5-1867 & 5-1868: Two (2) HB Smith natural gas-fired hot water boilers each rated at 17.6 MMBtu/hr.

5-2206: One (1) Cleaver Brooks CBEX Elite Boiler natural gas boiler rated at 12.5 MMBtu/hr.

Compliance Status:

The five (5) NSPS applicable boilers are in compliance with all state and federal regulations. Annual Emission certification report (ECR) submitted yearly with the latest ECR received on May 2, 2023 along with their Compliance Certification Report. No excess emissions were reported.

Applicable Standards/Limits:

A. Control of Visible Emissions
   1. COMAR 26.11.09.05A(2), Fuel Burning Equipment. "Areas III and IV. In Areas III and IV, a person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity."

   2. COMAR 26.11.09.05A(3), Exceptions. "Section A(1) and (2) of this regulation do not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if:
      a. The visible emissions are not greater than 40 percent opacity; and
      b. The visible emissions do not occur for more than 6 consecutive minutes in any sixty minute period.

   Compliance Demonstration

   - The Permittee shall properly operate and maintain the boilers in a manner to prevent visible emissions. **[Reference: COMAR 26.11.03.06C]**

   - The Permittee shall maintain an operations manual and preventive maintenance plan. The Permittee shall maintain a log of maintenance performed that relates to combustion performance. **[Reference: COMAR 26.11.03.06C]**

   - The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III, Plant Wide Conditions, "Report of Excess Emissions and Deviations". **[Reference: COMAR 26.11.03.06C]**

Rationale for Periodic Monitoring

Boilers that burn Natural Gas fuel with No. 2 Fuel Oil as back up rarely have visible emissions if properly operated and maintained. The Permittee is required to maintain on site an operations manual, a preventative maintenance plan, and records of maintenance performed that relate to combustion performance. If visible emissions occur, it will happen when burning No. 2 fuel oil. The Permittee is required to perform a visual observation of the exhaust gases from the boiler stack for a 6-minute period, once each 168 hours that No. 2 fuel oil is burned. At a minimum, one observation for visible emissions is required each year. The Permittee is required to maintain a record of the results of the observations and number of hours that No. 2 fuel oil is burned.

B. Control of Nitrogen Oxides

1. COMAR 26.11.09.08B(5), Operator Training.
   a. For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.
   b. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department.

2. COMAR 26.11.09.08E, Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of 100 MMBtu/hr or Less. A person who owns or operates fuel-burning equipment with a rated heat input capacity of 100 MMBtu/hr or less shall:
   a. Submit to the Department an identification of each affected installation, the rated heat input capacity of each installation, and the type of fuel burned in each;
   b. Perform a combustion analysis for each installation at least once each year and optimize combustion based on the analysis;
   c. Maintain the results of the combustion analysis at the site for at least 2 years and make this data available to the Department and the EPA upon request;
   d. Once every 3 years, require each operator of the installation to attend operator training programs on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and
   e. Prepare and maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request.

Compliance Demonstration

- The Permittee shall perform a combustion analysis once a year. The Permittee shall optimize combustion based on the annual combustion analysis. **[Reference: COMAR 26.11.09.08E(2)]**

- The Permittee shall maintain:
  a. Records of the results of the annual combustion analysis on site.
  b. Record of training program attendance for each operator at the site. **[Reference: COMAR 26.11.09.08E(5)]**

- The Permittee shall submit:
  a. The results of combustion analysis to the department and the EPA upon request. **[Reference: COMAR 26.11.09.08E(3)]**
  b. A record of training program attendance for each operator to the Department upon request. **[Reference: COMAR 26.11.09.08E(5)]**

Condition C applies to ARA Registration Nos. 510-0077-5-1728 and 5-1729 only.

C. Control of Sulfur Oxides

COMAR 26.11.09.07A(2) - Sulfur Content Limitations for Fuel.
"A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas III and IV: (b) Distillate fuel oils, 0.3 percent."

Note: *This condition only applies when these boilers are firing No. 2 fuel oil which may only occur during times of natural gas curtailment.*

Compliance Demonstration

- The Permittee shall obtain a certification from the fuel supplier indicating that the oil complies with the limitation on the sulfur content of the fuel oil. **[Reference: COMAR 26.11.03.06C]**

- The Permittee shall maintain records of fuel supplier's certification and shall make records available to the Department upon request. **[Reference: COMAR 26.11.03.06C]**

- The Permittee shall report fuel supplier certification to the Department upon request. **[Reference: COMAR 26.11.09.07C]**

D. Operational Limitations

1. The Permittee shall burn only natural gas in the two HB Smith and one Cleaver Brooks CBEX boilers (ARA Registration Nos. 510-0077-5-1867, 5-1868, and 5-2206) unless the Permittee applies for and obtains an approval from the Department to burn an alternate fuel. **[Reference: COMAR 26.11.02.09A]**

2. The Permittee shall burn gaseous fuel in the two HB Smith boilers (ARA Registration Nos. 510-0077-5-1867 and 5-1868) not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year. **[Reference: 40 CFR §63.11237]**

Compliance Demonstration

- The Permittee may elect to record and maintain records of the amount of each fuel combusted during each calendar month as an alternative to the fuel certification in 40 CFR §60.48c(f) to demonstrate compliance with the SO_2 standard. **[Reference: 40 CFR §60.48c(g)(2)]**

- The Permittee shall maintain records of the quantity and types of fuel burned in each boiler. **[Reference: COMAR 26.11.02.19C(1)(c)]**

- The Permittee shall submit all reports to the Administrator and all reports shall be postmarked by the 30th day following the end of the reporting period. The reporting period for the reports required under 40 CFR Part 60, Subpart Dc is each six-month period. **[Reference: 40 CFR §60.48c(j)]**

- The Permittee shall submit records of the quantity and type of fuels burned with the annual emissions certification report. See permit condition 8 of Section III.

Emissions Unit Number(s): Boilers rated less than 10 MMBtu/hr

5-2026 & 5-2027: Two (2) Teledyne-Laars natural gas-fired boiler rated at 1.2 MMBtu/hr heat input

5-2028 & 5-2029: Two (2) Teledyne-Laars natural gas-fired hot water heaters each rated at 1.43 MMBtu/hr heat input

5-2030: One (1) Teledyne-Laars natural gas-fired hot water heaters rated at 1.2 MMBtu/hr heat input

5-2033 & 5-2034: Two (2) Jarco natural gas-fired hot water heaters each rated at 1.4 MMBtu/hr heat input.

5-2173: One (1) Tecogen/CM75 natural gas-fired boiler rated at 1.0 MMBtu/hr heat input.

Compliance Status:

The eight (8) boilers, which are not used for space heating, are in compliance with all regulations. Annual Emission certification report (ECR) submitted yearly with the latest ECR received on May 2, 2023 along with their Compliance Certification Report. No excess emissions were reported.

Applicable Standards/Limits:

A. Control of Visible Emissions

1. COMAR 26.11.09.05A(2), Fuel Burning Equipment. "Areas III and IV. In Areas III and IV, a person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity."

2. COMAR 26.11.09.05A(3), Exceptions. "Section A(1) and (2) of this regulation do not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if:
   a. The visible emissions are not greater than 40 percent opacity; and
   b. The visible emissions do not occur for more than 6 consecutive minutes in any sixty minute period.

Compliance Demonstration

- The Permittee shall properly operate and maintain the boilers in a manner to prevent visible emissions. **[Reference: COMAR 26.11.03.06C]**

- The Permittee shall maintain an operations manual and preventive maintenance plan. The Permittee shall maintain a log of maintenance

performed that relates to combustion performance. **[Reference: COMAR 26.11.03.06C]**

- The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III, Plant Wide Conditions, "Report of Excess Emissions and Deviations". **[Reference: COMAR 26.11.03.06C]**

Rationale for Periodic Monitoring
Boilers that burn Natural Gas rarely have visible emissions if properly operated and maintained. The Permittee is required to maintain on site an operations manual, a preventative maintenance plan, and records of maintenance performed that relate to combustion performance.

B. Control of Nitrogen Oxides

1. COMAR 26.11.09.08B(5), Operator Training.
   a. For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.
   b. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department.

2. COMAR 26.11.09.08E, Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of 100 MMBtu/hr or Less. A person who owns or operates fuel-burning equipment with a rated heat input capacity of 100 MMBtu/hr or less shall:
   a. Submit to the Department an identification of each affected installation, the rated heat input capacity of each installation, and the type of fuel burned in each;
   b. Perform a combustion analysis for each installation at least once each year and optimize combustion based on the analysis;
   c. Maintain the results of the combustion analysis at the site for at least 2 years and make this data available to the Department and the EPA upon request;
   d. Once every 3 years, require each operator of the installation to attend operator training programs on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and

e. Prepare and maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request.

Compliance Demonstration

- The Permittee shall perform a combustion analysis once a year. **[Reference: COMAR 26.11.09.08E(2)]**

- The Permittee shall optimize combustion based on the annual combustion analysis. **[Reference: COMAR 26.11.09.08E(2)]**

- The Permittee shall maintain:
  a. Records of the results of the annual combustion analysis on site.
  b. Record of training program attendance for each operator at the site. **[Reference: COMAR 26.11.09.08E(5)]**

- The Permittee shall submit:
  a. The results of combustion analysis to the department and the EPA upon request. **[Reference: COMAR 26.11.09.08E(3)]**
  b. A record of training program attendance for each operator to the Department upon request. **[Reference: COMAR 26.11.09.08E(5)]**

C. Operational Limits

The Permittee shall burn natural gas only in the boilers unless the Permittee applies for and obtains an approval from the Department to burn an alternate fuel. **[Reference: COMAR 26.11.02.09A]**

Compliance Demonstration

- The Permittee shall maintain records of the quantity and types of fuel burned. **[Reference: COMAR 26.11.02.19C(1)(c)]**

- The Permittee shall submit records of the quantity and type of fuels burned with the annual emissions certification report. See permit condition 8 of Section III.

Emissions Unit Number(s): Emergency generators exempt from NSPS

9-1179: One (1) diesel fired emergency generator rated at 660 kW

9-1380: One (1) diesel fired Detroit Diesel emergency generator rated at 685 horsepower.

9-1381: One (1) diesel fired Kohler emergency generators rated at 685 horsepower.

Compliance Status:

The three (3) diesel fired emergency generators are in compliance with all regulations. Annual Emission certification report (ECR) submitted yearly with the latest ECR received on May 2, 2023 along with their Compliance Certification Report. No excess emissions were reported. The generators are exempt from the requirements of 40 CFR 63, Subpart ZZZZ as institutional emergency engines.

Applicable Standards/Limits:

A. Control of Visible Emissions

1. **COMAR 26.11.09.05E(2)**, Emissions During Idle Mode. "A person may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity."

2. **COMAR 26.11.09.05E(3)**, Emissions During Operating Mode. "A person may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity."

3. **COMAR 26.11.09.05E(4)**, Exceptions.
   a. "Section E(2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.
   b. Section E(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:
      i. Engines that are idled continuously when not in service: 30 minutes;
      ii. All other engines: 15 minutes.
   c. Section E(2) and (3) does not apply while maintenance, repair, or testing is being performed by qualified mechanics."

Compliance Demonstration

- The Permittee shall properly operate and maintain the engine in a manner to minimize visible emissions. **[Reference: COMAR 26.11.03.06C]**

- The Permittee shall retain records of preventive maintenance on site for at least five years and make these records available to the Department upon request. **[Reference: COMAR 26.11.03.06C]**

- The Permittee shall report incidents of visible emissions in accordance with Permit Condition 4,Section III, Plant Wide Condition, "Report of Excess Emissions and Deviations" **[Reference: COMAR 26.11.03.06C]**

B. Control of Sulfur Oxides

COMAR 26.11.09.07A(2), Sulfur Content Limitations for Fuel.
"A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas III and IV: (b) Distillate fuel oils, 0.3 percent."

Compliance Demonstration

- The Permittee shall obtain a certification from the fuel supplier indicating that the fuel oil complies with the limitation on sulfur content of the fuel oil. **[Reference: COMAR 26.11.03.06C]**

- The Permittee shall retain annual fuel supplier certifications stating that the fuel oil is in compliance with this regulation must be maintained for at least 5 years. **[Reference: COMAR 26.11.09.07C]**

- The Permittee shall report annual fuel supplier certification to the Department upon request. **[Reference: COMAR 26.11.09.07C]**

C. Control of Nitrogen Oxides

1. **COMAR 26.11.09.08B(5) -** Operator Training.
   a. For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.
   b. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department.

2. **COMAR 26.11.09.08G** – Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less.
   a. A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less shall:
      i. Provide certification of the capacity factor of the equipment to the Department in writing;
      ii. For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually;
      iii. Maintain the results of the combustion analysis at the site for at least 2 years and make these results available to the Department and the EPA upon request;
      iv. Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and
      v. Maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request.

Compliance Demonstration

- The Permittee shall perform a combustion analysis and optimize combustion at least once annually for any of the engines that operates more than 500 hours during a calendar year. [**Reference: COMAR 26.11.09.08G(1)(b)]**

- For engines that operate more than 500 hours during a calendar year, the Permittee shall perform a combustion analysis and optimize combustion. **[Reference: COMAR 26.11.03.06C]**.

- The Permittee shall:
  a. Maintain the results of the combustion analysis at the site for at least 5 years and make these results available to the Department and the EPA upon request. [**Reference: COMAR 26.11.09.08G(1)(c) & COMAR 26.11.03.06C].**
  b. Retain records of training program attendance for each operator at the site for at least 5 years and make these records available to the Department upon request. **[Reference: COMAR 26.11.09.08G(1)(e) and COMAR 26.11.03.06C].**

- The Permittee shall provide certification of the capacity factor of the equipment to the Department in writing as part of the April 1 certification

report. **[Reference: COMAR 26.11.09.08G(1)(a) & COMAR 26.11.03.06C]**

- The Permittee shall submit a list of trained operators to the Department upon request. **[Reference: COMAR 26.11.09.08G(e) and COMAR 26.11.03.06C]**

D. Operational Limits

1. The Permittee shall use diesel fuel only in the emergency generator unless the Permittee applies for and obtain approval from the Department to burn an alternate fuel. **[Reference: COMAR 26.11.02.09A]**

2. The Permittee must operate emergency stationary RICE according to the requirements in the paragraphs of this section. In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year is prohibited. If you do not operate the engine according to the requirements in the paragraphs of this section, the engine will not be considered an emergency engine under 40 CFR Part 63 Subpart ZZZZ and must meet all requirements for non-emergency engines.

   a. There is no limit on emergency operation of the engine.

   b. The Permittee may operate the emergency engines for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine for a maximum of 100 hours per calendar year.

   c. The Permittee may operate the emergency engine for up to 50 hours per year in non-emergency situations, but those 50 hours are counted toward the 100 hours per year provided for the maintenance and testing and emergency response. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. **[Reference: 40 CFR §63.6640(f)(1), (2), and (4)]**

Compliance Demonstration

- The Permittee shall monitor fuel usage for the generator. **[Reference: COMAR 26.11.03.06C]**

- The Permittee shall maintain a log for the emergency generator indicating the amount of fuel oil combusted, the hours of operation and the reason for generator operation. **[Reference: COMAR 26.11.03.06C].**

- The Permittee shall maintain on site for the life of the source the following records for the emergency diesel generator(s):

a. Documentation of the manufacture date of the diesel engine, if manufactured prior to April 1, 2006 and the manufacturer model year of the diesel engine; and
b. The installation date of the emergency diesel generator. **[Reference: COMAR 26.11.03.06C]**

- The Permittee shall send a copy of the log for the emergency generator indicating the amount of fuel oil combusted, the hours of operation and the reason for generator operation to the Department in the annual emission certification report due on April 1 of each year. [**Reference: COMAR 26.11.03.06C]**

Emissions Unit Number(s): NSPS emergency generators

9-1282: One (1) Kohler diesel fired emergency generator rated at 900 kW.

9-1379: One (1) diesel fired Detroit Diesel Series 60 emergency generator rated at 543 horsepower. (Manufacture Date: 9/2006)

9-1382: One (1) diesel fired Cummins model QSX15-G9 emergency generator rated at 755 horsepower. (Manufacture Date: 5/2011)

9-1386: One (1) diesel-fired Caterpillar emergency generator rated at 1,483 horsepower.

9-1387: One (1) diesel-fired MTU emergency generator rated at 1,839 horsepower.

Compliance Status:

The five (5) NSPS applicable diesel fired emergency generators are in compliance with all regulations. Annual Emission certification report (ECR) submitted yearly with the latest ECR received on May 2, 2023 along with their Compliance Certification Report. No excess emissions were reported.

Applicable Standards/Limits:

A. Control of Visible Emissions

1. **COMAR 26.11.09.05E(2)**, Emissions During Idle Mode. "A person may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity."

2. **COMAR 26.11.09.05E(3)**, Emissions During Operating Mode. "A person may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity."

3. **COMAR 26.11.09.05E(4)**, Exceptions.
   a. "Section E(2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.
   b. Section E(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:
      i. Engines that are idled continuously when not in service: 30 minutes;
      ii. All other engines: 15 minutes.
   c. Section E(2) and (3) does not apply while maintenance, repair, or testing is being performed by qualified mechanics."

Compliance Demonstration

- The Permittee shall properly operate and maintain the engine in a manner to minimize visible emissions. **[Reference: COMAR 26.11.03.06C]**

- The Permittee shall retain records of preventive maintenance on site for at least five years and make these records available to the Department upon request. **[Reference: COMAR 26.11.03.06C]**

- The Permittee shall report incidents of visible emissions in accordance with Permit Condition 4,Section III, Plant Wide Condition, "Report of Excess Emissions and Deviations" **[Reference: COMAR 26.11.03.06C]**

B. Control of Sulfur Oxides

COMAR 26.11.09.07A(2), Sulfur Content Limitations for Fuel.
"A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas III and IV: (b) Distillate fuel oils, 0.3 percent."

Note: *Installations subject to 40 CFR Part 60 Subpart IIII must comply with the diesel fuel standards of §60.4207 which limits the maximum sulfur content of fuel to 15 ppm.*

Compliance Demonstration

The Permittee shall obtain a certification from the fuel supplier indicating that the fuel oil complies with the limitation on sulfur content of the fuel oil. **[Reference: COMAR 26.11.03.06C]**

The Permittee shall retain annual fuel supplier certifications stating that the fuel oil is in compliance with this regulation must be maintained for at least 5 years. **[Reference: COMAR 26.11.09.07C]**

The Permittee shall report annual fuel supplier certification to the Department upon request. **[Reference: COMAR 26.11.09.07C]**

C. Control of Nitrogen Oxides

1. **COMAR 26.11.09.08B(5)**, Operator Training.
   a. For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.
   b. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department.

2. **COMAR 26.11.09.08G**, Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less.
   a. A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less shall:

i. Provide certification of the capacity factor of the equipment to the Department in writing;
ii. For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually;
iii. Maintain the results of the combustion analysis at the site for at least 2 years and make these results available to the Department and the EPA upon request;
iv. Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and
v. Maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request.

Compliance Demonstration

- The Permittee shall perform a combustion analysis and optimize combustion at least once annually for any of the engines that operates more than 500 hours during a calendar year. **[Reference: COMAR 26.11.09.08G(1)(b)]**

- For engines that operate more than 500 hours during a calendar year, the Permittee shall perform a combustion analysis and optimize combustion. **[Reference: COMAR 26.11.03.06C]**.

- The Permittee shall calculate the capacity factor of the engine within 30 days after the end of each month. **[Reference: COMAR 26.11.03.06C]**

- The Permittee shall maintain records of the results of the combustion analyses and any stack tests on site for at least five years and make them available to the Department and EPA upon request. **[Reference: COMAR 26.11.09.08G(1)(c) & COMAR 26.11.03.06C]**.

- The Permittee shall maintain a record of the calculated capacity factor. **[Reference: COMAR 26.11.09.08G(1)(c)].**

- The Permittee shall maintain record of training program attendance for each operator on site for at least five years and make the records available to the Department upon request. **[Reference: COMAR 26.11.09.08G(e) & COMAR 26.11.03.06C]**

- The Permittee shall provide certification of the capacity factor of the equipment to the Department in writing as part of the April 1 certification report. **[Reference: COMAR 26.11.03.06C].**

- The Permittee shall submit a list of trained operators to the Department upon request. **[Reference: COMAR 26.11.09.08G(e) and COMAR 26.11.03.06C]**

D. Operational Limits

1. The Permittee shall use diesel fuel only in the emergency generator unless the Permittee applies for and obtains a Permit to Construct from the Department to burn alternate fuel. **[Reference: COMAR 26.11.02.09A]**

2. The Permittee must operate and maintain the generators in a manner that achieve the emissions standards over the entire life of the engine. **[Reference: 40 CFR §60.4206]**

3. The Permittee must meet the non-road diesel fuel sulfur requirements of 40 CFR §80.510(b) as follows:
   a. Maximum sulfur content 15 ppm and
   b. Minimum cetane index of 40; or
   c. Maximum aromatic content of 35 volume percent. **[Reference: 40 CFR §60.4207(b) and 40 CFR §80.510(b)]**

4. The Permittee must operate and maintain the stationary compression ignition internal combustion engines and control devices according to the manufacturer's emission related written instruction. **[Reference: 40 CFR §60.4211(a)(1)]**

5. The Permittee may change only those emission related settings that are permitted by the manufacturer. **[Reference: 40 CFR §60.4211(a)(2)]**

6. The Permittee must purchase an engine certified to the emission standards in 40 CFR §60.4205(b). The engine must be installed and configured according to the manufacturer's emissions related specifications. **[Reference: 40 CFR §60.4211(c)]**

7. The Permittee must not exceed the following opacity emission standards:
   (a) 20 percent during the acceleration mode;
   (b) 15 percent during the lugging mode; and

(c) 50 percent during the peaks in either the acceleration or lugging modes. **[Reference: 40 CFR §60.4205(b), §60.4202(a)(2), and §1039.105(b)]**

Note: *Compliance with this condition will be demonstrated by the purchase of a certified engine and operating that engine as required under 40 CFR §60.4211(c).*

8. There is no time limit on the use of emergency stationary ICE (internal combustion engine) in emergency situations. **[Reference: 40 CFR §60.4211(f)(1)]**

9. The Permittee may operate the emergency stationary ICE for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine for a maximum of 100 hours per calendar year. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. **[Reference: 40 CFR §60.4211(f)(2)(i)]**

10. The Permittee may operate the emergency stationary ICE for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in the previous paragraph of this section. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. **[Reference: 40 CFR §60.4211(f)(3)]**

Note*: Effective May 2, 2016, emergency generators are no longer allowed to participate in emergency demand response unless they meet the requirements of a non-emergency generator of the same model year. These engines do not meet the standards for a non-emergency generator, therefore, operation for demand response during periods of voltage deviation are no longer permitted.*

Compliance Demonstration

- The Permittee shall monitor fuel usage for the generator. **[Reference: COMAR 26.11.03.06C]**

- The Permittee shall maintain a log for the emergency generator indicating the amount of fuel oil combusted, the hours of operation and the reason for generator operation. **[Reference: COMAR 26.11.03.06C].**

- The Permittee shall maintain on site for the life of the source the following records for the emergency diesel generator(s):
  a. Documentation of the manufacture date of the diesel engine, if manufactured prior to April 1, 2006 and the manufacturer model year of the diesel engine;
  b. The installation date of each emergency diesel generator; and
  c. The certifications of compliance or manufacturer engine test data required by 40 CFR §60.4211 and §60.4214(b). **[Reference: MDE Permit to Construct No. 510-0077-9-1282 issued June 21, 2013]**

- Permittee shall for each fuel delivery obtain from the fuel supplier a fuel supplier certification consisting of the name of the oil supplier, the date of delivery, the amount of fuel delivered, and a statement from the fuel supplier that the diesel fuel oil complies with the specifications of 40 CFR §80.510. The Permittee shall maintain the required records on site for at least five (5) years. **[Reference: MDE Permit to Construct No. 510-0077-9-1282 issued June 21, 2013 and MDE Permit to Construct No. 510-0077-9-1378 & 1382 issued October 20, 2018]**

- The Permittee shall report a copy of the log for the emergency generator indicating the amount of fuel oil combusted, the hours of operation and the reason for generator operation to the Department in the annual emission certification report due on April 1 of each year. **[Reference: MDE Permit to Construct No. 510-0077-9-1282 issued June 21, 2013 and MDE Permit to Construct No. 510-0077-9-1378 & 1382 issued October 20, 2018]**

Emissions Unit Number(s): CHP and HRSG

5-2067 – One (1) Combined Heat and Power (CHP) system consisting of 4.6 MW natural gas combustion turbine generator with Heat Recovery Steam Generator (HRSG). (510-0077-5-2067)

Compliance Status:

The one (1) Combined Heat and Power (CHP) system is in compliance with all regulations. Annual Emission certification report (ECR) submitted yearly with the latest ECR received on May 2, 2023 along with their Compliance Certification Report. No excess emissions were reported.

Applicable Standards/Limits:

A. Control of Visible Emissions

1. COMAR 26.11.09.05A(2), Fuel Burning Equipment. "Areas III and IV. In Areas III and IV, a person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity."

2. COMAR 26.11.09.05A(3), Exceptions. "Section A(1) and (2) of this regulation do not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if:
   a. The visible emissions are not greater than 40 percent opacity; and
   b. The visible emissions do not occur for more than 6 consecutive minutes in any sixty minute period.

Compliance Demonstration

- The Permittee shall properly operate and maintain the CHP System in a manner to prevent visible emissions. **[Reference: COMAR 26.11.03.06C]**

- The Permittee shall maintain an operations manual and preventive maintenance plan. The Permittee shall maintain a log of maintenance performed that relates to combustion performance. **[Reference: COMAR 26.11.03.06C]**

- The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III, Plant Wide Conditions, "Report of Excess Emissions and Deviations". **[Reference: COMAR 26.11.03.06C]**

B. Control of Sulfur Oxides

1. The Permittee must not cause to be discharged into the atmosphere from the subject stationary combustion turbine any gases which contain SO_2 in excess of 110 nanograms per Joule (ng/J) (0.90 pounds per megawatt-hour (lb/MWh)) gross output. **[Reference: 40 CFR §60.4330(a)(1)]**

2. The Permittee must not burn in the subject stationary combustion turbine any fuel which contains total potential sulfur emissions in excess of 26 ng SO_2/J (0.060 lb SO_2/MMBtu) heat input. If your turbine simultaneously fires multiple fuels, each fuel must meet this requirement. **[Reference: 40 CFR §60.4330(a)(2)]**

Compliance Demonstration

- The Permittee shall conduct a performance test for SO_X in accordance with the methodologies specified in 40 CFR §60.4415. **[Reference: 40 CFR §60.4415(a)]**

- The Permittee must monitor the total sulfur content of the fuel being fired in the turbine, except as provided in 40 CFR §60.4365. The sulfur content of the fuel must be determined using total sulfur methods described in 40 CFR §60.4415. Alternatively, if the total sulfur content of the gaseous fuel during the most recent performance test was less than half the applicable limit, ASTM D4084, D4810, D5504, or D6228, or Gas Processors Association Standard 2377 (all of which are incorporated by reference, see 40 CFR §60.17), which measure the major sulfur compounds, may be used. **[Reference: 40 CFR §60.4360]**

- The Permittee may elect not to monitor the total sulfur content of the fuel combusted in the turbine, if the fuel is demonstrated not to exceed potential sulfur emissions of 26 ng SO_2/J (0.060 lb SO_2/MMBtu) heat input for units located in continental areas and 180 ng SO_2/J (0.42 lb SO_2/MMBtu) heat input for units located in noncontinental areas or a continental area that the Administrator determines does not have access to natural gas and that the removal of sulfur compounds would cause more environmental harm than benefit. **[Reference: 40 CFR §60.4365]**

- If the Permittee elects not to demonstrate sulfur content using options in 40 CFR §60.4365, and the fuel is supplied without intermediate bulk storage, the sulfur content value of the gaseous fuel must be determined and recorded once per unit operating day. **[Reference: 40 CFR §60.4370]**

- The Permittee shall maintain records and results of fuel sulfur content monitoring and make them available to the Department upon request. **[Reference: MDE Permit to Construct No. 510-0077-5-2067 issued May 18, 2010]**

- The Permittee must submit reports of excess emissions and monitor downtime, in accordance with §60.7(c). Excess emissions must be reported for all periods of unit operation, including start-up, shutdown, and malfunction. All reports required under §60.7(c) must be postmarked by the 30th day following the end of each 6-month period. **[Reference: 40 CFR §60.4375 and §60.4395]**

C. Control of Nitrogen Oxides

1. COMAR 26.11.09.08B(5), Operator Training.
   a. For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.
   b. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department.

2. COMAR 26.11.09.08E, Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of 100 MMBtu/hr or Less. A person who owns or operates fuel-burning equipment with a rated heat input capacity of 100 MMBtu/hr or less shall:
   a. Submit to the Department an identification of each affected installation, the rated heat input capacity of each installation, and the type of fuel burned in each;
   b. Perform a combustion analysis for each installation at least once each year and optimize combustion based on the analysis;
   c. Maintain the results of the combustion analysis at the site for at least 2 years and make this data available to the Department and the EPA upon request;
   d. Once every 3 years, require each operator of the installation to attend operator training programs on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and
   e. Prepare and maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request.

3. The Permittee may not cause to be discharged into the atmosphere from the stationary combustion turbine NOx emissions in excess of 25 ppm at

15 percent O2 or 150 ng/J of useful output (1.2 lb/MWh). **[Reference: 40 CFR §60.4320(a) and 40 CFR Part 60, Subpart KKKK Table 1]**

4. The Permittee must operate and maintain the stationary combustion turbine, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction. **[Reference: 40 CFR §60.4333(a)]**

Compliance Demonstration

- The Permittee shall perform a combustion analysis once a year. **[Reference: COMAR 26.11.09.08E(2)]**

- The Permittee must perform annual performance tests in accordance with §60.4400 to demonstrate continuous compliance. If the NO_X emission result from the performance test is less than or equal to 75 percent of the NO_X emission limit for the turbine, you may reduce the frequency of subsequent performance tests to once every 2 years (no more than 26 calendar months following the previous performance test). If the results of any subsequent performance test exceed 75 percent of the NO_X emission limit for the turbine, you must resume annual performance tests. **[Reference: 40 CFR §60.4340(a)]**

- As an alternative to the annual performance testing required in 40 CFR §60.4340(a), the Permittee may install, calibrate, maintain and operate one of the following continuous monitoring systems:
  a. Continuous emission monitoring as described in §60.4335(b) and §60.4345, or
  b. Continuous parameter monitoring as follows:
     i. For a diffusion flame turbine without add-on selective catalytic reduction (SCR) controls, you must define parameters indicative of the unit's NO_X formation characteristics, and you must monitor these parameters continuously.
     ii. For any lean premix stationary combustion turbine, you must continuously monitor the appropriate parameters to determine whether the unit is operating in low-NO_X mode.
     iii. For any turbine that uses SCR to reduce NO_X emissions, you must continuously monitor appropriate parameters to verify the proper operation of the emission controls.
     iv. For affected units that are also regulated under 40 CFR Part 75, with state approval you can monitor the NO_X emission rate using the methodology in appendix E to part 75 of chapter 40, or the low

mass emissions methodology in 40 CFR §75.19, the requirements of this paragraph (b) may be met by performing the parametric monitoring described in Section 2.3 of part 75 appendix E or in 40 CFR §75.19(c)(1)(iv)(H).

- The Permittee shall optimize combustion based on the annual combustion analysis. **[Reference: COMAR 26.11.09.08E(2)]**

- The Permittee shall demonstrate continuous compliance with NO_X in accordance with 40 CFR §60.4340 as follows:
  a. If the Permittee is not using water or steam injection to control NO_X emissions, The Permittee must perform annual performance tests in accordance with 40 CFR §60.4400 to demonstrate continuous compliance. If the NO_X emission result from the performance test is less than or equal to 75 percent of the NO_X emission limit for the turbine, The Permittee may reduce the frequency of subsequent performance tests to once every 2 years (no more than 26 calendar months following the previous performance test). If the results of any subsequent performance test exceed 75 percent of the NO_X emission limit for the turbine, The Permittee must resume annual performance tests.
  b. As an alternative, you may install, calibrate, maintain and operate one of the following continuous monitoring systems:
     i. Continuous emission monitoring as described in 40 CFR §60.4335(b) and 40 CFR §60.4345, or
     ii. For a diffusion flame turbine without add-on selective catalytic reduction (SCR) controls, the Permittee must define parameters indicative of the unit's NO_X formation characteristics, and you must monitor these parameters continuously.

- The Permittee shall establish and document an appropriate parametric monitoring plan in accordance with 40 CFR §60.4355. The plan shall include, but not be limited to:
  a. Selection of indicators to be monitored,
  b. Ranges of indicators,
  c. Process used to obtain representative data,
  d. Quality assurance,
  e. Frequency of monitoring, and
  f. Justification for the proposed elements of monitoring. **[Reference 40 CFR §60.4355]**

- The Permittee shall maintain:
  a. Records of the results of the annual combustion analysis on site. **[Reference: COMAR 26.11.09.08E(5)]**
  b. Record of training program attendance for each operator at the site. **[Reference: COMAR 26.11.09.08E(5)]**

- The Permittee shall maintain:
  a. Records and results of any tests performed in compliance with the NO_X emission standards as required under 40 CFR §60.8 and 40 CFR 60, Subpart KKKK.
  b. Parametric monitoring plan in accordance with §60.4355 and submit a copy of the plan to the Department upon completion. **[Reference: MDE Permit to Construct No. 510-0077-5-2067 issued May 18, 2010]**

- The Permittee shall submit:
  a. The results of combustion analysis to the department and the EPA upon request. **[Reference: COMAR 26.11.09.08E(3)]**
  b. (2) A record of training program attendance for each operator to the Department upon request. **[Reference: COMAR 26.11.09.08E(5)]**

- The Permittee must submit a written report of the results of each performance test before the close of business on the 60th day following the completion of the performance test. **[Reference: 40 CFR §60.4375]**

- All reports required under §60.7(c) must be postmarked by the 30th day following the end of each 6-month period. **[40 CFR §60.4395]**

D. Operational Limits

The CHP System which comprise of a 4.6 MW combustion turbine (CT) driven generator equipped with a heat recovery steam generator shall fire only natural gas unless the Permittee applies for and obtains a Permit to Construct from the Department to burn an alternate fuel. **[Reference: MDE Permit to Construct No.510-0077-5-2067 issued May 18, 2010 & COMAR 26.11.02.09A]**

Compliance Demonstration

- The Permittee shall maintain records of the quantity and types of fuel burned. **[Reference: COMAR 26.11.02.19C(1)(c)**]

- The Permittee shall maintain logs of visible emissions observations performed during the annual stack test or at any other time and make available to the Department upon request. **[Reference: MDE Permit to Construct No. 510-0077-5-2067 issued May 18, 2010 & COMAR 26.11.03.06C]**

- The Permittee shall submit records of the quantity and type of fuels burned with the annual emissions certification report. See permit condition 8 of Section III.

COMPLIANCE SCHEDULE

Johns Hopkins University – Homewood Campus is currently in compliance with all applicable air quality regulations.

TITLE IV – ACID RAIN

Johns Hopkins University – Homewood Campus is not subject to Acid Rain Program requirements.

TITLE VI – OZONE DEPLETING SUBSTANCES

Johns Hopkins University – Homewood Campus is not subject to Title VI requirements.

SECTION 112(r) – ACCIDENTAL RELEASE

Johns Hopkins University – Homewood Campus is not subject to the requirements of Section 112(r).

PERMIT SHIELD

The Johns Hopkins University – Homewood Campus requested that a permit shield be expressly included in the Permittee's Part 70 permit. Permit shields are granted on an emission unit by emission unit basis. If an emission unit is covered by a permit shield, a permit shield statement will follow the emission unit table in

Section IV - Plant Specific Conditions of the permit. In this case, a permit shield was granted for each emission unit covered by the permit.

INSIGNIFICANT ACTIVITIES

This section provides a list of insignificant emissions units that were reported in the Title V permit application. The applicable Clean Air Act requirements, if any, are listed below the insignificant activity.

(1) No. 21 Fuel burning equipment using gaseous fuels or no. 1 or no. 2 fuel oil, and having a heat input less than 1,000,000 Btu (1.06 gigajoules) per hour;

The affected fuel burning units are subject to the following requirements:

COMAR 26.11.09.05A(2), which establishes that the Permittee may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity.

Exceptions: COMAR 26.11.09.05A(3) does not apply to emissions during load changing, soot blowing, start-up, or adjustments or occasional cleaning of control equipment if:

(a) The visible emissions are not greater than 40 percent opacity; and

(b) The visible emissions do not occur for more than 6 consecutive minutes in any sixty minute period.

COMAR 26.11.09.07A(2)(b), which establishes that the Permittee may not burn, sell, or make available for sale any distillate fuel with a sulfur content by weight in excess of 0.3 percent.

(2) No. 18 Stationary internal combustion engines with an output less than 500 brake horsepower (373 kilowatts) and which are not used to generate electricity for sale or for peak or load shaving;

The engines are subject to the following requirements:

(A) COMAR 26.11.09.05E(2), Emissions During Idle Mode: The Permittee may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity.

(B) COMAR 26.11.09.05E(3), Emissions During Operating Mode: The Permittee may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity.

(C) Exceptions:

(i) COMAR 26.11.09.05E(2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.

(ii) COMAR 26.11.09.05E(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:

(a) Engines that are idled continuously when not in service: 30 minutes
(b) all other engines: 15 minutes.

(iii) COMAR 26.11.09.05E(2) & (3) do not apply while maintenance, repair or testing is being performed by qualified mechanics.

(3) ✓ Commercial bakery ovens with a rated heat input capacity of less than 2,000,000 Btu per hour;

(4) ✓ Confection cookers where the products are edible and intended for human consumption;

(5) ✓ Photographic process equipment used to reproduce an image upon sensitized material through the use of radiant energy;

(6) ✓ Equipment for drilling, carving, cutting, routing, turning, sawing, planing, spindle sanding, or disc sanding of wood or wood products;

(7) Containers, reservoirs, or tanks used exclusively for:

(a) No. 24 Storage of Numbers 1, 2, 4, 5, and 6 fuel oil and aviation jet engine fuel;

(b) No. 1 Storage of motor vehicle gasoline and having individual tank capacities of 2,000 gallons (7.6 cubic meters) or less;

(8) ✓ Charbroilers and pit barbecues as defined in COMAR 26.11.18.01 with a total cooking area of 5 square feet (0.46 square meter) or less;

(9) ✓ Potable water treatment equipment, not including air stripping equipment;

(10) ✓ Comfort air conditioning subject to requirements of Title VI of the Clean Air Act;

(11) ✓ Laboratory fume hoods and vents;

STATE ONLY ENFORCEABLE REQUIREMENTS

The Permittee is subject to the following State-only enforceable requirements:

1. Applicable Regulations:

   (A) **COMAR 26.11.06.08** – Nuisance. An installation or premises may not be operated or maintained in such a manner that nuisance or air pollution is created. Nothing in this regulation relating to the control of emissions may in any manner be consumed as authorizing or permitting the creation of, or maintenance of, nuisance or air pollution."

   (B) **COMAR 26.11.06.09** - Odors. "A person may not cause or permit the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created."

2. Record Keeping and Reporting:

   The Permittee shall submit to the Department, by April 1 of each year during the term of this permit, a written certification of the results of an analysis of emissions of toxic air pollutants from the Permittee's facility during the previous calendar year. The analysis shall include either:

   (a) a statement that previously submitted compliance demonstrations for emissions of toxic air pollutants remain valid; or

   (b) a revised compliance demonstration, developed in accordance with requirements included under COMAR 26.11.15 & 16, that accounts for changes in operations, analytical methods, emissions determinations, or other factors that have invalidated previous demonstrations.

JOHNS HOPKINS UNIVERSITY
3400 N. CHARLES STREET
BALTIMORE, MD 21218
DRAFT PART 70 OPERATING PERMIT NO. 24-510-0077

SECTION I SOURCE IDENTIFICATION

1. DESCRIPTION OF FACILITY

The Johns Hopkins University (JHU), Homewood Campus provides an educational and research setting for undergraduate and graduate students. The primary SIC code for the facility is 8221.

Johns Hopkins University operates several engines, boilers and hot water heaters for comfort heat, steam and electricity in several buildings at the Homewood Campus. Equipment at the Campus consists of eight (8) emergency generators, thirty-six (36) natural gas-fired boilers, and one (1) 4.6 MW Combined Heat and Power (CHP) natural gas combustion turbine with Heat Recovery Steam Generator (HRSG).

2. FACILITY INVENTORY LIST

Emissions Unit Number	ARA Registration Number	Emissions Unit Name and Description	Date of Installation
5-0763	5-0763	One (1) Keeler natural gas fired boiler rated at 98 MMBtu/hr heat input with diesel as backup equipped with low NO_X burners. Boiler #1.	1980 Modified 12/2003
5-0533	5-0533	One (1) Babcock & Wilcox natural gas fired boiler rated at 62 MMBtu/hr heat input with diesel as backup equipped with low NO_X burners. Boiler #2	1962 Modified 05/2006
5-0534	5-0534	One (1) Babcock & Wilcox natural gas fired boiler rated at 62 MMBtu/hr heat input with diesel as backup equipped with low NO_X burners. Boiler #3	1948 Modified 12/2002
5-0535	5-0535	One (1) Babcock & Wilcox natural gas fired boiler rated at 62 MMBtu/hr heat input with diesel as backup equipped with low NO_X burners. Boiler #4.	1954 Modified 01/2008
5-0964 & 5-0965	5-0964 & 5-0965	Two (2) HB Smith hot water natural gas fired boilers each rated at 1.6 MMBtu/hr heat input.	1982
5-2040 & 5-2041	5-2040 & 5-2041	Two (2) RayPak hot water heaters fired on natural gas and rated 1.069 MMBtu/hr heat input	1989

Emissions Unit Number	ARA Registration Number	Emissions Unit Name and Description	Date of Installation
5-2024 & 5-2025	5-2024 & 5-2025	Two (2) Peerless natural gas-fired boilers each rated at 2.1 MMBtu/hr heat input	1991
5-2026 & 5-2027	5-2026 & 5-2027	Two (2) Teledyne-Laars natural gas-fired boiler rated at 1.2 MMBtu/hr heat input	1991
5-2028 & 5-2029	5-2028 & 5-2029	Two (2) Teledyne-Laars natural gas-fired hot water heaters each rated at 1.43 MMBtu/hr heat input	1993
5-2030	5-2030	One (1) Teledyne-Laars natural gas fired hot water heaters rated at 1.2 MMBtu/hr heat input	1993
5-2031 & 5-2032	5-2031 & 5-2032	Two (2) Teledyne-Laars natural gas-fired boilers each rated at 1.67 MMBtu/hr heat input	1993
5-2033 & 5-2034	5-2033 & 5-2034	Two (2) Jarco natural gas-fired hot water heaters each rated at 1.4 MMBtu/hr heat input	1996
5-2035 & 5-2036	5-2035 & 5-2036	Two (2) Teledyne Laars natural gas-fired boilers each rated at 3.05 MMBtu/hr heat input	1996
5-1728 & 5- 1729	5-1728 & 5- 1729	Two (2) Cleaver Brooks natural gas-fired boilers each rated at 10.206 MMBtu/hr equipped with low NO_X burners and flue gas recirculation	2004
5-1867 & 5-1868	5-1867 & 5-1868	Two (2) HB Smith natural gas-fired hot water boilers each rated at 17.6 MMBtu/hr	2006
5-1861 & 5-1862 & 5-1863	5-1861 & 5-1862 & 5-1863	Three (3) TurboPower Gas Water Heaters Model 1500N500A-TP fired on natural gas and rated at 1.2 MMBtu/hr heat input.	2007
5-1864 & 5-1865 & 5-1866	5-1864 & 5-1865 & 5-1866	Three (3) TurboPower Gas Water Heaters Model 2000N750A-TP fired on natural gas and rated at 1.6 MMBtu/hr heat input.	2007
5-1885	5-1885	One (1) Columbia Boiler Co. natural gas fired boiler rated at 1.26 MMBtu/hr heat input.	2007
5-2067	5-2067	One (1) Combined Heat and Power (CHP) system consisting of 4.6 MW natural gas combustion turbine generator with Heat Recovery Steam Generator (HRSG)	2010

Emissions Unit Number	ARA Registration Number	Emissions Unit Name and Description	Date of Installation
5-2173	5-2173	One (1) Tecogen/CM75 natural gas-fired boiler rated at 1.0 MMBtu/hr heat input. General Permit issued12/11/2013	2013
5-2206	5-2206	One (1) Cleaver Brooks CBEX Elite natural gas fired boiler rated at 12.5 MMBtu/hr	2015
5-2274	5-2274	One (1) natural gas fired Riello Model AR 1500 boiler rated at 1.5 MMBtu/hr.	2020
5-2275	5-2275	One (1) natural gas fired Riello Model AR 1500 boiler rated at 1.5 MMBtu/hr.	2020
5-2276	5-2276	One (1) natural gas fired Riello Model AR 4000 boiler rated at 4.0 MMBtu/hr.	2020
5-2376	5-2376	One (1) natural gas fired Riello Model AR 1000 boiler rated at 1.0 MMBtu/hr.	2022
5-2375	5-2375	One (1) natural gas fired Lochinvar Model PBN 2001 boiler rated at 2.0 MMBtu/hr.	2022
9-1179	9-1179	One (1) 650 kW Emergency Generator	2006
9-1282	9-1282	One (1) Kohler diesel-fired emergency generator rated at 1000 kW	2013
9-1379	9-1379	One (1) Detroit Diesel, Series 60 diesel fired emergency generator rated at 543 horsepower. (Manufacture Date: 9/2006)	2007
9-1380	9-1380	One (1) Detroit Diesel, model 6063HK35 diesel fired emergency generator rated at 685 horsepower. (Manufacture Date: 2/2003)	2003
9-1381	9-1381	One (1) Kohler, model KTTA19G diesel fired emergency generator rated at 685 horsepower. (Manufacture Date: 3/1989)	1989
9-1382	9-1382	One (1) Cummins, model QSX15-G9 diesel fired emergency generator rated at 755 horsepower. (Manufacture Date: 5/2011)	2011
9-1386	9-1386	One (1) diesel-fired Caterpillar emergency generator rated at 1,483 horsepower.	2019
9-1387	9-1387	One (1) diesel-fired MTU emergency generator rated at 1,839 horsepower.	2019

SECTION II GENERAL CONDITIONS

1. DEFINITIONS

[COMAR 26.11.01.01] and [COMAR 26.11.02.01]

The words or terms in this Part 70 permit shall have the meanings established under COMAR 26.11.01 and .02 unless otherwise stated in this permit.

2. ACRONYMS

ARA	Air and Radiation Administration
BACT	Best Available Control Technology
Btu	British thermal unit
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEM	Continuous Emissions Monitor
CFR	Code of Federal Regulations
CO	Carbon Monoxide
COMAR	Code of Maryland Regulations
EPA	United States Environmental Protection Agency
FR	Federal Register
gr	grains
HAP	Hazardous Air Pollutant
MACT	Maximum Achievable Control Technology
MDE	Maryland Department of the Environment
MVAC	Motor Vehicle Air Conditioner
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standards
NSR	New Source Review
OTR	Ozone Transport Region
PM	Particulate Matter
PM10	Particulate Matter with Nominal Aerodynamic Diameter of 10 micrometers or less
ppm	parts per million
ppb	parts per billion
PSD	Prevention of Significant Deterioration
PTC	Permit to construct
PTO	Permit to operate (State)
SIC	Standard Industrial Classification

SO_2	Sulfur Dioxide
TAP	Toxic Air Pollutant
tpy	tons per year
VE	Visible Emissions
VOC	Volatile Organic Compounds

3. EFFECTIVE DATE

The effective date of the conditions in this Part 70 permit is the date of permit issuance, unless otherwise stated in the permit.

4. PERMIT EXPIRATION

[COMAR 26.11.03.13B(2)]

Upon expiration of this permit, the terms of the permit will automatically continue to remain in effect until a new Part 70 permit is issued for this facility provided that the Permittee has submitted a timely and complete application and has paid applicable fees under COMAR 26.11.02.16.

Otherwise, upon expiration of this permit the right of the Permittee to operate this facility is terminated.

5. PERMIT RENEWAL

[COMAR 26.11.03.02B(3)] and [COMAR 26.11.03.02E]

The Permittee shall submit to the Department a completed application for renewal of this Part 70 permit at least 12 months before the expiration of the permit. Upon submitting a completed application, the Permittee may continue to operate this facility pending final action by the Department on the renewal.

The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall submit such supplementary facts or corrected information no later than 10 days after becoming aware that this occurred. The Permittee shall also provide additional information as necessary to address any requirements that become applicable to the facility after the date a completed application was submitted, but prior to the release of a draft permit. This

information shall be submitted to the Department no later than 20 days after a new requirement has been adopted.

6. CONFIDENTIAL INFORMATION

[COMAR 26.11.02.02G]

In accordance with the provisions of the State Government Article, Sec. 10-611 et seq., Annotated Code of Maryland, all information submitted in an application shall be considered part of the public record and available for inspection and copying, unless the Permittee claims that the information is confidential when it is submitted to the Department. At the time of the request for inspection or copying, the Department will make a determination with regard to the confidentiality of the information. The Permittee, when requesting confidentiality, shall identify the information in a manner specified by the Department and, when requested by the Department, promptly provide specific reasons supporting the claim of confidentiality. Information submitted to the Department without a request that the information be deemed confidential may be made available to the public. Subject to approval of the Department, the Permittee may provide a summary of confidential information that is suitable for public review. The content of this Part 70 permit is not subject to confidential treatment.

7. PERMIT ACTIONS

[COMAR 26.11.03.06E(3)] and [COMAR 26.11.03.20(A)]

This Part 70 permit may be revoked or reopened and revised for cause. The filing of an application by the Permittee for a permit revision or renewal; or a notification of termination, planned changes or anticipated noncompliance by the facility, does not stay a term or condition of this permit.

The Department shall reopen and revise, or revoke the Permittee's Part 70 permit under the following circumstances:

a. Additional requirements of the Clean Air Act become applicable to this facility and the remaining permit term is 3 years or more;

b. The Department or the EPA determines that this Part 70 permit contains a material mistake, or is based on false or inaccurate information supplied by or on behalf of the Permittee;

c. The Department or the EPA determines that this Part 70 permit must be revised or revoked to assure compliance with applicable requirements of the Clean Air Act; or

d. Additional requirements become applicable to an affected source under the Federal Acid Rain Program.

8. PERMIT AVAILABILITY

[COMAR 26.11.02.13G]

The Permittee shall maintain this Part 70 permit in the vicinity of the facility for which it was issued, unless it is not practical to do so, and make this permit immediately available to officials of the Department upon request.

9. REOPENING THE PART 70 PERMIT FOR CAUSE BY THE EPA

[COMAR 26.11.03.20B]

The EPA may terminate, modify, or revoke and reissue a permit for cause as prescribed in 40 CFR §70.7(g)

10. TRANSFER OF PERMIT

[COMAR 26.11.02.02E]

The Permittee shall not transfer this Part 70 permit except as provided in COMAR 26.11.03.15.

11. REVISION OF PART 70 PERMITS – GENERAL CONDITIONS

[COMAR 26.11.03.14] and [COMAR 26.11.03.06A(8)]

a. The Permittee shall submit an application to the Department to revise this Part 70 permit when required under COMAR 26.11.03.15 -.17.

b. When applying for a revision to a Part 70 permit, the Permittee shall comply with the requirements of COMAR 26.11.03.02 and .03 except that the application for a revision need include only information listed that is related to the proposed change to the source and revision to the permit. This information shall be sufficient to evaluate the proposed change and to determine whether it will comply with all applicable requirements of the Clean Air Act.

c. The Permittee may not change any provision of a compliance plan or schedule in a Part 70 permit as an administrative permit amendment or as a minor permit modification unless the change has been approved by the Department in writing.

d. A permit revision is not required for a change that is provided for in this permit relating to approved economic incentives, marketable permits, emissions trading, and other similar programs.

12. SIGNIFICANT PART 70 OPERATING PERMIT MODIFICATIONS

[COMAR 26.11.03.17]

The Permittee may apply to the Department to make a significant modification to its Part 70 Permit as provided in COMAR 26.11.03.17 and in accordance with the following conditions:

a. A significant modification is a revision to the federally enforceable provisions in the permit that does not qualify as an administrative permit amendment under COMAR 26.11.03.15 or a minor permit modification as defined under COMAR 26.11.03.16.

b. This permit does not preclude the Permittee from making changes, consistent with the provisions of COMAR 26.11.03, that would make the permit or particular terms and conditions of the permit irrelevant, such as by shutting down or reducing the level of operation of a source or of an emissions unit within the source. Air pollution control equipment shall not be shut down or its level of operation reduced if doing so would violate any term of this permit.

c. Significant permit modifications are subject to all requirements of COMAR 26.11.03 as they apply to permit issuance and renewal,

including the requirements for applications, public participation, and review by affected states and EPA, except:

(1) An application need include only information pertaining to the proposed change to the source and modification of this permit, including a description of the change and modification, and any new applicable requirements of the Clean Air Act that will apply if the change occurs;

(2) Public participation, and review by affected states and EPA, is limited to only the application and those federally enforceable terms and conditions of the Part 70 permit that are affected by the significant permit modification.

d. As provided in COMAR 26.11.03.15B(5), an administrative permit amendment may be used to make a change that would otherwise require a significant permit modification if procedures for enhanced preconstruction review of the change are followed that satisfy the requirements of 40 CFR 70.7(d)(1)(v).

e. Before making a change that qualifies as a significant permit modification, the Permittee shall obtain all permits-to-construct and approvals required by COMAR 26.11.02.

f. The Permittee shall not make a significant permit modification that results in a violation of any applicable requirement of the Clean Air Act.

g. The permit shield in COMAR 26.11.03.23 applies to a final significant permit modification that has been issued by the Department, to the extent applicable under COMAR 26.11.03.23.

13. MINOR PERMIT MODIFICATIONS

[COMAR 26.11.03.16]

The Permittee may apply to the Department to make a minor modification to the federally enforceable provisions of this Part 70 permit as provided in COMAR 26.11.03.16 and in accordance with the following conditions:

a. A minor permit modification is a Part 70 permit revision that:

(1) Does not result in a violation of any applicable requirement of the Clean Air Act;

(2) Does not significantly revise existing federally enforceable monitoring, including test methods, reporting, record keeping, or compliance certification requirements except by:

(a) Adding new requirements,

(b) Eliminating the requirements if they are rendered meaningless because the emissions to which the requirements apply will no longer occur, or

(c) Changing from one approved test method for a pollutant and source category to another;

(3) Does not require or modify a:

(a) Case-by-case determination of a federally enforceable emissions standard,

(b) Source specific determination for temporary sources of ambient impacts, or

(c) Visibility or increment analysis;

(4) Does not seek to establish or modify a federally enforceable permit term or condition for which there is no corresponding underlying applicable requirement of the Clean Air Act, but that the Permittee has assumed to avoid an applicable requirement to which the source would otherwise be subject, including:

(a) A federally enforceable emissions standard applied to the source pursuant to COMAR 26.11.02.03 to avoid classification as a Title I modification; and

(b) An alternative emissions standard applied to an emissions unit pursuant to regulations promulgated under Section 112(i)(5) of the Clean Air Act

(5) Is not a Title I modification; and

(6) Is not required under COMAR 26.11.03.17 to be processed as a significant modification to this Part 70 permit.

b. Application for a Minor Permit Modification

The Permittee shall submit to the Department an application for a minor permit modification that satisfies the requirements of COMAR 26.11.03.03 which includes the following:

(1) A description of the proposed change, the emissions resulting from the change, and any new applicable requirements that will apply if the change is made;

(2) The proposed minor permit modification;

(3) Certification by a responsible official, in accordance with COMAR 26.11.02.02F, that:

(a) The proposed change meets the criteria for a minor permit modification, and

(b) The Permittee has obtained or applied for all required permits-to-construct required by COMAR 26.11.03.16 with respect to the proposed change;

(4) Completed forms for the Department to use to notify the EPA and affected states, as required by COMAR 26.11.03.07-.12.

c. Permittee's Ability to Make Change

(1) For changes proposed as minor permit modifications to this permit that will require the applicant to obtain a permit to construct, the permit to construct must be issued prior to the new change.

(2) During the period of time after the Permittee applies for a minor modification but before the Department acts in accordance with COMAR 26.11.03.16F(2):

(a) The Permittee shall comply with applicable requirements of the Clean Air Act related to the change and the permit terms and conditions described in the application for the minor modification.

(b) The Permittee is not required to comply with the terms and conditions in the permit it seeks to modify. If the Permittee fails to comply with the terms and conditions in the application during this time, the terms and conditions of both this permit and the application for modification may be enforced against it.

d. The Permittee is subject to enforcement action if it is determined at any time that a change made under COMAR 26.11.03.16 is not within the scope of this regulation.

e. Minor permit modification procedures may be used for Part 70 permit modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches, but only to the extent that the minor permit modification procedures are explicitly provided for in regulations approved by the EPA as part of the Maryland SIP or in other applicable requirements of the Clean Air Act.

14. ADMINISTRATIVE PART 70 OPERATING PERMIT AMENDMENTS

[COMAR 26.11.03.15]

The Permittee may apply to the department to make an administrative permit amendment as provided in COMAR 26.11.03.15 and in accordance with the following conditions:

a. An application for an administrative permit amendment shall:

(1) Be in writing;

(2) Include a statement certified by a responsible official that the proposed amendment meets the criteria in COMAR 26.11.03.15 for an administrative permit amendment, and

(3) Identify those provisions of this part 70 permit for which the amendment is requested, including the basis for the request.

b. An administrative permit amendment:

(1) Is a correction of a typographical error;

(2) Identifies a change in the name, address, or phone number of a person identified in this permit, or a similar administrative change involving the Permittee or other matters which are not directly related to the control of air pollution;

(3) requires more frequent monitoring or reporting by the Permittee;

(4) Allows for a change in ownership or operational control of a source for which the Department determines that no other revision to the permit is necessary and is documented as per COMAR 26.11.03.15B(4);

(5) Incorporates into this permit the requirements from preconstruction review permits or approvals issued by the Department in accordance with COMAR 26.11.03.15B(5), but only if it satisfies 40 CFR 70.7(d)(1)(v);

(6) Incorporates any other type of change, as approved by the EPA, which is similar to those in COMAR 26.11.03.15B(1)—(4);

(7) Notwithstanding COMAR 26.11.03.15B(1)—(6), all modifications to acid rain control provisions included in this Part 70 permit are governed by applicable requirements promulgated under Title IV of the Clean Air Act; or

(8) Incorporates any change to a term or condition specified as State-only enforceable, if the Permittee has obtained all necessary permits-to-construct and approvals that apply to the change.

c. The Permittee may make the change addressed in the application for an administrative amendment upon receipt by the Department of the application, if all permits-to-construct or approvals otherwise required by COMAR 26.11.02 prior to making the change have first been obtained from the Department.

d. The permit shield in COMAR 26.11.03.23 applies to administrative permit amendments made under Section B(5) of COMAR 26.11.03.15 , but only after the Department takes final action to revise the permit.

e. The Permittee is subject to enforcement action if it is determined at any time that a change made under COMAR 26.11.03.15 is not within the scope of this regulation.

15. OFF-PERMIT CHANGES TO THIS SOURCE

[COMAR 26.11.03.19]

The Permittee may make off-permit changes to this facility as provided in COMAR 26.11.03.19 and in accordance with the following conditions:

a. The Permittee may make a change to this permitted facility that is not addressed or prohibited by the federally enforceable conditions of this Part 70 permit without obtaining a Part 70 permit revision if:

(1) The Permittee has obtained all permits and approvals required by COMAR 26.11.02 and .03;

(2) The change is not subject to any requirements under Title IV of the Clean Air Act;

(3) The change is not a Title I modification; and

(4) The change does not violate an applicable requirement of the Clean Air Act or a federally enforceable term or condition of the permit.

b. For a change that qualifies under COMAR 26.11.03.19, the Permittee shall provide contemporaneous written notice to the Department and the EPA, except for a change to an emissions unit or activity that is exempt from the Part 70 permit application, as provided in COMAR 26.11.03.04. This written notice shall describe the change, including the date it was made, any change in emissions, including the pollutants emitted, and any new applicable requirements of the Clean Air Act that apply as a result of the change.

c. Upon satisfying the requirements of COMAR 26.11.03.19, the Permittee may make the proposed change.

d. The Permittee shall keep a record describing:

(1) Changes made at the facility that result in emissions of a regulated air pollutant subject to an applicable requirement of the Clean Air Act , but not otherwise regulated under this permit; and

(2) The emissions resulting from those changes.

e. Changes that qualify under COMAR 26.11.03.19 are not subject to the requirements for Part 70 revisions.

f. The Permittee shall include each off-permit change under COMAR 26.11.03.19 in the application for renewal of the part 70 permit.

g. The permit shield in COMAR 26.11.03.23 does not apply to off-permit changes made under COMAR 26.11.03.19.

h. The Permittee is subject to enforcement action if it is determined that an off-permit change made under COMAR 26.11.03.19 is not within the scope of this regulation.

16. ON-PERMIT CHANGES TO SOURCES

[COMAR 26.11.03.18]

The Permittee may make on-permit changes that are allowed under Section 502(b)(10) of the Clean Air Act as provided in COMAR 26.11.03.18 and in accordance with the following conditions:

a. The Permittee may make a change to this facility without obtaining a revision to this Part 70 permit if:

(1) The change is not a Title I modification;

(2) The change does not result in emissions in excess of those expressly allowed under the federally enforceable provisions of the Part 70 permit for the permitted facility or for an emissions unit within the facility, whether expressed as a rate of emissions or in terms of total emissions;

(3) The Permittee has obtained all permits and approvals required by COMAR 26.11.02 and .03;

(4) The change does not violate an applicable requirement of the Clean Air Act;

(5) The change does not violate a federally enforceable permit term or condition related to monitoring, including test methods, record keeping, reporting, or compliance certification requirements;

(6) The change does not violate a federally enforceable permit term or condition limiting hours of operation, work practices, fuel usage, raw material usage, or production levels if the term or condition has been established to limit emissions allowable under this permit;

(7) If applicable, the change does not modify a federally enforceable provision of a compliance plan or schedule in this Part 70 permit unless the Department has approved the change in writing; and

(8) This permit does not expressly prohibit the change under COMAR 26.11.03.18.

b. The Permittee shall notify the Department and the EPA in writing of a proposed on-permit change under COMAR 26.11.03.18 not later than 7 days before the change is made. The written information shall include the following information:

(1) A description of the proposed change;

(2) The date on which the change is proposed to be made;

(3) Any change in emissions resulting from the change, including the pollutants emitted;

(4) Any new applicable requirement of the Clean Air Act; and

(5) Any permit term or condition that would no longer apply.

c. The responsible official of this facility shall certify in accordance with COMAR 26.11.02.02F that the proposed change meets the criteria for the use of on-permit changes under COMAR 26.11.03.18.

d. The Permittee shall attach a copy of each notice required by condition b. above to this Part 70 permit.

e. On-permit changes that qualify under COMAR 26.11.03.18 are not subject to the requirements for part 70 permit revisions.

f. Upon satisfying the requirements under COMAR 26.11.03.18, the Permittee may make the proposed change.

g. The permit shield in COMAR 26.11.03.23 does not apply to on-permit changes under COMAR 26.11.03.18.

h. The Permittee is subject to enforcement action if it is determined that an on-permit change made under COMAR 26.11.03.18 is not within the scope of the regulation or violates any requirement of the State air pollution control law.

17. FEE PAYMENT

[COMAR 26.11.02.16A(2) & (5)(b)]

a. The fee for this Part 70 permit is as prescribed in Regulation .19 of COMAR 26.11.02.

b. The fee is due on and shall be paid on or before each 12-month anniversary date of the permit.

c. Failure to pay the annual permit fee constitutes cause for revocation of the permit by the Department.

18. REQUIREMENTS FOR PERMITS-TO-CONSTRUCT AND APPROVALS

[COMAR 26.11.02.09.]

The Permittee may not construct or modify or cause to be constructed or modified any of the following sources without first obtaining, and having in current effect, the specified permits-to-construct and approvals:

a. New Source Review source, as defined in COMAR 26.11.01.01, approval required, except for generating stations constructed by electric companies;

b. Prevention of Significant Deterioration source, as defined in COMAR 26.11.01.01, approval required, except for generating stations constructed by electric companies;

c. New Source Performance Standard source, as defined in COMAR 26.11.01.01, permit to construct required, except for generating stations constructed by electric companies;

d. National Emission Standards for Hazardous Air Pollutants source, as defined in COMAR 26.11.01.01, permit to construct required, except for generating stations constructed by electric companies;

e. A stationary source of lead that discharges one ton per year or more of lead or lead compounds measured as elemental lead, permit to construct required, except for generating stations constructed by electric companies;

f. All stationary sources of air pollution, including installations and air pollution control equipment, except as listed in COMAR 26.11.02.10, permit to construct required;

g. In the event of a conflict between the applicability of (a.— e.) above and an exemption listed in COMAR 26.11.02.10, the provision that requires a permit applies.

h. Approval of a PSD or NSR source by the Department does not relieve the Permittee obtaining an approval from also obtaining all permits-to-construct required by (c.— g.) above.

19. CONSOLIDATION OF PROCEDURES FOR PUBLIC PARTICIPATION

[COMAR 26.11.02.11C] and [COMAR 26.11.03.01K]

The Permittee may request the Department to authorize special procedures for the Permittee to apply simultaneously, to the extent possible, for a permit to construct and a revision to this permit.

These procedures may provide for combined public notices, informational meetings, and public hearings for both permits but shall not adversely affect the rights of a person, including EPA and affected states, to obtain information about the application for a permit, to comment on an application, or to challenge a permit that is issued.

These procedures shall not alter any existing permit procedures or time frames.

20. PROPERTY RIGHTS

[COMAR 26.11.03.06E(4)]

This Part 70 permit does not convey any property rights of any sort, or any exclusive privileges.

21. SEVERABILITY

[COMAR 26.11.03.06A(5)]

If any portion of this Part 70 permit is challenged, or any term or condition deemed unenforceable, the remainder of the requirements of the permit continues to be valid.

22. INSPECTION AND ENTRY

[COMAR 26.11.03.06G(3)]

The Permittee shall allow employees and authorized representatives of the Department, the EPA, and local environmental health agencies, upon presentation of credentials or other documents as may be required by law, to:

a. Enter at a reasonable time without delay and without prior notification the Permittee's property where a Part 70 source is located, emissions-related activity is conducted, or records required by this permit are kept;

b. Have access to and make copies of records required by the permit;

c. Inspect all emissions units within the facility subject to the permit and all related monitoring systems, air pollution control equipment, and practices or operations regulated or required by the permit; and

d. Sample or monitor any substances or parameters at or related to the emissions units at the facility for the purpose of determining compliance with the permit.

23. DUTY TO PROVIDE INFORMATION

[COMAR 26.11.03.06E(5)]

The Permittee shall furnish to the Department, within a reasonable time specified by the Department, information requested in writing by the Department in order to determine whether the Permittee is in compliance with the federally enforceable conditions of this Part 70 permit, or whether cause exists for revising or revoking the permit. Upon request, the Permittee shall also furnish to the Department records required to be kept under the permit.

For information claimed by the Permittee to be confidential and therefore potentially not discloseable to the public, the Department may require the Permittee to provide a copy of the records directly to the EPA along with a claim of confidentiality.

The Permittee shall also furnish to the Department, within a reasonable time specified by the Department, information or records requested in writing by the Department in order to determine if the Permittee is in compliance with the State-only enforceable conditions of this permit.

24. COMPLIANCE REQUIREMENTS

[COMAR 26.11.03.06E(1)] and [COMAR 26.11.03.06A(11)] and [COMAR 26.11.02.05]

The Permittee shall comply with the conditions of this Part 70 permit. Noncompliance with the permit constitutes a violation of the Clean Air Act, and/or the Environment Article Title 2 of the Annotated Code of Maryland and may subject the Permittee to:

a. Enforcement action,

b. Permit revocation or revision,

c. Denial of the renewal of a Part 70 permit, or

d. Any combination of these actions.

The conditions in this Part 70 permit are enforceable by EPA and citizens under the Clean Air Act except for the State-only enforceable conditions.

Under Environment Article Section 2-609, Annotated Code of Maryland, the Department may seek immediate injunctive relief against a person who violates this permit in such a manner as to cause a threat to human health or the environment.

25. CREDIBLE EVIDENCE

Nothing in this permit shall be interpreted to preclude the use of credible evidence to demonstrate noncompliance with any term of this permit.

26. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE

[COMAR 26.11.03.06E(2)]

The need to halt or reduce activity in order to comply with the conditions of this permit may not be used as a defense in an enforcement action.

27. CIRCUMVENTION

[COMAR 26.11.01.06]

The Permittee may not install or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total weight of emissions, conceals or dilutes emissions which would otherwise constitute a violation of any applicable air pollution control regulation.

28. PERMIT SHIELD

[COMAR 26.11.03.23]

A permit shield as described in COMAR 26.11.03.23 shall apply only to terms and conditions in this Part 70 permit that have been specifically

identified as covered by the permit shield. Neither this permit nor COMAR 26.11.03.23 alters the following:

a. The emergency order provisions in Section 303 of the Clean Air Act, including the authority of EPA under that section;

b. The liability of the Permittee for a violation of an applicable requirement of the Clean Air Act before or when this permit is issued or for a violation that continues after issuance;

c. The requirements of the Acid Rain Program, consistent with Section 408(a) of the Clean Air Act;

d. The ability of the Department or EPA to obtain information from a source pursuant to Maryland law and Section 114 of the Clean Air Act; or

e. The authority of the Department to enforce an applicable requirement of the State air pollution control law that is not an applicable requirement of the Clean Air Act.

29. ALTERNATE OPERATING SCENARIOS

[COMAR 26.11.03.06A(9)]

For all alternate operating scenarios approved by the Department and contained within this permit, the Permittee, while changing from one approved scenario to another, shall contemporaneously record in a log maintained at the facility each scenario under which the emissions unit is operating and the date and time the scenario started and ended.

SECTION III PLANT WIDE CONDITIONS

1. PARTICULATE MATTER FROM CONSTRUCTION AND DEMOLITION

[COMAR 26.11.06.03D]

The Permittee shall not cause or permit any building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne.

2. OPEN BURNING

[COMAR 26.11.07]

Except as provided in COMAR 26.11.07.04, the Permittee shall not cause or permit an open fire from June 1 through August 31 of any calendar year. Prior to any open burning, the Permittee shall request and receive approval from the Department.

3. AIR POLLUTION EPISODE

[COMAR 26.11.05.04]

When requested by the Department, the Permittee shall prepare in writing standby emissions reduction plans, consistent with good industrial practice and safe operating procedures, for reducing emissions creating air pollution during periods of Alert, Warning, and Emergency of an air pollution episode.

4. REPORT OF EXCESS EMISSIONS AND DEVIATIONS

[COMAR 26.11.01.07] and [COMAR 26.11.03.06C(7)]

The Permittee shall comply with the following conditions for occurrences of excess emissions and deviations from requirements of this permit, including those in Section VI – State-only Enforceable Conditions:

a. Report any deviation from permit requirements that could endanger human health or the environment, by orally notifying the Department immediately upon discovery of the deviation;

b. Promptly report all occurrences of excess emissions that are expected to last for one hour or longer by orally notifying the Department of the onset and termination of the occurrence;

c. When requested by the Department the Permittee shall report all deviations from permit conditions, including those attributed to malfunctions as defined in COMAR 26.11.01.07A, within 5 days of the request by submitting a written description of the deviation to the Department. The written report shall include the cause, dates and times of the onset and termination of the deviation, and an account of all actions planned or taken to reduce, eliminate, and prevent recurrence of the deviation;

d. The Permittee shall submit to the Department semi-annual monitoring reports that confirm that all required monitoring was performed, and that provide accounts of all deviations from permit requirements that occurred during the reporting periods. Reporting periods shall be January 1 through June 30 and July 1 through December 31, and reports shall be submitted within 30 days of the end of each reporting period. Each account of deviation shall include a description of the deviation, the dates and times of onset and termination, identification of the person who observed or discovered the deviation, causes and corrective actions taken, and actions taken to prevent recurrence. If no deviations from permit conditions occurred during a reporting period, the Permittee shall submit a written report that so states.

e. When requested by the Department, the Permittee shall submit a written report to the Department within 10 days of receiving the request concerning an occurrence of excess emissions. The report shall contain the information required in COMAR 26.11.01.07D(2).

5. ACCIDENTAL RELEASE PROVISIONS

[COMAR 26.11.03.03B(23)] and [40 CFR 68]

Should the Permittee become subject to 40 CFR 68 during the term of this permit, the Permittee shall submit risk management plans by the date

specified in 40 CFR 68.150 and shall certify compliance with the requirements of 40 CFR 68 as part of the annual compliance certification as required by 40 CFR 70.

The Permittee shall initiate a permit revision or reopening according to the procedures of 40 CFR 70.7 to incorporate appropriate permit conditions into the Permittee's Part 70 permit.

6. GENERAL TESTING REQUIREMENTS

[COMAR 26.11.01.04]

The Department may require the Permittee to conduct, or have conducted, testing to determine compliance with this Part 70 permit. The Department, at its option, may witness or conduct these tests. This testing shall be done at a reasonable time, and all information gathered during a testing operation shall be provided to the Department.

7. EMISSIONS TEST METHODS

[COMAR 26.11.01.04]

Compliance with the emissions standards and limitations in this Part 70 permit shall be determined by the test methods designated and described below or other test methods submitted to and approved by the Department.

Reference documents of the test methods approved by the Department include the following:

a. 40 CFR 60, appendix A

b. 40 CFR 51, appendix M

c. The Department's Technical Memorandum 91-01 "Test Methods and Equipment Specifications for Stationary Sources", (January 1991), as amended through Supplement 3, (October 1, 1997)

8. EMISSIONS CERTIFICATION REPORT

[COMAR 26.11.01.05-1] and [COMAR 26.11.02.19C] and [COMAR 26.11.02.19D]

The Permittee shall certify actual annual emissions of regulated pollutants from the facility on a calendar year basis.

a. The certification shall be on forms obtained from the Department and submitted to the Department not later than April 1 of the year following the year for which the certification is required;

b. The individual making the certification shall certify that the information is accurate to the individual's best knowledge. The individual shall be:

(1) Familiar with each source for which the certifications forms are submitted, and

(2) Responsible for the accuracy of the emissions information;

c. The Permittee shall maintain records necessary to support the emissions certification including the following information if applicable:

(1) The total amount of actual emissions of each regulated pollutant and the total of all regulated pollutants;

(2) An explanation of the methods used to quantify the emissions and the operating schedules and production data that were used to determine emissions, including significant assumptions made;

(3) Amounts, types and analyses of all fuels used;

(4) Emissions data from continuous emissions monitors that are required by this permit, including monitor calibration and malfunction information;

(5) Identification, description, and use records of all air pollution control equipment and compliance monitoring equipment including:

(a) Significant maintenance performed,
(b) Malfunctions and downtime, and

(c) Episodes of reduced efficiency of all equipment;

(6) Limitations on source operation or any work practice standards that significantly affect emissions; and

(7) Other relevant information as required by the Department.

9. COMPLIANCE CERTIFICATION REPORT

[COMAR 26.11.03.06G(6) and (7)]

The Permittee shall submit to the Department and EPA Region III a report certifying compliance with each term of this Part 70 permit including each applicable standard, emissions limitation, and work practice for the previous calendar year by April 1 of each year.

a. The compliance certification shall include:

(1) The identification of each term or condition of this permit which is the basis of the certification;

(2) The compliance status;

(3) Whether the compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of each source, currently and over the reporting period; and

(5) Any other information required to be reported to the Department that is necessary to determine the compliance status of the Permittee with this permit.

b. The Permittee shall submit the compliance certification reports to the Department and EPA simultaneously.

10. CERTIFICATION BY RESPONSIBLE OFFICIAL

[COMAR 26.11.02.02F]

All application forms, reports, and compliance certifications submitted pursuant to this permit shall be certified by a responsible official as to

truth, accuracy, and completeness. The Permittee shall expeditiously notify the Department of an appointment of a new responsible official.

The certification shall be in the following form:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

11. SAMPLING AND EMISSIONS TESTING RECORD KEEPING

[COMAR 26.11.03.06C(5)]

The Permittee shall gather and retain the following information when sampling and testing for compliance demonstrations:

a. The location as specified in this permit, and the date and time that samples and measurements are taken;

b. All pertinent operating conditions existing at the time that samples and measurements are taken;

c. The date that each analysis of a sample or emissions test is performed and the name of the person taking the sample or performing the emissions test;

d. The identity of the Permittee, individual, or other entity that performed the analysis;

e. The analytical techniques and methods used; and

f. The results of each analysis.

12. GENERAL RECORDKEEPING

[COMAR 26.11.03.06C(6)]

The Permittee shall retain records of all monitoring data and information that support the compliance certification for a period of five (5) years from the date that the monitoring, sample measurement, application, report or emissions test was completed or submitted to the Department.

These records and support information shall include:

a. All calibration and maintenance records;

b. All original data collected from continuous monitoring instrumentation;

c. Records which support the annual emissions certification; and

d. Copies of all reports required by this permit.

13. GENERAL CONFORMITY

[COMAR 26.11.26.09]

The Permittee shall comply with the general conformity requirements of 40 CFR 93, Subpart B and COMAR 26.11.26.09.

14. ASBESTOS PROVISIONS

[40 CFR 61, Subpart M]

The Permittee shall comply with 40 CFR 61, Subpart M when conducting any renovation or demolition activities at the facility.

15. OZONE DEPLETING REGULATIONS

[40 CFR 82, Subpart F]

The Permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for MVACs in subpart B:

a. Persons opening appliances for maintenance, service, repair, or disposal shall comply with the prohibitions and required practices pursuant to 40 CFR 82.154 and 82.156.

b. Equipment used during the maintenance, service, repair or disposal of appliances shall comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

c. Persons performing maintenance, service, repairs or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.

d. Persons disposing of small appliances, MVACS, and MVAC-like appliances as defined in 40 CFR 82.152, shall comply with record keeping requirements pursuant to 40 CFR 82.155.

e. Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.

f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.

16. ACID RAIN PERMIT

Not applicable

SECTION IV PLANT SPECIFIC CONDITIONS

This section provides tables that include the emissions standards, emissions limitations, and work practices applicable to each emissions unit located at this facility. The Permittee shall comply with all applicable emissions standards, emissions limitations and work practices included herein.

The tables also include testing, monitoring, record keeping and reporting requirements specific to each emissions unit. In addition to the requirements included here in **Section IV**, the Permittee is also subject to the general testing, monitoring, record keeping and reporting requirements included in **Section III – Plant Wide Conditions** of this permit.

Unless otherwise provided in the specific requirements for an emissions unit, the Permittee shall maintain at the facility for at least five (5) years, and shall make available to the Department upon request, all records that the Permittee is required under this section to establish. [Authority: COMAR 26.11.03.06C(5)(g)]

Table IV – 1	
1.0	**Emissions Unit Number(s): Natural gas fired boilers rated between 10 and 100 MMBtu/hr constructed before June 9, 1989** 5-0763: One (1) Keeler natural gas and No. 2 fuel oil (only during periods of natural gas curtailment) firing boiler rated at 98 MMBtu/hr heat input equipped with low NO_X burners. Boiler #1. 5-0533 thru 5-0535: Three (3) Babcock & Wilcox natural gas and No. 2 fuel oil (only during periods of natural gas curtailment) firing boilers each rated at 62 MMBtu/hr heat input equipped with low NO_X burners. Boiler #2, #3, & #4 respectively.
1.1	**Applicable Standards/Limits:** A. Visible Emissions Limitations 1. COMAR 26.11.09.05A(2), Fuel Burning Equipment. "Areas III and IV. In Areas III and IV, a person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity."

Table IV – 1	
	2. COMAR 26.1.09.05A(3), Exceptions. "Section A(1) and (2) of this regulation do not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if: a. The visible emissions are not greater than 40 percent opacity; and b. The visible emissions do not occur for more than 6 consecutive minutes in any sixty minute period. B. Control of Sulfur Oxides COMAR 26.11.09.07A(2), Sulfur Content Limitations for Fuel. "A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas III and IV: (b) Distillate fuel oils, 0.3 percent." ***Note:*** *Condition B applies only while burning fuel oil which may only occur during times of natural gas curtailment.* C. Control of Nitrogen Oxides 1. COMAR 26.11.09.08B(5), Operator Training. a. For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation. b. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department. 2. COMAR 26.11.09.08E, Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of 100 MMBtu/hr or Less. A person who owns or operates fuel-burning equipment with a rated heat input capacity of 100 MMBtu/hr or less shall: a. Submit to the Department an identification of each affected installation, the rated heat input capacity of each installation, and the type of fuel burned in each; b. Perform a combustion analysis for each installation at least once each year and optimize combustion based on the analysis;

Table IV – 1	
	c. Maintain the results of the combustion analysis at the site for at least 2 years and make this data available to the Department and the EPA upon request; d. Once every 3 years, require each operator of the installation to attend operator training programs on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and e. Prepare and maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request. D. Operational Limit 1. The Permittee shall burn only natural gas or No. 2 fuel oil in the boilers unless the Permittee applies for and obtains a Permit to Construct from the Department to burn an alternate fuel. **[Reference: COMAR 26.11.02.09A]** 2. The Permittee shall burn gaseous fuel in the boiler not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year. **[Reference: 40 CFR §63.11237]**
1.2	**Testing Requirements:** A. Visible Emissions Limitations See Monitoring Requirements. B. Control of Sulfur Oxides See Monitoring Requirements. C. Control of Nitrogen Oxides The Permittee shall perform a combustion analysis once a year. **[Reference: COMAR 26.11.09.08E(2)]** D. Operational Limit

Table IV – 1	
	See Record Keeping Requirements.
1.3	**Monitoring Requirements:** A. Visible Emissions Limitations 1. The Permittee shall: a. Properly operate and maintain the boilers in a manner to prevent visible emissions; and b. Verify no visible emissions when burning No. 2 fuel oil. The Permittee shall perform a visual observation for a 6-minute period once for each 168 hours that the boiler burns oil or at a minimum of once per year. **[Authority: COMAR 26.11.03.06C]** ***Note:*** *If a unit burns No. 2 fuel oil for less than 100 hours in a calendar year, this requirement is waived for that unit for that calendar year.* 2. The Permittee shall perform the following, if emissions are visible: a. Inspect combustion control system and boiler operations, b. Perform all necessary adjustments and/or repairs to the boiler within 48 hours, so that visible emissions are eliminated; c. Document in writing the results of the inspections, adjustments and/or repairs to the boiler; and d. After 48 hours, if the required adjustments and/or repairs had not eliminated the visible emissions, perform Method 9 observations once daily for 18 minutes until corrective actions have eliminated the visible emissions. **[Authority: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall obtain a certification from the fuel supplier indicating that the oil complies with the limitation on the sulfur content of the fuel oil. **[Reference: COMAR 26.11.03.06C]** C. Control of Nitrogen Oxides The Permittee shall optimize combustion based on the annual combustion analysis. **[Reference: COMAR 26.11.09.08E(2)]**

Table IV – 1	
	D. Operational Limit See Recording Keeping Requirements.
1.4	**Record Keeping Requirements:** All records must be maintained for a period of 5 years. **[Reference: COMAR 26.11.03.06.C(5)(g)]** A. Visible Emissions Limitations The Permittee shall: a. Maintain an operation manual and prevention maintenance plan on site; b. Maintain a record of the maintenance preformed that relates to combustion performance; c. Maintain a log of visible emissions observations performed and make it available to the Department's representative upon request; and d. Maintain a record of the hours that No. 2 fuel oil is burned. **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall maintain records of fuel supplier's certification and shall make records available to the Department upon request. **[Reference: COMAR 26.11.03.06C]** C. Control of Nitrogen Oxides The Permittee shall maintain: a. Records of the results of the annual combustion analysis on site. b. Record of training program attendance for each operator at the site. **[Reference: COMAR 26.11.09.08E(5)]** D. Operational Limit The Permittee shall maintain records of the quantity and types of fuel burned. **[Reference: COMAR 26.11.02.19C(1)(c)]**
1.5	**Reporting Requirements:**

Table IV – 1	
	A. Visible Emissions Limitations The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III, Plant Wide Conditions, "Report of Excess Emissions and Deviations". B. Control of Sulfur Oxides The Permittee shall report fuel supplier certification to the Department upon request. **[Reference: COMAR 26.11.09.07C]** C. Control of Nitrogen Oxides The Permittee shall submit: a. The results of combustion analysis to the department and the EPA upon request. **[Reference: COMAR 26.11.09.08E(3)]** b. A record of training program attendance for each operator to the Department upon request. **[Reference: COMAR 26.11.09.08E(5)]** D. Operational Limit The Permittee shall submit records of the quantity and type of fuels burned with the annual emissions certification report. See permit condition 8 of Section III. **[Reference: COMAR 26.11.03.06C]**

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

Table IV – 2	
2.0	**Emissions Unit Number(s): Boilers used for Space Heating** 5-0964 & 5-0965: Two (2) natural gas-fired boilers each rated at 1.6 MMBtu/hr heat input. 5-1861 thru 5-1863: Three (3) TurboPower Gas Water Heaters Model 1500N500A-TP fired on natural gas and each rated at 1.2 MMBtu/hr heat input.

Table IV – 2	
	5-1864 thru 5-1866: Three (3) TurboPower Gas Water Heaters Model 2000N750A-TP fired on natural gas and each rated at 1.6 MMBtu/hr heat input. 5-1885: One (1) Columbia Boiler Co. natural gas fired boiler rated at 1.26 MMBtu/hr heat input. 5-2024 & 5-2025: Two (2) Peerless natural gas fired boilers each rated at 2.1 MMBtu/hr heat input 5-2031 & 5-2032: Two (2) Teledyne-Laars natural gas fired boilers each rated at 1.67 MMBtu/hr heat input 5-2035 & 5-2036: Two (2) Teledyne Laars natural gas fired boilers each rated at 3.05 MMBtu/hr heat input 5-2040 & 5-2041: Two (2) Raychak hot water heaters fired on natural gas and each rated 1.069 MMBtu/hr heat input 5 -2274 & 5-2275: Two (2) natural gas fired Riello Model AR 1500 boiler rated at 1.5 MMBtu/hr. 5-2276: One (1) natural gas fired Riello Model AR 4000 boiler rated at 4.0 MMBtu/hr. 5-2376: One (1) natural gas fired Riello Model AR 1000 boiler rated at 1.0 MMBtu/hr. 5-2375: One (1) natural gas fired Lochinvar Model PBN 2001 boiler rated at 2.0 MMBtu/hr.
2.1	**Applicable Standards/Limits:** A. Visible Emissions Limitations 1. COMAR 26.11.09.05A(2), Fuel Burning Equipment. “Areas III and IV. In Areas III and IV, a person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity.”

Table IV – 2

2. COMAR 26.11.09.05A(3), Exceptions. "Section A(1) and (2) of this regulation do not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if:
   a. The visible emissions are not greater than 40 percent opacity; and
   b. The visible emissions do not occur for more than 6 consecutive minutes in any sixty minute period.

B. Control of Nitrogen Oxides

1. COMAR 26.11.09.08B(5), Operator Training.
   a. For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.
   b. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department.

2. COMAR 26.11.09.08F - Requirements for Space Heaters.
   a. A person who owns or operates a space heater as defined in Regulation .01B of this chapter shall:
      i. Submit to the Department a list of each affected installation on the premises and the types of fuel used in each installation;
      ii. Develop an operating and maintenance plan to minimize NO_X emissions based on the recommendations of equipment vendors and other information including the source's operating and maintenance experience;
      iii. Implement the operating and maintenance plan and maintain the plan at the premises for review upon request by the Department;
      iv. Require installation operators to attend in-State operator training programs once every 3 years on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and
      v. Prepare and maintain a record of training program attendance for each operator at the site and make these records available to the Department upon request.
   b. A person who owns or operates an installation that no longer qualifies as a space heater shall inform the Department not

Table IV – 2	
	later than 60 days after the date when the fuel-burning equipment did not qualify, and shall meet the applicable fuel-burning equipment RACT requirement in this regulation. C. Operational Limits The Permittee shall burn natural gas only in the boilers unless the Permittee applies for and obtains a Permit to Construct from the Department to burn an alternate fuel. **[Reference: COMAR 26.11.02.09A]**
2.2	**Testing Requirements:** A. Control of Visible Emissions See Monitoring Requirements. B. Control of Nitrogen Oxides See Monitoring Requirements. C. Operational Limits See Record Keeping Requirements.
2.3	**Monitoring Requirements:** A. Control of Visible Emissions The Permittee shall properly operate and maintain the boilers in a manner to prevent visible emissions. **[Reference: COMAR 26.11.03.06C]** B. Control of Nitrogen Oxides The Permittee shall develop and implement an operating and maintenance plan as recommended by the equipment vendor to minimize NO_X emissions. **[Reference: COMAR 26.11.09.08F(1)]** *Note: COMAR 26.11.09.08B(5)(a) states that "for the purpose of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation."*

Table IV – 2	
	C. Operational Limits See Record Keeping Requirements.
2.4	**Record Keeping Requirements:** All records must be maintained for a period of 5 years. **[Reference: COMAR 26.11.03.06.C (5)(g)]** A. Control of Visible Emissions The Permittee shall maintain an operations manual and preventive maintenance plan. The Permittee shall maintain a log of maintenance performed that relates to combustion performance. **[Reference: COMAR 26.11.03.06C]** B. Control of Nitrogen Oxides The Permittee shall maintain: a. Records of maintenance performed that relates to combustion performance in keeping with the requirements of an operations and maintenance plan. **[Reference: COMAR 26.11.09.08F(1)(c)]** b. Record of training program attendance for each operator. **[Reference: COMAR 26.11.09.08F(1)(e)]** c. An operations manual and preventive maintenance plan. **[Reference: COMAR 26.11.09.08F(1)(b)]** d. Records of fuel use that demonstrate that the boiler meets the definition of a space heater. **[Reference: COMAR 26.11.09.08K(3) and COMAR 26.11.03.06C]** C. Operational Limits The Permittee shall maintain records of the quantity and types of fuel burned. **[Reference: COMAR 26.11.02.19C(1)(c)]**
2.5	**Reporting Requirements:** A. Control of Visible Emissions

Table IV – 2	
	The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III, Plant Wide Conditions, "Report of Excess Emissions and Deviations". **[Reference: COMAR 26.11.03.06C]** B. Control of Nitrogen Oxides The Permittee shall submit: a record of training program attendance for each operator to the Department upon request. **[Reference: COMAR 26.11.09.08F(1)(e)]** C. Operational Limits The Permittee shall submit a record of the quantity of each type of fuel burned with the annual emission certification report that is due April 1 of each year. **[Reference: COMAR 26.11.02.19C(2)]**

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

Table IV – 3	
3.0	**Emissions Unit Number(s) – NSPS Boilers** 5-1728 & 5- 1729: Two (2) Cleaver Brooks natural gas fired boilers each rated at 10.206 MMBtu/hr with diesel as backup equipped with low NO_X burners and flue gas recirculation. 5-1867 & 5-1868: Two (2) HB Smith natural gas-fired hot water boilers each rated at 17.6 MMBtu/hr. 5-2206: One (1) Cleaver Brooks CBEX Elite Boiler natural gas boiler rated at 12.5 MMBtu/hr.
3.1	**Applicable Standards/Limits:** A. Control of Visible Emissions 1. COMAR 26.11.09.05A(2), Fuel Burning Equipment. "Areas III and IV. In Areas III and IV, a person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human

Table IV – 3

observers except that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity."

2. COMAR 26.11.09.05A(3), Exceptions. "Section A(1) and (2) of this regulation do not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if:
   a. The visible emissions are not greater than 40 percent opacity; and
   b. The visible emissions do not occur for more than 6 consecutive minutes in any sixty minute period.

B. Control of Nitrogen Oxides

1. COMAR 26.11.09.08B(5), Operator Training.
   a. For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.
   b. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department.

2. COMAR 26.11.09.08E, Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of 100 MMBtu/hr or Less. A person who owns or operates fuel-burning equipment with a rated heat input capacity of 100 MMBtu/hr or less shall:
   a. Submit to the Department an identification of each affected installation, the rated heat input capacity of each installation, and the type of fuel burned in each;
   b. Perform a combustion analysis for each installation at least once each year and optimize combustion based on the analysis;
   c. Maintain the results of the combustion analysis at the site for at least 2 years and make this data available to the Department and the EPA upon request;
   d. Once every 3 years, require each operator of the installation to attend operator training programs on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and

Table IV – 3	
	e. Prepare and maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request. ***Condition C applies to ARA Registration Nos. 510-0077-5-1728 and 5-1729 only.*** C. Control of Sulfur Oxides COMAR 26.11.09.07A(2) - Sulfur Content Limitations for Fuel. "A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas III and IV: (b) Distillate fuel oils, 0.3 percent." ***Note:*** *This condition only applies when these boilers are firing No. 2 fuel oil.* D. Operational Limitations 1. The Permittee shall burn only natural gas in the two HB Smith and one Cleaver Brooks CBEX boilers (ARA Registration Nos. 510-0077-5-1867, 5-1867, and 5-2206) unless the Permittee applies for and obtains an approval from the Department to burn an alternate fuel. **[Reference: COMAR 26.11.02.09A]** 2. The Permittee shall burn gaseous fuel in the two Cleaver Brooks boilers (ARA Registration Nos. 510-0077-5-1867 and 5-1868) not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year. **[Reference: 40 CFR §63.11237]**
3.2	**Testing Requirements:** A. Control of Visible Emissions See Monitoring Requirements. B. Control of Nitrogen Oxides

Table IV – 3	
	The Permittee shall perform a combustion analysis once a year. **[Reference: COMAR 26.11.09.08E(2)]** C. Control of Sulfur Oxides See Monitoring Requirements. D. Operational Limitations See Record Keeping Requirements.
3.3	**Monitoring Requirements:** A. Control of Visible Emissions The Permittee shall properly operate and maintain the boilers in a manner to prevent visible emissions. **[Reference: COMAR 26.11.03.06C]** B. Control of Nitrogen Oxides The Permittee shall optimize combustion based on the annual combustion analysis. **[Reference: COMAR 26.11.09.08E(2)]** C. Control of Sulfur Oxides The Permittee shall obtain a certification from the fuel supplier indicating that the oil complies with the limitation on the sulfur content of the fuel oil. **[Reference: COMAR 26.11.03.06C]** D. Operational Limitations See Record Keeping Requirements.
3.4	**Record Keeping Requirements:** All records must be maintained for a period of 5 years. **[Reference: COMAR 26.11.03.06.C (5)(g)]** A. Control of Visible Emissions

Table IV – 3	
	The Permittee shall maintain an operations manual and preventive maintenance plan. The Permittee shall maintain a log of maintenance performed that relates to combustion performance. **[Reference: COMAR 26.11.03.06C]** B. Control of Nitrogen Oxides The Permittee shall maintain: a. Records of the results of the annual combustion analysis on site. b. Record of training program attendance for each operator at the site. **[Reference: COMAR 26.11.09.08E(5)]** C. Control of Sulfur Oxides The Permittee shall maintain records of fuel supplier's certification and shall make records available to the Department upon request. **[Reference: COMAR 26.11.03.06C]** D. Operational Limitations 1. The Permittee may elect to record and maintain records of the amount of each fuel combusted during each calendar month as an alternative to the fuel certification in 40 CFR §60.48c(f) to demonstrate compliance with the SO_2 standard. **[Reference: 40 CFR §60.48c(g)(2)]** 2. The Permittee shall maintain records of the quantity and types of fuel burned in each boiler. **[Reference: COMAR 26.11.02.19C(1)(c)]**
3.5	**Reporting Requirements:** A. Control of Visible Emissions The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III, Plant Wide Conditions, "Report of Excess Emissions and Deviations". **[Reference: COMAR 26.11.03.06C]** B. Control of Nitrogen Oxides

Table IV – 3	
	The Permittee shall submit: a. The results of combustion analysis to the department and the EPA upon request. **[Reference: COMAR 26.11.09.08E(3)]** b. A record of training program attendance for each operator to the Department upon request. **[Reference: COMAR 26.11.09.08E(5)]** C. Control of Sulfur Oxides The Permittee shall report fuel supplier certification to the Department upon request. **[Reference: COMAR 26.11.09.07C]** D. Operational Limitations 1. The Permittee shall submit all reports to the Administrator and all reports shall be postmarked by the 30th day following the end of the reporting period. The reporting period for the reports required under 40 CFR Part 60, Subpart Dc is each six-month period. **[Reference: 40 CFR §60.48c(j)]** 2. The Permittee shall submit records of the quantity and type of fuels burned with the annual emissions certification report. See permit condition 8 of Section III.

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

Table IV – 4	
4.0	**Emissions Unit Number(s): Boilers rated less than 10 MMBtu/hr** 5-2026 & 5-2027: One (1) Teledyne-Laars natural gas-fired boiler rated at 1.2 MMBtu/hr heat input 5-2028 & 5-2029: Two (2) Teledyne-Laars natural gas-fired hot water heaters each rated at 1.43 MMBtu/hr heat input 5-2030: One (1) Teledyne-Laars natural gas-fired hot water heaters rated at 1.2 MMBtu/hr heat input

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	5-2033 & 5-2034: Two (2) Jarco natural gas-fired hot water heaters each rated at 1.4 MMBtu/hr heat input. 5-2173: One (1) Tecogen/CM75 natural gas-fired boiler rated at 1.0 MMBtu/hr heat input.
4.1	**Applicable Standards/Limits:** A. Control of Visible Emissions 1. COMAR 26.11.09.05A(2), Fuel Burning Equipment. "Areas III and IV. In Areas III and IV, a person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity." 2. COMAR 26.11.09.05A(3), Exceptions. "Section A(1) and (2) of this regulation do not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if: a. The visible emissions are not greater than 40 percent opacity; and b. The visible emissions do not occur for more than 6 consecutive minutes in any sixty minute period. B. Control of Nitrogen Oxides 1. COMAR 26.11.09.08B(5), Operator Training. a. For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation. b. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department. 2. COMAR 26.11.09.08E, Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of 100 MMBtu/hr or Less. A person who owns or operates fuel-burning equipment with a rated heat input capacity of 100 MMBtu/hr or less shall:

Table IV – 4	
	a. Submit to the Department an identification of each affected installation, the rated heat input capacity of each installation, and the type of fuel burned in each; b. Perform a combustion analysis for each installation at least once each year and optimize combustion based on the analysis; c. Maintain the results of the combustion analysis at the site for at least 2 years and make this data available to the Department and the EPA upon request; d. Once every 3 years, require each operator of the installation to attend operator training programs on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and e. Prepare and maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request. C. Operational Limits The Permittee shall burn natural gas only in the boilers unless the Permittee applies for and obtains an approval from the Department to burn an alternate fuel. **[Reference: COMAR 26.11.02.09A]**
4.2	**Testing Requirements:** A. Control of Visible Emissions See Monitoring Requirements. B. Control of Nitrogen Oxides The Permittee shall perform a combustion analysis once a year. **[Reference: COMAR 26.11.09.08E(2)]** C. Operational Limits See Record Keeping Requirements.
4.3	**Monitoring Requirements:** A. Control of Visible Emissions

Table IV – 4	
	The Permittee shall properly operate and maintain the boilers in a manner to prevent visible emissions. **[Reference: COMAR 26.11.03.06C]** B. Control of Nitrogen Oxides The Permittee shall optimize combustion based on the annual combustion analysis. **[Reference: COMAR 26.11.09.08E(2)]** C. Operational Limits See Record Keeping Requirements.
4.4	**Record Keeping Requirements:** All records must be maintained for a period of 5 years. **[Reference: COMAR 26.11.03.06.C (5)(g)]** A. Control of Visible Emissions The Permittee shall maintain an operations manual and preventive maintenance plan. The Permittee shall maintain a log of maintenance performed that relates to combustion performance. **[Reference: COMAR 26.11.03.06C]** B. Control of Nitrogen Oxides The Permittee shall maintain: a. Records of the results of the annual combustion analysis on site. b. Record of training program attendance for each operator at the site. **[Reference: COMAR 26.11.09.08E(5)]** C. Operational Limits The Permittee shall maintain records of the quantity and types of fuel burned. **[Reference: COMAR 26.11.02.19C(1)(c)]**
4.5	**Reporting Requirements:** A. Control of Visible Emissions

Table IV – 4	
	The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III, Plant Wide Conditions, "Report of Excess Emissions and Deviations". **[Reference: COMAR 26.11.03.06C]** B. Control of Nitrogen Oxides The Permittee shall submit: a. The results of combustion analysis to the department and the EPA upon request. **[Reference: COMAR 26.11.09.08E(3)]** b. A record of training program attendance for each operator to the Department upon request. **[Reference: COMAR 26.11.09.08E(5)]** C. Operational Limits The Permittee shall submit records of the quantity and type of fuels burned with the annual emissions certification report. See permit condition 8 of Section III.

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

Table IV – 5	
5.0	**Emissions Unit Number(s): Emergency generator exempt from NSPS** 9-1179: One (1) diesel fired emergency generator rated at 650 kW 9-1380: One (1) diesel fired Detroit Diesel emergency generator rated at 685 horsepower. 9-1381: One (1) diesel fired Kohler emergency generators rated at 685 horsepower
5.1	**Applicable Standards/Limits:** A. Control of Visible Emissions 1. **COMAR 26.11.09.05E(2)**, Emissions During Idle Mode. "A person may not cause or permit the discharge of emissions

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from any engine, operating at idle, greater than 10 percent opacity."

2. **COMAR 26.11.09.05E(3)**, Emissions During Operating Mode. "A person may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity."

3. **COMAR 26.11.09.05E(4)**, Exceptions.
   a. "Section E(2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.
   b. Section E(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:
      i. Engines that are idled continuously when not in service: 30 minutes;
      ii. All other engines: 15 minutes.
   c. Section E(2) and (3) does not apply while maintenance, repair, or testing is being performed by qualified mechanics."

B. Control of Sulfur Oxides

COMAR 26.11.09.07A(2), Sulfur Content Limitations for Fuel.
"A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas III and IV: (b) Distillate fuel oils, 0.3 percent."

C. Control of Nitrogen Oxides

1. **COMAR 26.11.09.08B(5)** - Operator Training.
   a. For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.
   b. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department.

2. **COMAR 26.11.09.08G** – Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less.

Table IV – 5

a. A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less shall:
   i. Provide certification of the capacity factor of the equipment to the Department in writing;
   ii. For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually;
   iii. Maintain the results of the combustion analysis at the site for at least 2 years and make these results available to the Department and the EPA upon request;
   iv. Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and
   v. Maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request.

D. Operational Limits

1. The Permittee shall use diesel fuel only in the emergency generator unless the Permittee applies for and obtain approval from the Department to burn an alternate fuel. **[Reference: COMAR 26.11.02.09A]**

2. The Permittee must operate emergency stationary RICE according to the requirements in the paragraphs of this section. In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year is prohibited. If you do not operate the engine according to the requirements in the paragraphs of this section, the engine will not be considered an emergency engine under 40 CFR Part 63 Subpart ZZZZ and must meet all requirements for non-emergency engines.

   a. There is no limit on emergency operation of the engine.

   b. The Permittee may operate the emergency engines for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the

Table IV – 5	
	regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine for a maximum of 100 hours per calendar year. c. The Permittee may operate the emergency engine for up to 50 hours per year in non-emergency situations, but those 50 hours are counted toward the 100 hours per year provided for the maintenance and testing and emergency response. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. **[Reference: 40 CFR §63.6640(f)(1), (2), and (4)]**
5.2	**Testing Requirements:** A. Control of Visible Emissions See Monitoring Requirements. B. Control of Sulfur Oxides See Monitoring Requirements. C. Control of Nitrogen Oxides The Permittee shall perform a combustion analysis and optimize combustion at least once annually for any of the engines that operates more than 500 hours during a calendar year. [**Reference: COMAR 26.11.09.08G(1)(b)]** D. Operational Limits See Monitoring Requirements.
5.3	**Monitoring Requirements:** A. Control of Visible Emissions

Table IV – 5	
	The Permittee shall properly operate and maintain the engine in a manner to minimize visible emissions. **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall obtain a certification from the fuel supplier indicating that the fuel oil complies with the limitation on sulfur content of the fuel oil. **[Reference: COMAR 26.11.03.06C]** C. Control of Nitrogen Oxides For engines that operate more than 500 hours during a calendar year, the Permittee shall perform a combustion analysis and optimize combustion. **[Reference: COMAR 26.11.03.06C]**. D. Operational Limits The Permittee shall monitor fuel usage for the generator. **[Reference: COMAR 26.11.03.06C]**
5.4	**Record Keeping Requirements:** All records must be maintained for a period of 5 years. **[Reference: COMAR 26.11.03.06.C (5)(g)]** A. Control of Visible Emissions The Permittee shall retain records of preventive maintenance on site for at least five years and make these records available to the Department upon request. **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall retain annual fuel supplier certifications stating that the fuel oil is in compliance with this regulation must be maintained for at least 5 years. **[Reference: COMAR 26.11.09.07C]** C. Control of Nitrogen Oxides The Permittee shall: a. Maintain the results of the combustion analysis at the site for at least 5 years and make these results available to the Department

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	and the EPA upon request. [**Reference: COMAR 26.11.09.08G(1)(c) & COMAR 26.11.03.06C].** b. Retain records of training program attendance for each operator at the site for at least 5 years and make these records available to the Department upon request. **[Reference: COMAR 26.11.09.08G(1)(e) and COMAR 26.11.03.06C].** D. Operational Limits 1. The Permittee shall maintain a log for the emergency generator indicating the amount of fuel oil combusted, the hours of operation and the reason for generator operation. **[Reference: COMAR 26.11.03.06C].** 2. The Permittee shall maintain on site for the life of the source the following records for the emergency diesel generator(s): a. Documentation of the manufacture date of the diesel engine, if manufactured prior to April 1, 2006 and the manufacturer model year of the diesel engine; and b. The installation date of the emergency diesel generator. **[Reference: COMAR 26.11.03.06C]**
5.5	**Reporting Requirements:** A. Control of Visible Emissions The Permittee shall report incidents of visible emissions in accordance with Permit Condition 4,Section III, Plant Wide Condition, “Report of Excess Emissions and Deviations” **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall report annual fuel supplier certification to the Department upon request. **[Reference: COMAR 26.11.09.07C]** C. Control of Nitrogen Oxides 1. The Permittee shall provide certification of the capacity factor of the equipment to the Department in writing as part of the April 1 certification report. **[Reference: COMAR 26.11.09.08G(1)(a) & COMAR 26.11.03.06C]**

Table IV – 5	
	2. The Permittee shall submit a list of trained operators to the Department upon request. **[Reference: COMAR 26.11.09.08G(e) and COMAR 26.11.03.06C]** D. Operational Limits The Permittee shall send a copy of the log for the emergency generator indicating the amount of fuel oil combusted, the hours of operation and the reason for generator operation to the Department in the annual emission certification report due on April 1 of each year. [**Reference: COMAR 26.11.03.06C]**

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

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6.0	**Emissions Unit Number(s): NSPS emergency generators** 9-1282: One (1) Kohler diesel fired emergency generator rated at 1000 kW. 9-1379: One (1) diesel fired Detroit Diesel, Series 60 emergency generator rated at 543 horsepower. (Manufacture Date: 9/2006) 9-1382: One (1) diesel fired Cummins, model QSX15-G9 emergency generator rated at 755 horsepower. (Manufacture Date: 5/2011)
6.1	**Applicable Standards/Limits:** A. Control of Visible Emissions 1. **COMAR 26.11.09.05E(2)**, Emissions During Idle Mode. "A person may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity." 2. **COMAR 26.11.09.05E(3)**, Emissions During Operating Mode. "A person may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity." 3. **COMAR 26.11.09.05E(4)**, Exceptions.

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a. "Section E(2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.
b. Section E(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:
   i. Engines that are idled continuously when not in service: 30 minutes;
   ii. All other engines: 15 minutes.
c. Section E(2) and (3) does not apply while maintenance, repair, or testing is being performed by qualified mechanics."

B. Control of Sulfur Oxides

COMAR 26.11.09.07A(2), Sulfur Content Limitations for Fuel.
"A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas III and IV: (b) Distillate fuel oils, 0.3 percent."

Note: *Installations subject to 40 CFR Part 60 Subpart IIII must comply with the diesel fuel standards of §60.4207 which limits the maximum sulfur content of fuel to 15 ppm.*

C. Control of Nitrogen Oxides

1. **COMAR 26.11.09.08B(5)**, Operator Training.
   a. For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.
   b. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department.

2. **COMAR 26.11.09.08G**, Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less.
   a. A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less shall:
      i. Provide certification of the capacity factor of the equipment to the Department in writing;

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ii. For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually;
iii. Maintain the results of the combustion analysis at the site for at least 2 years and make these results available to the Department and the EPA upon request;
iv. Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and
v. Maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request.

D. Operational Limits

1. The Permittee shall use diesel fuel only in the emergency generator unless the Permittee applies for and obtains a Permit to Construct from the Department to burn alternate fuel. **[Reference: COMAR 26.11.02.09A]**

2. The Permittee must operate and maintain the generators in a manner that achieve the emissions standards over the entire life of the engine. **[Reference: 40 CFR §60.4206]**

3. The Permittee must meet the non-road diesel fuel sulfur requirements of 40 CFR §80.510(b) as follows:
   a. Maximum sulfur content 15 ppm and
   b. Minimum cetane index of 40; or
   c. Maximum aromatic content of 35 volume percent.
   [Reference: 40 CFR §60.4207(b) and 40 CFR §80.510(b)]

4. The Permittee must operate and maintain the stationary compression ignition internal combustion engines and control devices according to the manufacturer's emission related written instruction. **[Reference: 40 CFR §60.4211(a)(1)]**

5. The Permittee may change only those emission related settings that are permitted by the manufacturer. **[Reference: 40 CFR §60.4211(a)(2)]**

Table IV – 6	
	6. The Permittee must purchase an engine certified to the emission standards in 40 CFR §60.4205(b). The engine must be installed and configured according to the manufacturer's emissions related specifications. **[Reference: 40 CFR §60.4211(c)]** 7. The Permittee must not exceed the following opacity emission standards: (a) 20 percent during the acceleration mode; (b) 15 percent during the lugging mode; and (c) 50 percent during the peaks in either the acceleration or lugging modes. **[Reference: 40 CFR §60.4205(b), §60.4202(a)(2), and §1039.105(b)]** ***Note:*** *Compliance with this condition will be demonstrated by the purchase of a certified engine and operating that engine as required under 40 CFR §60.4211(c).* 8. There is no time limit on the use of emergency stationary ICE (internal combustion engine) in emergency situations. **[Reference: 40 CFR §60.4211(f)(1)]** 9. The Permittee may operate the emergency stationary ICE for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine for a maximum of 100 hours per calendar year. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. **[Reference: 40 CFR §60.4211(f)(2)(i)]** 10. The Permittee may operate the emergency stationary ICE for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in the previous paragraph of this section. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income

Table IV – 6	
	for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. **[Reference: 40 CFR §60.4211(f)(3)]** ***Note**: Effective May 2, 2016, emergency generators are no longer allowed to participate in emergency demand response unless they meet the requirements of a non-emergency generator of the same model year. This engine does not meet the standards for a non-emergency generator, therefore, operation for demand response during periods of voltage deviation are no longer permitted.*
6.2	**Testing Requirements:** A. Control of Visible Emissions See Monitoring Requirements. B. Control of Sulfur Oxides See Monitoring Requirements. C. Control of Nitrogen Oxides The Permittee shall perform a combustion analysis and optimize combustion at least once annually for any of the engines that operates more than 500 hours during a calendar year. **[Reference: COMAR 26.11.09.08G(1)(b)]** D. Operational Limits See Monitoring Requirements.
6.3	**Monitoring Requirements:** A. Control of Visible Emissions The Permittee shall properly operate and maintain the engine in a manner to minimize visible emissions. **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides

Table IV – 6	
	The Permittee shall obtain a certification from the fuel supplier indicating that the fuel oil complies with the limitation on sulfur content of the fuel oil. **[Reference: COMAR 26.11.03.06C]** C. Control of Nitrogen Oxides 1. For engines that operate more than 500 hours during a calendar year, the Permittee shall perform a combustion analysis and optimize combustion. **[Reference: COMAR 26.11.03.06C]**. 2. The Permittee shall calculate the capacity factor of the engine within 30 days after the end of each month. **[Reference: COMAR 26.11.03.06C]** D. Operational Limits The Permittee shall monitor fuel usage for the generator. **[Reference: COMAR 26.11.03.06C]**
6.4	**Record Keeping Requirements:** All records must be maintained for a period of 5 years. **[Reference: COMAR 26.11.03.06.C (5)(g)]** A. Control of Visible Emissions The Permittee shall retain records of preventive maintenance on site for at least five years and make these records available to the Department upon request. **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall retain annual fuel supplier certifications stating that the fuel oil is in compliance with this regulation must be maintained for at least 5 years. **[Reference: COMAR 26.11.09.07C]** C. Control of Nitrogen Oxides 1. The Permittee shall maintain records of the results of the combustion analyses and any stack tests on site for at least five years and make

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	them available to the Department and EPA upon request. **[Reference: COMAR 26.11.09.08G(1)(c) & COMAR 26.11.03.06C]**. 2. The Permittee shall maintain a record of the calculated capacity factor. **[Reference: COMAR 26.11.09.08G(1)(c)].** 3. The Permittee shall maintain record of training program attendance for each operator on site for at least five years and make the records available to the Department upon request. **[Reference: COMAR 26.11.09.08G(e) & COMAR 26.11.03.06C]** D. Operational Limits 1. The Permittee shall maintain a log for the emergency generator indicating the amount of fuel oil combusted, the hours of operation and the reason for generator operation. **[Reference: COMAR 26.11.03.06C].** 2. The Permittee shall maintain on site for the life of the source the following records for the emergency diesel generator(s): a. Documentation of the manufacture date of the diesel engine, if manufactured prior to April 1, 2006 and the manufacturer model year of the diesel engine; b. The installation date of each emergency diesel generator; and c. The certifications of compliance or manufacturer engine test data required by 40 CFR §60.4211 and §60.4214(b). **[Reference: MDE Permit to Construct No. 510-0077-9-1282 issued June 21, 2013 and MDE Permit to Construct No. 510-0077-9-1378 & 1382 issued October 20, 2018]** 3. Permittee shall for each fuel delivery obtain from the fuel supplier a fuel supplier certification consisting of the name of the oil supplier, the date of delivery, the amount of fuel delivered, and a statement from the fuel supplier that the diesel fuel oil complies with the specifications of 40 CFR §80.510. The Permittee shall maintain the required records on site for at least five (5) years. **[Reference: MDE Permit to Construct No. 510-0077-9-1282 issued June 21, 2013 and MDE Permit to Construct No. 510-0077-9-1378 & 1382 issued October 20, 2018]**
6.5	**Reporting Requirements:**

Table IV – 6	
	A. Control of Visible Emissions The Permittee shall report incidents of visible emissions in accordance with Permit Condition 4,Section III, Plant Wide Condition, "Report of Excess Emissions and Deviations" **[Reference: COMAR 26.11.03.06C].** B. Control of Sulfur Oxides The Permittee shall report annual fuel supplier certification to the Department upon request. **[Reference: COMAR 26.11.09.07C]** C. Control of Nitrogen Oxides 1. The Permittee shall provide certification of the capacity factor of the equipment to the Department in writing as part of the April 1 certification report. **[Reference: COMAR 26.11.03.06C].** 2. The Permittee shall submit a list of trained operators to the Department upon request. **[Reference: COMAR 26.11.09.08G(e) and COMAR 26.11.03.06C]** D. Operational Limits The Permittee shall report a copy of the log for the emergency generator indicating the amount of fuel oil combusted, the hours of operation and the reason for generator operation to the Department in the annual emission certification report due on April 1 of each year. [**Reference: COMAR 26.11.03.06C]**

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

Table IV – 7	
7.0	**Emissions Unit Number(s): CHP and HRSG** 5-2067 – One (1) Combined Heat and Power (CHP) system consisting of 4.6 MW natural gas combustion turbine generator with Heat Recovery Steam Generator (HRSG). (510-0077-5-2067)
7.1	**Applicable Standards/Limits:**

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A. Control of Visible Emissions

1. COMAR 26.11.09.05A(2), Fuel Burning Equipment. "Areas III and IV. In Areas III and IV, a person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity."

2. COMAR 26.1.09.05A(3), Exceptions. "Section A(1) and (2) of this regulation do not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if:
   a. The visible emissions are not greater than 40 percent opacity; and
   b. The visible emissions do not occur for more than 6 consecutive minutes in any sixty minute period.

B. Control of Sulfur Oxides

1. The Permittee must not cause to be discharged into the atmosphere from the subject stationary combustion turbine any gases which contain SO_2 in excess of 110 nanograms per Joule (ng/J) (0.90 pounds per megawatt-hour (lb/MWh)) gross output. **[Reference: 40 CFR §60.4330(a)(1)]**

2. The Permittee must not burn in the subject stationary combustion turbine any fuel which contains total potential sulfur emissions in excess of 26 ng SO_2/J (0.060 lb SO_2/MMBtu) heat input. If your turbine simultaneously fires multiple fuels, each fuel must meet this requirement. **[Reference: 40 CFR §60.4330(a)(2)]**

C. Control of Nitrogen Oxides

1. COMAR 26.11.09.08B(5), Operator Training.
   a. For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.

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b. The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department.

2. COMAR 26.11.09.08E, Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of 100 MMBtu/hr or Less. A person who owns or operates fuel-burning equipment with a rated heat input capacity of 100 MMBtu/hr or less shall:
   a. Submit to the Department an identification of each affected installation, the rated heat input capacity of each installation, and the type of fuel burned in each;
   b. Perform a combustion analysis for each installation at least once each year and optimize combustion based on the analysis;
   c. Maintain the results of the combustion analysis at the site for at least 2 years and make this data available to the Department and the EPA upon request;
   d. Once every 3 years, require each operator of the installation to attend operator training programs on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and
   e. Prepare and maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request.

3. The Permittee may not cause to be discharged into the atmosphere from the stationary combustion turbine NOx emissions in excess of 25 ppm at 15 percent O2 or 150 ng/J of useful output (1.2 lb/MWh). **[Reference: 40 CFR §60.4320(a) and 40 CFR Part 60, Subpart KKKK Table 1]**

4. The Permittee must operate and maintain the stationary combustion turbine, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction. **[Reference: 40 CFR §60.4333(a)]**

D. Operational Limits

The CHP System comprised of a 4.6 MW combustion turbine (CT) driven generator equipped with a heat recovery steam generator shall

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	fire only natural gas unless the Permittee applies for and obtains a Permit to Construct from the Department to burn an alternate fuel. **[Reference: MDE Permit to Construct No.510-0077-5-2067 issued May 18, 2010 & COMAR 26.11.02.09A]**
7.2	**Testing Requirements:** A. Control of Visible Emissions See Monitoring Requirements. B. Control of Sulfur Oxides The Permittee shall conduct performance test for SO_X in accordance with the methodologies specified in 40 CFR §60.4415. **[Reference: 40 CFR §60.4415(a)]** C. Control of Nitrogen Oxides 1. The Permittee shall perform a combustion analysis once a year. **[Reference: COMAR 26.11.09.08E(2)]** 2. The Permittee must perform annual performance tests in accordance with §60.4400 to demonstrate continuous compliance. If the NO_X emission result from the performance test is less than or equal to 75 percent of the NO_X emission limit for the turbine, you may reduce the frequency of subsequent performance tests to once every 2 years (no more than 26 calendar months following the previous performance test). If the results of any subsequent performance test exceed 75 percent of the NO_X emission limit for the turbine, you must resume annual performance tests. **[Reference: 40 CFR §60.4340(a)]** 3. As an alternative to the annual performance testing required in 40 CFR §60.4340(a), the Permittee may install, calibrate, maintain and operate one of the following continuous monitoring systems: a. Continuous emission monitoring as described in §60.4335(b) and §60.4345, or b. Continuous parameter monitoring as follows: i. For a diffusion flame turbine without add-on selective catalytic reduction (SCR) controls, you must define parameters indicative of the unit's NO_X formation

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	characteristics, and you must monitor these parameters continuously. ii. For any lean premix stationary combustion turbine, you must continuously monitor the appropriate parameters to determine whether the unit is operating in low-NO_X mode. iii. For any turbine that uses SCR to reduce NO_X emissions, you must continuously monitor appropriate parameters to verify the proper operation of the emission controls. iv. For affected units that are also regulated under 40 CFR Part 75, with state approval you can monitor the NO_X emission rate using the methodology in appendix E to part 75 of chapter 40, or the low mass emissions methodology in 40 CFR §75.19, the requirements of this paragraph (b) may be met by performing the parametric monitoring described in Section 2.3 of part 75 appendix E or in 40 CFR §75.19(c)(1)(iv)(H). D. Operational Limits See Record Keeping Requirements.
7.3	**Monitoring Requirements:** A. Control of Visible Emissions The Permittee shall properly operate and maintain the CHP System in a manner to prevent visible emissions. **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides 1. The Permittee must monitor the total sulfur content of the fuel being fired in the turbine, except as provided in 40 CFR §60.4365. The sulfur content of the fuel must be determined using total sulfur methods described in 40 CFR §60.4415. Alternatively, if the total sulfur content of the gaseous fuel during the most recent performance test was less than half the applicable limit, ASTM D4084, D4810, D5504, or D6228, or Gas Processors Association Standard 2377 (all of which are incorporated by reference, see 40 CFR §60.17), which measure the major sulfur compounds, may be used. **[Reference: 40 CFR §60.4360]**

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2. The Permittee may elect not to monitor the total sulfur content of the fuel combusted in the turbine, if the fuel is demonstrated not to exceed potential sulfur emissions of 26 ng SO_2/J (0.060 lb SO_2/MMBtu) heat input for units located in continental areas and 180 ng SO_2/J (0.42 lb SO_2/MMBtu) heat input for units located in noncontinental areas or a continental area that the Administrator determines does not have access to natural gas and that the removal of sulfur compounds would cause more environmental harm than benefit. **[Reference: 40 CFR §60.4365]**

3. If the Permittee elects not to demonstrate sulfur content using options in 40 CFR §60.4365, and the fuel is supplied without intermediate bulk storage, the sulfur content value of the gaseous fuel must be determined and recorded once per unit operating day. **[Reference: 40 CFR §60.4370]**

C. Control of Nitrogen Oxides

1. The Permittee shall optimize combustion based on the annual combustion analysis. **[Reference: COMAR 26.11.09.08E(2)]**

2. The Permittee shall demonstrate continuous compliance with NO_X in accordance with 40 CFR §60.4340 as follows:
   a. If the Permittee is not using water or steam injection to control NO_X emissions, The Permittee must perform annual performance tests in accordance with 40 CFR §60.4400 to demonstrate continuous compliance. If the NO_X emission result from the performance test is less than or equal to 75 percent of the NO_X emission limit for the turbine, The Permittee may reduce the frequency of subsequent performance tests to once every 2 years (no more than 26 calendar months following the previous performance test). If the results of any subsequent performance test exceed 75 percent of the NO_X emission limit for the turbine, The Permittee must resume annual performance tests.
   b. As an alternative, you may install, calibrate, maintain and operate one of the following continuous monitoring systems:
      i. Continuous emission monitoring as described in 40 CFR §60.4335(b) and 40 CFR §60.4345, or

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	ii. For a diffusion flame turbine without add-on selective catalytic reduction (SCR) controls, the Permittee must define parameters indicative of the unit's NO_X formation characteristics, and you must monitor these parameters continuously. 3. The Permittee shall establish and document an appropriate parametric monitoring plan in accordance with 40 CFR §60.4355. The plan shall include, but not be limited to: a. Selection of indicators to be monitored, b. Ranges of indicators, c. Process used to obtain representative data, d. Quality assurance, e. Frequency of monitoring, and f. Justification for the proposed elements of monitoring. **[Reference 40 CFR §60.4355]** D. Operational Limits See Record Keeping Requirements.
7.4	**Record Keeping Requirements:** All records must be maintained for a period of 5 years. **[Reference: COMAR 26.11.03.06.C (5)(g)]** A. Control of Visible Emissions The Permittee shall maintain an operations manual and preventive maintenance plan. The Permittee shall maintain a log of maintenance performed that relates to combustion performance. **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall maintain records and results of fuel sulfur content monitoring and make them available to the Department upon request. **[Reference: MDE Permit to Construct No. 510-0077-5-2067 issued May 18, 2010]** C. Control of Nitrogen Oxides

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	1. The Permittee shall maintain: a. Records of the results of the annual combustion analysis on site. **[Reference: COMAR 26.11.09.08E(5)]** b. Record of training program attendance for each operator at the site. **[Reference: COMAR 26.11.09.08E(5)]** 2. The Permittee shall maintain: a. Records and results of any tests performed in compliance with the NO_X emission standards as required under 40 CFR §60.8 and 40 CFR 60, Subpart KKKK. b. Parametric monitoring plan in accordance with §60.4355 and submit a copy of the plan to the Department upon completion. **[Reference: MDE Permit to Construct No. 510-0077-5-2067 issued May 18, 2010]** D. Operational Limits 1. The Permittee shall maintain records of the quantity and types of fuel burned. **[Reference: COMAR 26.11.02.19C(1)(c)]** 2. The Permittee shall maintain logs of visible emissions observations performed during the annual stack test or at any other time and make available to the Department upon request. **[Reference: MDE Permit to Construct No. 510-0077-5-2067 issued May 18, 2010 & COMAR 26.11.03.06C]**
7.5	**Reporting Requirements:** A. Control of Visible Emissions The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III, Plant Wide Conditions, “Report of Excess Emissions and Deviations”. **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee must submit reports of excess emissions and monitor downtime, in accordance with §60.7(c). Excess emissions must be reported for all periods of unit operation, including start-up, shutdown, and malfunction. All reports required under §60.7(c) must be postmarked by the 30th day

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	following the end of each 6-month period. **[Reference: 40 CFR §60.4375 and §60.4395]** C. Control of Nitrogen Oxides 1. The Permittee shall submit: a. The results of combustion analysis to the department and the EPA upon request. **[Reference: COMAR 26.11.09.08E(3)]** b. (2) A record of training program attendance for each operator to the Department upon request. **[Reference: COMAR 26.11.09.08E(5)]** 2. The Permittee must submit a written report of the results of each performance test before the close of business on the 60th day following the completion of the performance test. **[Reference: 40 CFR §60.4375]** 3. All reports required under §60.7(c) must be postmarked by the 30th day following the end of each 6-month period. **[40 CFR §60.4395]** D. Operational Limits The Permittee shall submit records of the quantity and type of fuels burned with the annual emissions certification report. See permit condition 8 of Section III.

"A permit shield shall cover the applicable requirements identified for the emissions unit(s) listed in the table above."

SECTION V INSIGNIFICANT ACTIVITIES

This section provides a list of insignificant emissions units that were reported in the Title V permit application. The applicable Clean Air Act requirements, if any, are listed below the insignificant activity.

(1) No. 21 Fuel burning equipment using gaseous fuels or no. 1 or no. 2 fuel oil, and having a heat input less than 1,000,000 Btu (1.06 gigajoules) per hour;

The affected fuel burning units are subject to the following requirements:

COMAR 26.11.09.05A(2), which establishes that the Permittee may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity.

Exceptions: COMAR 26.11.09.05A(3) does not apply to emissions during load changing, soot blowing, start-up, or adjustments or occasional cleaning of control equipment if:

(a) The visible emissions are not greater than 40 percent opacity; and

(b) The visible emissions do not occur for more than 6 consecutive minutes in any sixty minute period.

COMAR 26.11.09.07A(2)(b), which establishes that the Permittee may not burn, sell, or make available for sale any distillate fuel with a sulfur content by weight in excess of 0.3 percent.

(2) No. 18 Stationary internal combustion engines with an output less than 500 brake horsepower (373 kilowatts) and which are not used to generate electricity for sale or for peak or load shaving;

The engines are subject to the following requirements:

(A) COMAR 26.11.09.05E(2), Emissions During Idle Mode: The Permittee may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity.

(B) COMAR 26.11.09.05E(3), Emissions During Operating Mode: The Permittee may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity.

(C) Exceptions:

(i) COMAR 26.11.09.05E(2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.

(ii) COMAR 26.11.09.05E(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:

(a) Engines that are idled continuously when not in service: 30 minutes
(b) all other engines: 15 minutes.

(iii) COMAR 26.11.09.05E(2) & (3) do not apply while maintenance, repair or testing is being performed by qualified mechanics.

(3) ✓ Commercial bakery ovens with a rated heat input capacity of less than 2,000,000 Btu per hour;

(4) ✓ Confection cookers where the products are edible and intended for human consumption;

(5) ✓ Photographic process equipment used to reproduce an image upon sensitized material through the use of radiant energy;

(6) ✓ Equipment for drilling, carving, cutting, routing, turning, sawing, planing, spindle sanding, or disc sanding of wood or wood products;

(7) Containers, reservoirs, or tanks used exclusively for:

(a) No. 24 Storage of Numbers 1, 2, 4, 5, and 6 fuel oil and aviation jet engine fuel;

(b) No. 1 Storage of motor vehicle gasoline and having individual tank capacities of 2,000 gallons (7.6 cubic meters) or less;

(8) ✓ Charbroilers and pit barbecues as defined in COMAR 26.11.18.01 with a total cooking area of 5 square feet (0.46 square meter) or less;

(9) ✓ Potable water treatment equipment, not including air stripping equipment;

(10) ✓ Comfort air conditioning subject to requirements of Title VI of the Clean Air Act;

(11) ✓ Laboratory fume hoods and vents;

SECTION VI STATE-ONLY ENFORCEABLE CONDITIONS

The Permittee is subject to the following State-only enforceable requirements:

1. Applicable Regulations:

   (A) **COMAR 26.11.06.08** – Nuisance. An installation or premises may not be operated or maintained in such a manner that nuisance or air pollution is created. Nothing in this regulation relating to the control of emissions may in any manner be consumed as authorizing or permitting the creation of, or maintenance of, nuisance or air pollution."

   (B) **COMAR 26.11.06.09** - Odors. "A person may not cause or permit the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created."

2. Record Keeping and Reporting:

   The Permittee shall submit to the Department, by April 1 of each year during the term of this permit, a written certification of the results of an analysis of emissions of toxic air pollutants from the Permittee's facility during the previous calendar year. The analysis shall include either:

   (a) a statement that previously submitted compliance demonstrations for emissions of toxic air pollutants remain valid; or

   (b) a revised compliance demonstration, developed in accordance with requirements included under COMAR 26.11.15 & 16, that accounts for changes in operations, analytical methods, emissions determinations, or other factors that have invalidated previous demonstrations.

August 25, 2023

Suna Yi Sariscak
Program Manager
Air Quality Permits Program
Air and Radiation Administration
Maryland Department of the Environment
1800 Washington Boulevard, Suite 720
Baltimore, Maryland 21230-1720

Subject: Johns Hopkins University – Homewood Campus
Title V – Part 70 Operating Permit 24-510-0077 Renewal Application

Dear Ms. Sariscak:

Johns Hopkins University – Homewood Campus (JHU) was issued Title V - Part 70 Permit 24-510-0077 by the Department. The expiration date of the current permit is August 31, 2024. Application for renewal of this permit must be submitted no less than twelve months prior to the expiration date, or by August 31, 2023. Pursuant to this timely submission, JHU is requesting an application shield.

JHU is submitting two (2) hardcopies and one (1) electronic copy via email, of a complete renewal application for Part 70 - Permit 24-510-0077. This application was prepared in accordance with the most recent Title V Permit renewal instructions issued by MDE (in October 2017) and has been signed by a Responsible Official for JHU. This application contains no confidential information. JHU requests confirmation that this application is administratively complete within 60 days of receipt.

Off-permit changes to emissions sources during the current permit period include the installation of two (2) new boilers: one (1) 2021 1.0 MMBtu/hr Riello SpA AR 1000 Natural Gas Boiler installed in January 2022 and one (1) 2022 2.0 MMBtu/hr Lochinvar PBN 2001 Natural Gas Boiler installed in February 2022. JHU requests that these two boilers be permitted as a part of this application due to an oversight during the installation process. Appendix F includes a Request for Coverage for each boiler.

If you have any questions concerning this application, please contact me at (443) 997-7574.

Sincerely,

Jay Murphy
Senior Director, Facility Operations
Johns Hopkins University

Enclosures

TITLE V RENEWAL APPLICATION
Johns Hopkins University, Homewood Campus
Baltimore, Maryland

Prepared by

EA Engineering, Science, and Technology, Inc., PBC
225 Schilling Circle, Suite 400
Hunt Valley, Maryland 21031
(410) 584-7000

August 2023
Version: FINAL
EA Project No. 66382003

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1. Introduction

The Johns Hopkins University (JHU) operates multiple permitted emission units at its Homewood Campus in Baltimore, Maryland (Homewood Campus). The Homewood Campus is a Title V facility that operates under Part 70 Operating Permit No. 24-510-0077, issued by the Maryland Department of the Environment (MDE or Department), which expires on August 31, 2024. JHU is submitting this Title V - Part 70 Operating Permit renewal application at least twelve (12) months in advance, per MDE requirements.

This application package consists of the following parts:

1. An application narrative which includes descriptions of the emission units at the Homewood Campus, a review of the applicability of federal and state air pollution regulations, and documentation of the methodology used to calculate changes to the facility's emissions inventory.

2. Appendices containing the following information:

    - MDE Part 70 Permit Application for Renewal
    - MDE Checkoff List of Emissions Units and Activities Exempt from the Part 70 Permit Application
    - Process Flow Diagram for Two Added Boilers
    - MDE Application Completeness Checklist
    - Request for Coverage for 1.0 MMBtu Riello Boiler and 2.0 MMBtu Lochinvar Boiler
    - Annual Compliance Certification Report for Johns Hopkins University – Homewood Campus – 2022
    - Annual Emissions Certification Report for Johns Hopkins University – Homewood Campus – 2022

Table 1-1 Summary of Emission Units and Proposed Changes

Registration No.	Description	Proposed Changes
5-0763	One (1) Keeler Boiler #1 - 98 MMBtu/hr Input Natural Gas fired Boiler	None
5-0533	One (1) Babcock & Wilcox Boiler #2 - 62 MMBtu/hr Input Natural Gas fired Boiler	None
5-0534	One (1) Babcock & Wilcox Boiler #3 - 62 MMBtu/hr Input Natural Gas fired Boiler	None
5-0535	One (1) Babcock & Wilcox Boiler #4 - 62 MMBtu/hr Input Natural Gas fired Boiler	None
5-0964 & 5-0965	Two (2) HB Smith Hot Water Boilers - 1.6 MMBtu/hr Input (each) Natural Gas Boilers	None
5-2040 &5-2041	Two (2) RayPak Hot Water Heaters - 1.069 MMBtu/hr Input (each) Natural Gas Hot Water Heaters	None
5-2024 & 5-2025	Two (2) Peerless Boilers - 2.1 MMBtu/hr Input (each) Natural Gas Boilers	None
5-2026 & 5-2027	Two (2) Teledyne-Laars Boilers - 1.2 MMBtu/hr Input (each) Natural Gas Boilers	None
5-2028 & 5-2029	Two (2) Teledyne-Laars Hot Water Heaters - 1.43 MMBtu/hr Input (each) Natural Gas Hot Water Heaters	None
5-2030	One (1) Teledyne-Laars Hot Water Heater - 1.2 MMBtu/hr Input Natural Gas Hot Water Heater	None
5-2031 & 5-2032	Two (2) Teledyne-Laars Boilers - 1.67 MMBtu/hr Input (each) Natural Gas Boilers	None
5-2033 & 5-2034	Two (2) Jarco Hot Water Heaters - 1.4 MMBtu/hr Input (each) Natural Gas Hot Water Heaters	None
5-2035 & 5-2036	Two (2) Teledyne-Laars Boilers - 3.05 MMBtu/hr Input (each) Natural Gas Boilers	None
5-1728 & 5-1729	Two (2) Cleaver Brooks Boilers equipped with low NOx burners and flue gas recirculation 10.206 MMBtu/hr Input (each) Natural Gas Boilers	None
5-1867 & 5-1868	Two (2) HB Smith Hot Water Boilers - 17.6 MMBtu/ None hr Input (each) Natural Gas Boilers	None
9-1179	One (1) Emergency Generator - 650 kW Output Diesel-fired Engine	None
5-1861 & 5-1862 & 5-1863	Three (3) TurboPower Gas Water Heaters - 1.2 MMBtu/hr Input (each) Natural Gas Water Heaters Model 1500N500A-TP	None
5-1864 & 5-1865 & 5-1866	Three (3) TurboPower Gas Water Heaters - 1.6 MMBtu/hr Input (each) Natural Gas Water Heaters Model 2000N750A-TP	None
5-1885	One (1) Columbia Boiler Co. Boiler - 1.26 MMBtu/hr Input Natural Gas Boiler	None
5-2067	One (1) Combined Heat and Power (CHP) System - 4.6 MW Natural Gas Combustion Turbine generator with Heat Recovery Steam Generator (HRSG). Solar Centaur 50-6201S	None
5-2173	One (1) Tecogen/CM75 natural gas-fired boiler rated at 1.0 million Btu per hour heat input.	None
9-1282	One (1) Kohler Emergency Generator 1000 kW Output Diesel-fired Engine, Model 1000REOZDE	None
5-2206	One (1) Cleaver Brooks CBEX Elite Boiler – 12.5 MMBtu/hr Input Natural Gas Boiler	None
N/A	One (1) 2021 Riello SpA AR 1000 Boiler – 1.0 MMBtu/hr Input Natural Gas Boiler	Unit installed 01/26/2022
N/A	One (1) 2022 Lochinvar PBN 2001 – 2.0 MMBtu/hr Input Natural Gas Boiler	Unit installed 02/01/2022

2. Description of Facility

JHU operates multiple engines, boilers, and hot water heaters for comfort heat, steam and electricity in buildings at the Homewood Campus including significant emissions units provided in Table 1-1, and several insignificant emission units that are listed in the facility's Title V permit. A process flow diagram illustrating the new emission unit (one boiler) is provided in Appendix D.

JHU has prepared a Request for Coverage for one (1) 2021 1.0 MMBtu/hr Riello SpA AR 1000 Natural Gas Boiler installed in January 2022 and one (1) 2022 2.0 MMBtu/hr Lochinvar PBN 2001 Natural Gas Boiler installed in February 2022. The Request for Coverage can be found in Appendix F.

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3. Regulatory Applicability

This section discusses the applicability of federal and state air quality regulations to the emission units at the Homewood Campus. Section 3B of the application forms provided in Appendix A documents the applicable requirements for the facility. The discussion in this section is provided to supplement and/or clarify the information provided in the forms. In addition to providing a summary of applicable requirements, non-applicability determinations are also discussed for certain regulations where there may be some question of applicability specific to the operations at the Homewood Campus. Categorically non-applicable regulations are not discussed.

Applicability or non-applicability of the following regulatory programs is addressed:

- Title V and State Permitting Requirements;
- Major New Source Review (NSR);
- New Source Performance Standards (NSPS);
- National Emission Standards for Hazardous Air Pollutants (NESHAP or MACT);
- Compliance Assurance Monitoring (CAM);
- Risk Management Plan (RMP); and
- Maryland state regulations.

3.1 TITLE V AND STATE PERMITTING REQUIREMENTS

The Title V Operating Permit program (COMAR 26.11.03) applies to stationary sources that are considered major with the potential to emit over 100 tons per year (tpy), or a lower major source threshold defined by nonattainment status, of any individual criteria air pollutant, 10 tpy of any individual Hazardous Air Pollutant (HAP), or 25 tpy of combined HAPs. Due to its ozone non-attainment classification, Baltimore, MD has major source thresholds for nitrogen oxides (NO_X) and volatile organic compounds (VOC) of 25 tpy each.

Maximum potential emissions of NO_X and carbon monoxide (CO) from the Homewood Campus exceed their major source thresholds. Maximum potential emissions of other pollutants do not exceed their major source thresholds. Because the facility has the potential to emit over 25 tpy of NO_X and 100 tpy of CO, it is subject to Title V and in operating under the state-issued Part 70 Operating Permit No. 24-510-0077.

3.2 MAJOR NEW SOURCE REVIEW (NSR)

The federal NSR program applies to major stationary sources. The Homewood Campus is an existing major source for the purposes of the major NSR permitting program (COMAR 26.11.01, 26.11.02, and 26.11.17). The NSR permitting regulations are comprised of two programs: 1) Prevention of Significant Deterioration (PSD); and 2) Non-Attainment New Source Review (NNSR). The facility currently does not have either a PSD or a NNSR preconstruction permit.

Since the facility is a major source with respect to the NSR program, it may be subject to NSR permit requirements when undertaking modifications. Because the Title V permit renewal

process is not intended to accommodate any changes or modifications to the facility that are not currently permitted at the facility, NNSR/PSD permitting is not triggered by this renewal as all changes requested in the Title V permit have already been permitted under other minor NSR permitting actions.

3.3 NEW SOURCE PERFORMANCE STANDARDS

New Source Performance Standards (NSPS) apply to specific sources constructed after certain dates. These standards are organized based on source category. The following is a discussion of the standards that are applicable to the facility.

3.3.1 NSPS Subpart Dc

Subpart Dc applies to steam generating units with maximum heat input ratings greater than 10 MMBTU/hr but less than 100 MMBTU/hr, that were installed or modified after June 9, 1989. Table 3-1 provides the heat input design capacities and installation or modification dates of the facility's boilers and summarizes their Subpart Dc applicability/non-applicability status. Twenty-seven of the boilers at the Homewood Campus (5-2024 thru 5-2036, 5-2040, 5-2041, 5-0964, 5-0965, 5-1861 thru 5-1866, 5-1885, 5-2173, 1.0 MMBtu Riello Boiler, and 2.0 MMBtu Lochinvar Boiler) have rated capacities below 10 MMBTU/hr and as such, these units are not subject to Subpart Dc. The four largest boilers at the Homewood Campus (5-0763, 5-0533 through 5-0535) were modified to equip low- NO_X burners between 2002 and 2008, but this is not considered to be a modification as defined in Subpart Dc, since the installation of low-NO_X burners only decreases short-term emissions and does not increase the amount of any air pollutant to which a standard would apply. Therefore, applicability to Subpart Dc is determined based on the original installation date for these boilers.

Table 3-1: Summary of NSPS Subpart Dc Applicability Status of Boilers

EU No.	Design Heat Input	Installation Date	NSPS Subpart Dc Applicability
5-0763	98 MMBtu/hr	1980	Not Applicable
5-0533	62 MMBtu/hr	1962	Not Applicable
5-0534	62 MMBtu/hr	1948	Not Applicable
5-0535	62 MMBtu/hr	1954	Not Applicable
5-1728 & 5-1729	10.206 MMBtu/hr each	11/2004	Applicable
5-1867 & 5-1868	17.6 MMBtu/hr each	05/2006	Applicable
5-2206	12.5 MMBtu/hr	02/2016	Applicable
1.0 MMBtu Riello Boiler	1.0 MMBtu/hr	01/2022	Not Applicable
2.0 MMBtu Lochinvar Boiler	2.0 MMBtu/hr	02/2022	Not Applicable

JHU will continue to comply with the applicable regulations of this subpart as found in the facility's Title V permit.

3.3.2 NSPS Subpart IIII

Subpart IIII applies to several different categories (depending on installation date, size, and type) of stationary compression ignition internal combustion engines (CI ICE). Subpart IIII applies to modified or reconstructed engines if modification or reconstruction commenced after July 11, 2005. The Subpart applies to new engines that commence construction after April 1, 2006. The Subpart does not apply to engines that commenced construction on or before April 1, 2006, if no modification or reconstruction has taken place after that date.

Table 3-2 provides the design outputs and installation dates of the facility's engines, both of which are classified as emergency stationary CI ICE's, and summarizes their Subpart IIII applicability/non-applicability status. The manufacture/construction date of EU 9-1179 is prior to April 1, 2006, and no modification or reconstruction has taken place for this engine since then. Therefore, EU 9-1179 is not subject to Subpart IIII. EU 9-1282 was constructed after April 1, 2006, and is therefore subject to Subpart IIII. This diesel generator fits the definition of "emergency stationary internal combustion engine" and has a cylinder displacement of less than 10 L per cylinder. JHU complies with the applicable requirements of NSPS Subpart IIII for this engine, which were largely met by purchasing an EPA-certified emergency generator.

Table 3-2: Summary of NSPS Subpart IIII Applicability Status of Engines

EU No.	Design Output	Installation Date	NSPS Subpart IIII Applicability
9-1179	650 kW	02/2006	Not Applicable
9-1282	1000 kW	06/2013	Applicable

3.3.3 NSPS Subpart KKKK

Subpart KKKK applies to stationary combustion turbines with a heat input at peak load equal to or greater than 10.7 gigajoules (10 MMBtu) per hour, and which commenced construction or modification after February 18, 2005. The subpart also applies to emissions from any associated Heat Recovery Steam Generators (HRSGs), although they should not be included in determining the heat input of the turbine. The CHP 4.6 MW combustion turbine generator and the associated HRSG (EU 5-2067) is subject to this subpart. The applicable requirements for this turbine are already written out in the Permit to Construct that JHU has received for this unit. JHU will continue to comply with the applicable regulations of this subpart.

3.4 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

Regulatory requirements for facilities subject to MACT standards, otherwise known as the NESHAPs for source categories, are contained in 40 CFR Part 63. A review of these requirements is presented below.

3.4.1 40 CFR 63 Subpart ZZZZ (Not Applicable)

40 CFR 63 Subpart ZZZZ (RICE MACT) applies to stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions.

The Homewood Campus is an area source of HAP emissions. A stationary RICE at an area source is considered existing if construction/reconstruction commenced before June 12, 2006. EU 9-1282 was constructed after this date and is therefore considered a new stationary RICE. The only requirement applicable to this engine for compliance with MACT Subpart ZZZZ, is to comply with NSPS Subpart IIII, which is discussed in the previous section.

EU 9-1179 was constructed before June 12, 2006, and is therefore considered an existing stationary RICE at an area source. However, this engine meets the definition of "institutional emergency stationary RICE", as it only operates to provide electrical power in emergency situations and is used in an institutional establishment of higher education. This engine does not participate in any demand-response programs, nor is it operated for local grid reliability, and therefore is not subject to RICE MACT per 40 CFR 63.6585(f)(3).

3.4.2 40 CFR 63 Subpart DDDDD (Not Applicable)

40 CFR Part 63, Subpart DDDDD, MACT for Industrial, Commercial, and Institutional Boilers and Process Heaters applies to boilers at major sources of HAPs and therefore does not apply to the boilers and water heaters at the Homewood Campus.

3.4.3 40 CFR 63 Subpart JJJJJJ (Not Applicable)

40 CFR 63, Subpart JJJJJJ, MACT/GACT for Industrial, Commercial, and Institutional Boilers and Process Heaters applies to boilers at area sources of HAPs. This rule does not apply to "gas-fired boilers" as defined below:

> *Gas-fired boiler includes any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year.*

All units that could be potentially subject to this rule at the Facility are natural gas units and therefore this regulation does not apply to any of boilers at the Homewood Campus.

3.5 COMPLIANCE ASSURANCE MONITORING (Not Applicable)

The requirements of the Compliance Assurance Monitoring (CAM) regulations under 40 CFR Part 64 apply to pollutant-specific emission units at a major source that have pre-control device emissions greater than the Title V major source threshold(s) and use a control device to achieve compliance with an emission limitation or standard. Since the facility does not have any emission units that have any control devices, the CAM regulations under Part 64 do not apply to the facility.

3.6 RISK MANAGEMENT PLAN REGULATIONS (Not Applicable)

Subpart B of 40 CFR 68 outlines requirements for risk management plans (RMP) pursuant to Section 112(r) of the Clean Air Act. Applicability of this subpart is determined based on the type and quantity of chemicals stored at a facility. There are no listed substances stored at quantities greater than the corresponding threshold. Therefore, the facility is not subject to RMP requirements.

3.7 MARYLAND AIR POLLUTION CONTROL REQUIREMENTS

This section summarizes specific Maryland state regulations that apply to the facility.

3.7.1 General Administrative Provisions – COMAR 26.11.01, Permits, Approvals and Registration – COMAR 26.11.02, Permits, Approvals and Registration – Title V Permits – COMAR 26.11.03

The facility is subject to the relevant provisions in these regulations. The Department has incorporated these provisions into the facility's Title V permit.

3.7.2 General Emission Standards, Prohibitions and Restrictions – COMAR 26.11.06

The following is a discussion of the applicability/non-applicability of various provisions of this regulation:

1. 26.11.06.03(B)(2) – Particulate matter emissions from each emission unit are not permitted to exceed 0.03 gr/dscf. The facility's emission units meet this emission standard as they are all fired with natural gas or distillate fuel oil and their maximum potential emissions are below the standard. There are no testing, monitoring, recordkeeping, or reporting requirements that are applicable to the facility associated with this standard.

2. 26.11.06.04 (Not Applicable) – The facility is exempt from the carbon monoxide requirements in this provision per 26.11.06.04(A)(2), since it does not own or operate any installation that discharges carbon monoxide at a rate exceeding 500 pounds per day and at a concentration exceeding 12 percent by volume.

3. 26.11.06.05 (Not Applicable) – This regulation applies to sulfur compounds from "other than fuel-burning equipment". Since all of the emission units at the Homewood Campus are classified as fuel-burning equipment, the requirements of this provision are not applicable.

4. 26.11.06.06 (Not Applicable) – The requirements of this provision for VOCs do not apply to fuel-burning equipment that are subject to the provisions of COMAR 26.11.09.

5. 26.11.06.08 – The facility may not be operated or maintained in such a manner that a nuisance or air pollution is created. The facility will continue to comply with this provision.

6. 26.11.06.09 – The facility may not cause or permit the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created. The facility will continue to comply with this provision.

3.7.3 Control of Fuel-Burning Equipment, Stationary Internal Combustion Engines, and Certain Fuel-Burning Installations – COMAR 26.11.09

The following is a discussion of the applicability/non-applicability of this regulation:

7. 26.11.09.05A, Visible Emissions from Fuel Burning Equipment – This provision applies to visible emissions from the boilers, water heaters, and combustion turbine and HRSG. The requirements of these provisions have been incorporated into the facility's Title V permit and the Permit to Construct for the CHP combustion turbine. Specifically, 26.11.09.05A(2) prohibits the discharge of visible emissions other than water and 26.11.09.05A(3) allows for exceptions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if the visible emissions are not greater than 40 percent opacity, and the visible emissions do not occur for more than 6 consecutive minutes in any sixty minute period.

8. 26.11.09.05B, Visible Emissions from Stationary Internal Combustion Engine Powered Equipment – This provision applies to visible emissions from the stationary internal combustion engines (EU 9-1179 and 9-1282). The requirements of these provisions have been incorporated into the facility's Title V permit and the Permit to Construct for engine No. 540-0077-9-1282. Specifically, 26.11.09.05B(2) and (3) limits the discharge of emissions operating at idle and other than idle conditions to 10 and 40 percent opacity or below respectively. 26.11.09.05B(4) allows for certain exceptions to 26.11.09.05B(2) and (3).

9. 26.11.09.06, Control of Particulate Matter (Not Applicable) – Per 26.11.09.06B(4), the Homewood Campus does not have any applicable requirements under this provision since the fuel-burning units at the facility are all fired by natural gas or distillate fuel oil.

10. 26.11.09.07, Control of Sulfur Oxides from Fuel Burning Equipment – This provision applies to the sulfur content of fuel burned at the Homewood Campus. There are no applicable requirements for units fired by natural gas, and so the boilers, heaters, and combustion turbine have no requirements under this provision. The two emergency generators burn distillate fuel oil, and are restricted to burning only fuel oil with a sulfur content of 0.3 percent or less. This requirement has been incorporated into the facility's Title V permit and the Permit to Construct No. 540-0077-9-1282.

11. 26.11.09.08, Control of NO_x Emissions for Major Stationary Sources – Emission Units No. 5-0763, 5-0533 through 5-0535, 5-1728, 5-1729, 5-2026 through 5-2030, 5-2033, 5-2034, 5-1867 and 5-1868 are subject to the NO_X RACT requirements of 26.11.09.08E(1) through (5) for fuel-burning equipment with a rated heat input capacity of 100 MMBtu/hr or less. Emission Units No. 5-0964, 5-0965, 5-1861 through 5-1866, 5-1885, 5-2024, 5-2025, 5-

2031, 5-2032, 5-2035, 5-2036, 5-2040, 5-2041, 1.0 MMBtu Riello Boiler, and 2.0 MMBtu Lochinvar Boiler are subject to the NO_X RACT requirements of 26.11.09.08F(1)(a) through (e) and (2) for space heaters. Emission Units 9-1179 and 9-1282 are subject to the NO_X RACT requirements of 26.11.09.08G(1)(a) through (e) for fuel-burning equipment with a capacity factor of 15 percent or less. These requirements have been incorporated into the facility's Title V permit. The facility will continue to comply with the requirements.

3.7.4 Nonattainment Provisions for Major New Sources and Modifications – COMAR 26.11.17

As discussed in Section 3.2, JHU is not constructing an emission source with this application and as such, COMAR 26.11.17 does not apply.

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Appendix A

MDE Part 70 Permit Application for Renewal

MARYLAND DEPARTMENT OF THE ENVIRONMENT
1800 Washington Boulevard ● Baltimore MD 21230
(410) 537-3000 ● 1-800-633-6101 ● http://www.mde.state.md.us

PART 70 PERMIT APPLICATION FOR RENEWAL

AIR AND RADIATION ADMINISTRATION

Facilities required to obtain a Part 70 permit under COMAR 26.11.03.01 must complete and return this form. Applications are incomplete unless all applicable information required by COMAR 26.11.03.03 and 26.11.03.13 is supplied. Failure to supply additional information required by the Department to enable it to act on the application may result in loss of the application shield and denial of this application.

Owner and Operator:

Name of Owner or Operator: Johns Hopkins University		
Street Address: 3400 N. Charles Street		
City: Baltimore	State: MD	Zip Code: 21218
Telephone Number (410) 516-8060		Fax Number (410) 516-5544

Facility Information:

Name of Facility: Johns Hopkins University Homewood Campus		
Street Address: 3400 N. Charles Street		
City: Baltimore	State: MD	Zip Code: 21218
Plant Manager: Lou Morrison	Telephone Number: (410) 516-7655	Fax Number: (410) 977-3837
24-Hour Emergency Telephone Number for Air Pollution Matters: 410-516-7777		

List, on a separate page, the names and telephone numbers of other facility owners and persons with titles.

SECTION 1. CERTIFICATION STATEMENTS

1. Compliance Status with Applicable Enhanced Monitoring and Compliance Certification Requirements

The emissions units identified in this application are in compliance with applicable enhanced monitoring and compliance certification requirements.

2. Certification of Current Compliance with All Applicable Federally Enforceable Requirements

Except for the requirements identified in Section 7 of this application, for which compliance is not achieved, I hereby certify, based on information and belief formed after reasonable inquiry, that the facility is currently in compliance with all applicable federally enforceable requirements and agree that the facility will continue to comply with those requirements during the permit term.

You must complete a Section 7 form for each non-complying emissions unit.

3. Statement of Compliance with Respect to All New Applicable Requirements Effective During the Permit Term

I hereby state, based on information and belief formed after reasonable inquiry, that the facility agrees to meet, in a timely manner, all applicable federally enforceable requirements that become effective during the permit term, unless a more detailed schedule is expressly required by the applicable requirement.

4. Risk Management Plan Compliance

I hereby certify that, based on information and belief formed after reasonable inquiry, that a Risk Management Plan as required under § 112(r) of the Clean Air Act:

[ ] has been submitted;

[ ] will be submitted at a future date; or

[X] does not need to be submitted.

5. Statement of Truth, Accuracy, and Completeness

"I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision and in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person(s) who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

RESPONSIBLE OFFICIAL:

X _____ Aug 25, 2023

SIGNATURE DATE

Jay Murphy

PRINTED NAME

Senior Director, Facility Operations

TITLE

SECTION 2. FACILITY DESCRIPTION SUMMARY

1. Major Activities of Facility

Briefly describe the major activities, including the applicable SIC Code(s) and end product(s).

The Johns Hopkins University (JHU), Homewood Campus provides an educational and research setting for undergraduate and graduate students. The primary SIC code for the facility is 8221 – Education and Research.

JHU operates multiple stationary engines, boilers and hot water heaters for comfort heat, steam and electricity in buildings at the Homewood Campus.

2. Facility-Wide Emissions

A. This facility is required to obtain a Part 70 Operating Permit because it is: Check appropriate box:

- ☑ Actual Major
- ☐ Potential Major
- ☐ Solid Waste Incineration Unit Requiring Permit Under § 129(e) of CAA

B. List the actual facility-wide emissions below: as provided in 2022 annual emissions certification submission

PM10 2.03 tpy NOx 27.66 tpy VOC 1.25 tpy SOx 0.44 tpy CO 17.79 tpy HAPs 0.08 tpy

3. Include With the Application:

Flow Diagram for two added boilers (1.0 MMBtu Riello Boiler and 2.0 MMBtu Lochinvar Boiler) – see Appendix D;
Emissions Certification Report (copy of the most recent submitted to the Department.) – see Appendix G;
Compliance Certification Report (copy of the most recent submitted to the Department) – see Appendix H.

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 5-0763 1a. Date of installation (month/year): 1/80	2. MDE Registration No.:(if applicable) 5-0763

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

98 MM Btu/hr Keeler Boiler. This boiler is Boiler #1

The emission point is a stack on the Campus Power Plant Roof

Note: This boiler was retrofitted with a low NOx burner in 12/2003

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: N/A

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	Natural Gas	N/A	Actual: 83,660,000 ft^3
2.	No. 2 Fuel Oil	< 0.3	Actual: 530 gallons

(oil only for startups, gas curtailment, and up to 48 hours of maintenance and testing)

6. Emissions in Tons: 2022 Annual Emissions Certification Report

A. Actual Major: __ Potential Major: X (note: before control device)

B. Actual Emissions: NOx 4.19 tpy SOx 0.04 tpy VOC 0.23 tpy PM10 0.32 tpy HAPs 0 tpy

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 5-0533 1a. Date of installation (month/year): 1962	2. MDE Registration No.:(if applicable) 5-0533

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

62 MMBtu/hr Babcock & Wilcox Boiler. This boiler is Boiler #2.

The unit's emission point is a brick stack located at the Campus Power Plant.

The other two Babcock and Wilcox Boilers also are ducted into this stack

Note: This boiler was retrofitted with a low NOx burner in 5/2006.

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: N/A

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	Natural Gas	N/A	Actual: 83,660,000 ft^3
2.	No. 2 Fuel Oil	< 0.3	Actual: 530 gallons

(oil only for startups, gas curtailment, and up to 48 hours of maintenance and testing)

6. Emissions in Tons: 2022 Annual Emissions Certification Report

A. Actual Major: __ Potential Major: X (note: before control device)

B. Actual Emissions: NOx 4.19 tpy SOx 0.04 tpy VOC 0.23 tpy PM10 0.32 tpy HAPs 0 tpy

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 5-0534 1a. Date of installation (month/year): 1948	2. MDE Registration No.:(if applicable) 5-0534

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

62 MMBtu/hr Babcock & Wilcox Boiler. This boiler is Boiler #3.

The unit's emission point is a brick stack located at the Campus Power Plant.

This boiler was retrofitted with a new, low NOx burner in 12/2002

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: N/A

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	Natural Gas	N/A	Actual: 83,660,000 ft^3
2.	No. 2 Fuel Oil	< 0.3	Actual: 530 gallons

(oil only for startups, gas curtailment, and up to 48 hours of maintenance and testing)

6. Emissions in Tons: 2022 Annual Emissions Certification Report

A. Actual Major: __ Potential Major: X (note: before control device)

B. Actual Emissions: NOx 4.19 tpy SOx 0.04 tpy VOC 0.23 tpy PM10 0.32 tpy HAPs 0 tpy

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 5-0535 1a. Date of installation (month/year): 1954	2. MDE Registration No.:(if applicable) 5-0535

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

62 MMBtu/hr Babcock & Wilcox Boiler. This boiler is Boiler #4.

The unit's emission point is a metal stack located at the Campus Power Plant.

Note: This boiler was retrofitted with a low NOx burner in 1/2008.

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: N/A

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	Natural Gas	N/A	Actual: 83,660,000 ft^3
2.	No. 2 Fuel Oil	< 0.3	Actual: 530 gallons

(oil only for startups, gas curtailment, and up to 48 hours of maintenance and testing)

6. Emissions in Tons: 2022 Annual Emissions Certification Report

A. Actual Major: __ Potential Major: X (note: before control device)

B. Actual Emissions: NOx 4.19 tpy SOx 0.04 tpy VOC 0.23 tpy PM10 0.32 tpy HAPs 0 tpy

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 5-0964, 5-0965 1a. Date of installation (month/year): 6/82	2. MDE Registration No.:(if applicable) 5-0964, 5-0965

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

2 – 1.6 MMBtu/hr H. B. Smith Hot Water Boilers.

These units discharge into a common stack on the roof of Olin Hall. Olin Hall is located on San Martin Drive on the Homewood Campus

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: N/A

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	Natural Gas	N/A	Actual: 1,520,000 ft^3
2.		N/A	Actual: 1,520,000 ft^3
3.			= 3,040,000 ft^3 total

6. Emissions in Tons (per unit): 2022 Annual Emissions Certification Report

A. Actual Major: __ Potential Major:__ (note: before control device)

B. Actual Emissions: NOx 0.08 tpy SOx 0 tpy VOC 0 tpy PM10 0.01 tpy HAPs 0 tpy

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 5-2040, 5-2041 1a. Date of installation (month/year): 1989	2. MDE Registration No.:(if applicable) 5-2040, 5-2041

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

2 – 1.069 MMBtu/hr RayPak Hot Water Heaters fired on natural gas

The stack is located on the roof of the Seton Building.

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: N/A

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	Natural Gas	N/A	Actual: 400,000 ft^3
2.		N/A	Actual: 400,000 ft^3
3.			= 800,000 ft^3 total

6. Emissions in Tons (per unit): 2022 Annual Emissions Certification Report

A. Actual Major: __ Potential Major:___ (note: before control device)

B. Actual Emissions: NOx 0.02 tpy SOx 0 tpy VOC 0 tpy PM10 0 tpy HAPs 0 tpy

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 5-2024, 5-2025 1a. Date of installation (month/year): 1991	2. MDE Registration No.:(if applicable) 5-2024, 5-2025

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

2 – 2.1 MMBtu/hr Peerless natural gas fired boilers.

The stack is located on the roof of the Wolman Building.

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: N/A

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	Natural Gas	N/A	Actual: 1,730,000 ft^3
2.		N/A	Actual: 1,730,000 ft^3
3.			= 3,460,000 ft^3 total

6. Emissions in Tons (per unit): 2022 Annual Emissions Certification Report

A. Actual Major: __ Potential Major: __ (note: before control device)

B. Actual Emissions: NOx 0.09 tpy SOx 0 tpy VOC 0.01 tpy PM10 0.01 tpy HAPs 0 tpy

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 5-2026, 5-2027 1a. Date of installation (month/year): 1991	2. MDE Registration No.:(if applicable) 5-2026, 5-2027

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

2 – 1.2 MMBtu/hr Teledyne-Laars natural gas fired boilers.

The stack is located on the roof of the Wolman Building.

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: N/A

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	Natural Gas	N/A	Actual: 1,730,000 ft^3
2.		N/A	Actual: 1,730,000 ft^3
3.			= 3,460,000 ft^3 total

6. Emissions in Tons (per unit): 2022 Annual Emissions Certification Report

A. Actual Major: __ Potential Major: ___(note: before control device)

B. Actual Emissions: NOx 0.09 tpy SOx 0 tpy VOC 0.01 tpy PM10 0.01 tpy HAPs 0 tpy

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 5-2028, 5-2029 1a. Date of installation (month/year): 1993	2. MDE Registration No.:(if applicable) 5-2028, 5-2029

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

2 – 1.43 MMBtu/hr Teledyne-Laars natural gas fired hot water heaters.

The stack is located on the roof of the McCoy Building.

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: N/A

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	Natural Gas	N/A	Actual: 610,000 ft^3
2.		N/A	Actual: 610,000 ft^3
3.			= 1,220,000 ft^3 total

6. Emissions in Tons (per unit): 2022 Annual Emissions Certification Report

A. Actual Major: __ Potential Major: ___(note: before control device)

B. Actual Emissions: NOx 0.03 tpy SOx 0 tpy VOC 0 tpy PM10 0 tpy HAPs 0 tpy

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 5-2030 1a. Date of installation (month/year): 1993	2. MDE Registration No.:(if applicable) 5-2030

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

1.2 MMBtu/hr Teledyne-Laars natural gas fired hot water heater.

The stack is located on the roof of the McCoy Building.

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: N/A

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	Natural Gas	N/A	Actual: 610,000 ft^3
2.			
3.			

6. Emissions in Tons: 2022 Annual Emissions Certification Report

A. Actual Major: __ Potential Major: ___(note: before control device)

B. Actual Emissions: NOx 0.03 tpy SOx 0 tpy VOC 0 tpy PM10 0 tpy HAPs 0 tpy

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 5-2031, 5-2032 1a. Date of installation (month/year): 1993	2. MDE Registration No.:(if applicable) 5-2031, 5-2032

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

2 – 1.67 MMBtu/hr Teledyne-Laars natural gas fired boilers.

The stack is located on the roof of the McCoy Building.

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: N/A

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	Natural Gas	N/A	Actual: 610,000 ft^3
2.		N/A	Actual: 610,000 ft^3
3.			= 1,220,000 ft^3 total

6. Emissions in Tons (per unit): 2022 Annual Emissions Certification Report

A. Actual Major: __ Potential Major: ___(note: before control device)

B. Actual Emissions: NOx 0.03 tpy SOx 0 tpy VOC 0 tpy PM10 0 tpy HAPs 0 tpy

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 5-2033, 5-2034 1a. Date of installation (month/year): 1996	2. MDE Registration No.:(if applicable) 5-2033, 5-2034

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

2 – 1.4 MMBtu/hr Jarco natural gas fired hot water heaters.

The stack is located on the roof of the Homewood Building.

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: N/A

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	Natural Gas	N/A	Actual: 530,000 ft^3
2.		N/A	Actual: 530,000 ft^3
3.			= 1,060,000 ft^3 total

6. Emissions in Tons (per unit): 2022 Annual Emissions Certification Report

A. Actual Major: __ Potential Major: ___(note: before control device)

B. Actual Emissions: NOx 0.03 tpy SOx _0 tpy VOC _0 tpy PM10 _0 tpy HAPs _0 tpy

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 5-2035, 5-2036 1a. Date of installation (month/year): 1996	2. MDE Registration No.:(if applicable) 5-2035, 5-2036

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

2 – 3.05 MMBtu/hr Teledyne-Laars natural gas fired boilers.

The stack is located on the roof of the Homewood Building.

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: N/A

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	Natural Gas	N/A	Actual: 530,000 ft^3
2.		N/A	Actual: 530,000 ft^3
3.			= 1,060,000 ft^3 total

6. Emissions in Tons (per unit): 2022 Annual Emissions Certification Report

A. Actual Major: __ Potential Major: ___(note: before control device)

B. Actual Emissions: NOx 0.03 tpy SOx 0 tpy VOC 0 tpy PM10 0 tpy HAPs 0 tpy

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 5-1728, 5-1729 1a. Date of installation (month/year): 11/04	2. MDE Registration No.:(if applicable) 5-1728, 5-1729

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

2 – 10.206 MMBtu/hr Cleaver Brooks Boilers with low NOx burners and flue gas recirculation.

The emission point is a stack located on the Wyman Park Building at Wyman Park Drive

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: N/A

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	Natural Gas	N/A	Actual: 8,060,000 ft^3
2.	Natural Gas	N/A	Actual: 8,060,000 ft^3
3.			= 16,120,000 ft^3 total
4.	No. 2 Fuel Oil	< 0.3	Actual: 70 gallons each (140 gallons total)

(oil only for startups, gas curtailment, and up to 48 hours of maintenance and testing)

6. Emissions in Tons (per unit): 2022 Annual Emissions Certification Report

A. Actual Major: __ Potential Major: ___(note: before control device)

B. Actual Emissions: NOx 0.40 tpy SOx 0 tpy VOC 0.02 tpy PM10 0.03 tpy HAPs 0 tpy

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 5-1867, 5-1868 1a. Date of installation (month/year): 2006	2. MDE Registration No.:(if applicable) 5-1867, 5-1868

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

2 – 17.6 MMBtu/hr H.B. Smith natural gas fired Hot Water Boilers.

The emission point is a stack located on the roof of Charles Commons.

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: N/A

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	Natural Gas	N/A	Actual: 2,430,000 ft^3
2.		N/A	Actual: 2,430,000 ft^3
3.			= 4,860,000 ft^3 total

6. Emissions in Tons (per unit): 2022 Annual Emissions Certification Report

A. Actual Major: __ Potential Major: ___(note: before control device)

B. Actual Emissions: NOx 0.12 tpy SOx 0 tpy VOC 0.01 tpy PM10 0 tpy HAPs 0 tpy

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 9-1179 1a. Date of installation (month/year): 02/2006	2. MDE Registration No.:(if applicable) 9-1179

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

650 kW Emergency Generator

This generator is located on the ground-level next to the Charles Commons. The emission point is a stack on top of the unit.

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: N/A

Continuous Processes: N/A hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	No. 2 Fuel Oil	< 0.3	Actual: 330 gallons
2.			
3.			

6. Emissions in Tons: 2022 Annual Emissions Certification Report

A. Actual Major: __ Potential Major: __(note: before control device)

B. Actual Emissions: NOx 0.07 tpy SOx 0.01 tpy VOC 0 tpy PM10 0 tpy HAPs 0 tpy

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 5-1861, 5-1862, 5-1863 1a. Date of installation (month/year): 2006	2. MDE Registration No.:(if applicable) 5-1861, 5-1862, 5-1863

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

3 – 1.2 MMBtu/hr TurboPower gas fired water heaters.

The emission point is a stack located on the roof of Charles Commons.

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: N/A

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	Natural Gas	N/A	Actual: 2,430,000 ft^3
2.			x 3
3.			= 7,290,000 ft^3 total

6. Emissions in Tons (per unit): 2022 Annual Emissions Certification Report

A. Actual Major: __ Potential Major: ___(note: before control device)

B. Actual Emissions: NOx 0.12 tpy SOx 0 tpy VOC 0.01 tpy PM10 0.01 tpy HAPs 0 tpy

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 5-1864, 5-1865, 5-1866 1a. Date of installation (month/year): 2006	2. MDE Registration No.:(if applicable) 5-1864, 5-1865, 5-1866

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

3 – 1.6 MMBtu/hr TurboPower gas fired water heaters.

The emission point is a stack located on the roof of Charles Commons.

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: N/A

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	Natural Gas	N/A	Actual: 2,430,000 ft^3
2.			x 3
3.			= 7,290,000 ft^3 total

6. Emissions in Tons (per unit): 2022 Annual Emissions Certification Report

A. Actual Major: __ Potential Major: ___(note: before control device)

B. Actual Emissions: NOx 0.12 tpy SOx 0 tpy VOC 0.01 tpy PM10 0.01tpy HAPs 0 tpy

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 5-1885 1a. Date of installation (month/year): 2007	2. MDE Registration No.:(if applicable) 5-1885

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

1.26 MMBtu/hr Columbia Boiler

The emission point is a stack located on the Wyman Park Building #1 at Wyman Park Drive.

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: N/A

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	Natural Gas	N/A	Potential: 10,820,000 ft^3
2.			Actual: 0 ft^3
3.			

6. Emissions in Tons: 2022 Annual Emissions Certification Report

A. Actual Major: __ Potential Major: ___(note: before control device)

B. Actual Emissions: NOx 0 tpy SOx 0 tpy VOC 0 tpy PM10 0 tpy HAPs 0 tpy

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 5-2067 1a. Date of installation (month/year): May 2010	2. MDE Registration No.:(if applicable) 510-0077-5-2067

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

A combined heat and power (CHP) facility consisting of a 4.6 megawatt natural gas-fired combustion turbine (CT) driven generator equipped with a heat recovery steam generator.
The emission point is a stack on the roof.

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: N/A

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	Natural Gas	N/A	Actual: 152,240,000 ft^3
2.			
3.			

6. Emissions in Tons: 2022 Annual Emissions Certification Report

A. Actual Major: __ Potential Major: X (note: before control device)

B. Actual Emissions: NOx 7.69 tpy SOx 0.25 tpy VOC 0.16 tpy PM10 0.51 tpy HAPs 0 tpy

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 9-1282 1a. Date of installation (month/year): June 2013	2. MDE Registration No.:(if applicable) 510-0077-9-1282

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

1000 kW Kohler 1000REOZDE diesel emergency generator.

Emission Point is stack on the roof.

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: N/A

Continuous Processes: N/A hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	No. 2 Fuel Oil	15 ppm max (0.0015%)	Actual: 160 gallons
2.			
3.			

6. Emissions in Tons: 2022 Annual Emissions Certification Report

A. Actual Major: __ Potential Major: ___(note: before control device)

B. Actual Emissions: NOx 0.04 tpy SOx 0 tpy VOC 0 tpy PM10 0 tpy HAPs 0 tpy

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 5-2173 1a. Date of installation (month/year): 12/2013	2. MDE Registration No.:(if applicable) 510-0077-5-2173

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

1 – 1 MMBtu/hr Tecogen/CM75 natural gas-fired boiler. General Permit issued 12/11/2013

The emission point is a stack on the roof.

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: N/A

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	Natural Gas	N/A	Actual: 670,000 ft^3
2.			
3.			
4.			

6. Emissions in Tons: 2022 Actual Emissions

A. Actual Major: __ Potential Major:___(note: before control device)

B. Actual Emissions: NOx 0.03 tpy SOx 0 tpy VOC 0 tpy PM10 0 tpy HAPs 0 tpy

3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 5-2206 1a. Date of installation (month/year): 02/16	2. MDE Registration No.:(if applicable) 510-0077-5-2206

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

1 – 12.5 MMBtu/hr Cleaver Brooks Boiler (CBEX Elite-700-300-200ST)

The emission point is a stack on the roof.

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: N/A

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	Natural Gas	N/A	Actual: 8,000,000 ft^3
2.			
3.			
4.			

6. Emissions in Tons:

A. Actual Major: __ Potential Major: ___(note: before control device)

B. Actual Emissions: NOx 0.40 tpy SOx 0 tpy VOC 0.02 tpy PM10 0.03 tpy HAPs 0 tpy

3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 1.0 MMBtu Riello Boiler 1a. Date of installation (month/year): 01/22	2. MDE Registration No.:(if applicable) N/A

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

One (1) 2021 Riello SpA AR 1000 Boiler – 1.0 MMBtu/hr Input Natural Gas Boiler

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: N/A

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	Natural Gas	N/A	Potential: 8,600,000 ft^3
2.			
3.			
4.			

6. Emissions in Tons:

A. Actual Major: __ Potential Major:___(note: before control device)

B. Actual Emissions: NOx ___ tpy SOx ___ tpy VOC ___ tpy PM10 ___ tpy HAPs ___ tpy

3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 2.0 MMBtu Lochinvar Boiler 1a. Date of installation (month/year): 02/22	2. MDE Registration No.:(if applicable) N/A

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

One (1) 2022 Lochinvar PBN 2001 – 2.0 MMBtu/hr Input Natural Gas Boiler

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: N/A

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	Natural Gas	N/A	Potential: 17,000,000 ft^3
2.			
3.			
4.			

6. Emissions in Tons:

A. Actual Major: __ Potential Major:___(note: before control device)

B. Actual Emissions: NOx ___ tpy SOx ___ tpy VOC ___ tpy PM10 ___ tpy HAPs ___ tpy

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 5-0533 thru 0535 & 5-0763 **General Reference:** Part IV Title V Permit

Briefly describe the Emission Standard/Limit or Operational Limitation:

COMAR 26.11.09.05 A(2) – Visible Emissions. "A person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers."

"Exceptions. Section A(1) and A(2) does not apply to emissions during the building of a new fire, cleaning of fires, soot blowing , start-up, or occasional cleaning of control equipment which are not greater than 40 percent opacity for a period or periods aggregating not more than 6 consecutive minutes in any 60 minutes."

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:_____
- ✔ Annual Compliance Certification:_____
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference Part IV Describe: (c) properly operate and maintain the boilers; (d) maintain an operations manual and preventative maintenance plan; (e) verify no visible emissions when burning #2 fuel oil by having an observer perform an EPA Reference Method 22-like observation of stack emissions for a 6-minute period once for each 168 hours that the boiler burns oil or at a minimum of once per year.

Testing: Reference Part IV Describe: None

Record Keeping: Reference Part IV Describe: Maintain on site for 5 years a) hours a boiler is operated on No.2 Fuel ; b) documents of inspections, adjustments, and/or repairs of the boilers and training provided to its operators; c) log of visible emission performed.

Reporting: Reference Part IV Describe: The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III "Report of Excess Emission and Deviations."

Frequency of submittal of the compliance demonstration: Annual

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 5-0533 thru 0535 & 5-0763 **General Reference:** Part IV Title V Permit

Briefly describe the Emission Standard/Limit or Operational Limitation:

COMAR 26.11.09.07 A(2)(b) – Control of Sulfur Oxides from fuel burning equipment. "A person may not burn, sell, or make available for sale any distillate fuel with a sulfur content by weight in excess of 0.3 percent."

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:
- ☑ Annual Compliance Certification:
- ☐ Semi-Annual Monitoring Report:

Methods used to demonstrate compliance:

Monitoring: Reference Part IV Describe: To comply with the sulfur content limitation, the Permittee shall obtain a certification from the fuel supplier that the fuel oil is in compliance with the sulfur in fuel limitation [COMAR 26.11.03.06C]

Testing: Reference Part IV Describe: None

Record Keeping: Reference Part IV Describe: The Permittee shall maintain annual fuel supplier certification stating that the fuel is in compliance with this regulation for at least 5 years. [Reference: COMAR 26.11.09.07C]

Reporting: Reference Part IV Describe: The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III "Report of Excess Emission and Deviations."

Frequency of submittal of the compliance demonstration: Annual

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 5-0533 thru 0535 & 5-0763 **General Reference:** Part IV Title V Permit

Briefly describe the Emission Standard/Limit or Operational Limitation: Control of Nitrogen Oxides

COMAR 26.11.09.08B(6) – Operator Training

(a) For the purpose of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.

(b) The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department

COMAR 26.11.09.08E – Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of 100 MM Btu/hr or Less. "A person who owns or operates fuel burning equipment with a rated heat input capacity less that 100 MM Btu per hours shall:

(1) Submit to the Department an identification of each affected installation, the rated heat input capacity of each installation and the type of fuel burned in each;

(2) Perform a combustion analysis for each installation at least once each year and optimize combustion based on the analysis;

(3) Maintain the results of the combustion analysis and stack tests at the site for at least 2 years and make this data available to the Department and EPA upon request;

(4) Once Every three years, require each operator of the installation to attend operator training programs on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and

(5) Prepare and maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request."

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:_____
- ☑ Annual Compliance Certification:_____
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference NA Describe: NA

Testing: Reference Part IV Title V Describe: Perform combustion analysis

Record Keeping: Reference Part IV Title V Describe: Records of result of combustion analysis and a record of training program attendance for each operator at the site.

Reporting: Reference Part IV Title V Describe: Results of combustion analysis and a record of training program attendance for each operator to the Department upon Request

Frequency of submittal of the compliance demonstration: Annual

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 5-0533 thru 0535 & 5-0763 **General Reference:** Part IV Title V Permit

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall burn only natural gas or No. 2 fuel oil in the boilers unless the permittee applies for and obtains a Permit to Construct from the Department to burn an alternate fuel.

[Reference: COMAR 26.11.02.09A]

The Permittee shall burn gaseous fuel in the boilers not combined with any solid fuels, and burn liquid fuel in the boilers only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year for each boiler.

[Reference: 40 CFR 63.11237]

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:
- ✔ Annual Compliance Certification:
- ☐ Semi-Annual Monitoring Report:

Methods used to demonstrate compliance:

Monitoring: Reference None Describe: None

Testing: Reference None Describe: None

Record Keeping: Reference Part IV Describe: Maintains records of the quantity and types of fuel burned

Reporting: Reference Part IV Describe: Submit records of the quantity and type of fuel burned with the emissions certification report

Frequency of submittal of the compliance demonstration: Annual

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 5-0964, 5-0965, 5-1861 thru 5-1866, 5-1885, 5-2024, 5-2025, 5-2031, 5-2032, 5-2035, 5-2036, 5-2040, 5-2041 **General Reference:** Part IV Title V Permit

Briefly describe the Emission Standard/Limit or Operational Limitation:

COMAR 26.11.09.05 A(2) – Visible Emissions. "A person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers."

"Exceptions. Section A(1) and A(2) does not apply to emissions during the building of a new fire, cleaning of fires, soot blowing , start-up, or occasional cleaning of control equipment which are not greater than 40 percent opacity for a period or periods aggregating not more than 6 consecutive minutes in any 60 minutes."

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:_____
- ✔ Annual Compliance Certification:_____
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference Part IV Describe: (a) properly operate and maintain the boilers; (b) maintain an operations manual and preventative maintenance plan [COMAR 26.11.03.06C]

Testing: Reference Part IV Describe: None

Record Keeping: Reference Part IV Describe: The Permittee shall maintain, for at least five years, records of boiler operator training and maintenance performed on the boilers to prevent visible emissions.

Reporting: Reference Part IV Describe: The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III "Report of Excess Emission and Deviations."

Frequency of submittal of the compliance demonstration: Annual

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 5-0964, 5-0965, 5-1861 thru 5-1866, 5-1885, 5-2024, 5-2025, 5-2031, 5-2032, 5-2035, 5-2036, 5-2040, 5-2041 **General Reference:** Part IV Title V Permit

Briefly describe the Emission Standard/Limit or Operational Limitation: Control of Nitrogen Oxides

COMAR 26.11.09.08B(6) – Operator Training

(a) For the purpose of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.
(b) The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department

COMAR 26.11.09.08F – Requirements for Space Heaters. "A person who owns or operates a space heater as defined in Regulation .01B of this chapter shall:

(1) Submit to the Department an identification of each affected installation and the types of fuel used in each installation;

(2) Develop an operating and maintenance plan to minimize NOx emissions based on the recommendations of equipment vendors and other information including the source's operating and maintenance experience;

(3) Implement the operating and maintenance plan and maintain the plan at the premises for review upon request by the Department;

(4) Once Every three years, require each operator of the installation to attend operator training programs on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and

(5) Prepare and maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request."

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:
- ☑ Annual Compliance Certification:
- ☐ Semi-Annual Monitoring Report:

Methods used to demonstrate compliance:

Monitoring: Reference NA Describe: NA

Testing: Reference NA Describe: NA

Record Keeping: Reference Part IV Title V Describe: Records of maintenance that relates to combustion performance and records of training program attendance for each operator.

Reporting: Reference Part IV Title V Describe: Record of training program attendance for each operator to the Department upon Request

Frequency of submittal of the compliance demonstration: Annual

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 5-0964, 5-0965, 5-1861 thru 5-1866, 5-1885, 5-2024, 5-2025, 5-2031, 5-2032, 5-2035, 5-2036, 5-2040, 5-2041 **General Reference:** Part IV Title V Permit

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall operate each boiler using natural gas only unless the Permittee requests and receives an approval or permit from the Department to burn an alternate fuel [COMAR 26.11.02.09A]

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:
Quarterly Monitoring Report:
Annual Compliance Certification:
Semi-Annual Monitoring Report:

Methods used to demonstrate compliance:

Monitoring: Reference Part IV Describe: N/A

Testing: Reference Part IV Describe: N/A

Record Keeping: Reference Part IV Describe: N/A

Reporting: Reference Part IV Describe: N/A

Frequency of submittal of the compliance demonstration: N/A

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 5-1728, 5-1729, 5-1867, 5-1868 **General Reference:** Part IV Title V Permit

Briefly describe the Emission Standard/Limit or Operational Limitation:

COMAR 26.11.09.05 A(2) – Visible Emissions. "A person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers."

"Exceptions. Section A(1) and A(2) does not apply to emissions during the building of a new fire, cleaning of fires, soot blowing , start-up, or occasional cleaning of control equipment which are not greater than 40 percent opacity for a period or periods aggregating not more than 6 consecutive minutes in any 60 minutes."

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:_____
- ☑ Annual Compliance Certification:_____
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference N/A Describe:

Testing: Reference N/A Describe:

Record Keeping: Reference N/A Describe:

Reporting: Reference Part IV Describe: The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III "Report of Excess Emission and Deviations."

Frequency of submittal of the compliance demonstration: Annual

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 5-1728, 5-1729, 5-1867, 5-1868 **General Reference:** Part IV Title V Permit

Briefly describe the Emission Standard/Limit or Operational Limitation: Control of Nitrogen Oxides

COMAR 26.11.09.08B(6) – Operator Training

(a) For the purpose of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.

(b) The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department

COMAR 26.11.09.08E – Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of 100 MM Btu/hr or Less. "A person who owns or operates fuel burning equipment with a rated heat input capacity less that 100 MM Btu per hours shall:

(1) Submit to the Department an identification of each affected installation, the rated heat input capacity of each installation and the type of fuel burned in each;

(2) Perform a combustion analysis for each installation at least once each year and optimize combustion based on the analysis;

(3) Maintain the results of the combustion analysis and stack tests at the site for at least 2 years and make this data available to the Department and EPA upon request;

(4) Once Every three years, require each operator of the installation to attend operator training programs on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and

(5) Prepare and maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request."

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:_____
- ☑ Annual Compliance Certification:_____
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference NA Describe: NA

Testing: Reference Part IV Title V Describe: Perform combustion analysis

Record Keeping: Reference Part IV Title V Describe: Records of result of combustion analysis and a record of training program attendance for each operator at the site.

Reporting: Reference Part IV Title V Describe: Results of combustion analysis and a record of training program attendance for each operator to the Department upon Request

Frequency of submittal of the compliance demonstration: Annual

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 5-1728, 5-1729, 5-1867, 5-1868 **General Reference:** Part IV Title V Permit

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall operate each boiler using natural gas only unless the Permittee requests and receives and approval or permit from the Department to burn an alternate fuel [COMAR 26.11.02.09A]

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:
Quarterly Monitoring Report:
Annual Compliance Certification:
Semi-Annual Monitoring Report:

Methods used to demonstrate compliance:

Monitoring: Reference Part IV Describe: N/A

Testing: Reference Part IV Describe: N/A

Record Keeping: Reference Part IV Describe: N/A

Reporting: Reference Part IV Describe: N/A

Frequency of submittal of the compliance demonstration: N/A

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 5-2026 thru 5-2030, 5-2033, 5-2034, 5-2173 **General Reference:** Part IV Title V Permit

Briefly describe the Emission Standard/Limit or Operational Limitation:

COMAR 26.11.09.05 A(2) – Visible Emissions. "A person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers."

"Exceptions. Section A(1) and A(2) does not apply to emissions during the building of a new fire, cleaning of fires, soot blowing , start-up, or occasional cleaning of control equipment which are not greater than 40 percent opacity for a period or periods aggregating not more than 6 consecutive minutes in any 60 minutes."

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:_____
- ✔ Annual Compliance Certification:_____
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference N/A Describe: N/A

Testing: Reference N/A Describe: N/A

Record Keeping: Reference N/A Describe: N/A

Reporting: Reference N/A Describe: N/A

Frequency of submittal of the compliance demonstration: Annual

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 5-2026 thru 5-2030, 5-2033, 5-2034, 5-2173 **General Reference:** Part IV Title V Permit

Briefly describe the Emission Standard/Limit or Operational Limitation: Control of Nitrogen Oxides

COMAR 26.11.09.08B(6) – Operator Training

(a) For the purpose of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.

(b) The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department

COMAR 26.11.09.08E – Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of 100 MM Btu/hr or Less. "A person who owns or operates fuel burning equipment with a rated heat input capacity less that 100 MM Btu per hours shall:

(1) Submit to the Department an identification of each affected installation, the rated heat input capacity of each installation and the type of fuel burned in each;

(2) Perform a combustion analysis for each installation at least once each year and optimize combustion based on the analysis;

(3) Maintain the results of the combustion analysis and stack tests at the site for at least 2 years and make this data available to the Department and EPA upon request;

(4) Once Every three years, require each operator of the installation to attend operator training programs on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and

(5) Prepare and maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request."

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:_____
- ☑ Annual Compliance Certification:_____
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference NA Describe: NA

Testing: Reference Part IV Title V Describe: Perform combustion analysis

Record Keeping: Reference Part IV Title V Describe: Records of result of combustion analysis and a record of training program attendance for each operator at the site.

Reporting: Reference Part IV Title V Describe: Results of combustion analysis and a record of training program attendance for each operator to the Department upon Request

Frequency of submittal of the compliance demonstration: Annual

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 5-2026 thru 5-2030, 5-2033, 5-2034, 5-2173 **General Reference:** Part IV Title V Permit

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall operate each boiler using natural gas only unless the Permittee requests and receives and approval or permit from the Department to burn an alternate fuel [COMAR 26.11.02.09A]

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:
Quarterly Monitoring Report:
Annual Compliance Certification:
Semi-Annual Monitoring Report:

Methods used to demonstrate compliance:

Monitoring: Reference Part IV Describe: N/A

Testing: Reference Part IV Describe: N/A

Record Keeping: Reference Part IV Describe: N/A

Reporting: Reference Part IV Describe: N/A

Frequency of submittal of the compliance demonstration: N/A

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 9-1179 **General Reference:** Part IV Title V Permit

Briefly describe the Emission Standard/Limit or Operational Limitation:

COMAR 26.11.09.05 B(1) – Emissions During Idle Mode. "A person may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity."

COMAR 26.11.09.05 B(2) – Emissions During Operating Mode. "A person may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity."

"Exceptions. Section B(2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system. Section B(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods: (i) Engines that are idled continuously when not in service: 30 minutes; (ii) All other engines: 15 minutes. Section B(2) and (3) does not apply while maintenance, repair, or testing is being performed by qualified mechanics.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:_____
- ☑ Annual Compliance Certification:_____
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference N/A Describe: N/A

Testing: Reference N/A Describe: N/A

Record Keeping: Reference Section IV Describe: Records of preventative maintenance on site for at least 5 years and make these records available to the Department upon request.

Reporting: Reference Section IV Describe: Report incidents of visible emissions in accordance with Permit Condition 4, Section III, Plant Wide Condition, "Report of Excess Emissions and Deviations"

Frequency of submittal of the compliance demonstration: Annual

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 9-1179 **General Reference:** Part IV Title V Permit

Briefly describe the Emission Standard/Limit or Operational Limitation:

COMAR 26.11.09.07 A(2)(b) – Control of Sulfur Oxides from fuel burning equipment. "A person may not burn, sell, or make available for sale any distillate fuel with a sulfur content by weight in excess of 0.3 percent."

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:
- ☑ Annual Compliance Certification:
- ☐ Semi-Annual Monitoring Report:

Methods used to demonstrate compliance:

Monitoring: Reference Part IV Describe: To comply with the sulfur content limitation, the Permittee shall obtain a certification from the fuel supplier that the fuel oil is in compliance with the sulfur in fuel limitation [COMAR 26.11.03.06C]

Testing: Reference Part IV Describe: None

Record Keeping: Reference Part IV Describe: The Permittee shall maintain annual fuel supplier certification stating that the fuel is in compliance with this regulation for at least 5 years. [Reference: COMAR 26.11.09.07C]

Reporting: Reference Part IV Describe: The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III "Report of Excess Emission and Deviations."

Frequency of submittal of the compliance demonstration: Annual

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 9-1179 **General Reference:** Part IV Title V Permit

Briefly describe the Emission Standard/Limit or Operational Limitation: Control of Nitrogen Oxides

COMAR 26.11.09.08B(6) – Operator Training

(a) For the purpose of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.

(b) The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department

COMAR 26.11.09.08G – Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less, and Combustion Turbines with a Capacity Factor Greater than 15 Percent. "A person who owns or operates fuel burning equipment with a capacity factor of 15 percent or less shall:

(1) Provide certification of the capacity factor of the equipment to the Department in writing;

(2) For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least annually;

(3) Maintain the results of the combustion analysis and stack tests at the site for at least 2 years and make this data available to the Department and EPA upon request;

(4) Once Every three years, require each operator of the installation to attend operator training programs on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and

(5) Prepare and maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request."

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:_____
- ☑ Annual Compliance Certification:_____
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference NA Describe: NA

Testing: Reference Part IV Title V Describe: Perform combustion analysis

Record Keeping: Reference Part IV Title V Describe: Records of result of combustion analysis and a record of training program attendance for each operator at the site.

Reporting: Reference Part IV Title V Describe: Results of combustion analysis and a record of training program attendance for each operator to the Department upon Request

Frequency of submittal of the compliance demonstration: Annual

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 9-1179 **General Reference:** Part IV Title V Permit

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall use diesel fuel only in the emergency generators unless the Permittee applies for and obtains a Permit to Construct from the Department to burn alternate fuel.

The Permittee is prohibited from using the emergency generators other than emergency operation, and maintenance and testing.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:
Quarterly Monitoring Report:
Annual Compliance Certification:
Semi-Annual Monitoring Report:

Methods used to demonstrate compliance:

Monitoring: Reference Part IV Describe: N/A

Testing: Reference Part IV Describe: N/A

Record Keeping: Reference Part IV Describe: Log of amounts of fuel oil combusted, hours of operation, and reason for generator operation.

Reporting: Reference Part IV Describe: N/A

Frequency of submittal of the compliance demonstration: N/A

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 9-1282 **General Reference:** Part IV Title V Permit

Briefly describe the Emission Standard/Limit or Operational Limitation:

COMAR 26.11.09.05 E (2)– Emissions During Idle Mode. "A person may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity."

COMAR 26.11.09.05 E(3) – Emissions During Operating Mode. "A person may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity."

"Exceptions. Section E(2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system. Section E(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods: (i) Engines that are idled continuously when not in service: 30 minutes; (ii) All other engines: 15 minutes. Section E(2) and (3) does not apply while maintenance, repair, or testing is being performed by qualified mechanics.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:_____
- ☑ Annual Compliance Certification:_____
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference N/A Describe: N/A

Testing: Reference N/A Describe: N/A

Record Keeping: Reference Part IV Describe: Records of preventative maintenance on site for at least 5 years and make these records available to the Department upon request.

Reporting: Reference Part IV Describe: Report incidents of visible emissions in accordance with Permit Condition 4, Section III, Plant Wide Condition, "Report of Excess Emissions and Deviations"

Frequency of submittal of the compliance demonstration: Annual

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 9-1282 **General Reference:** Part IV Title V Permit

Briefly describe the Emission Standard/Limit or Operational Limitation:

40 CFR 60.4207(b) – Beginning October 1, 2010, owners and operators of stationary CI ICE subject to NSPS Subpart IIII with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel (15 ppm maximum sulfur content), except that any existing diesel fuel purchased or otherwise obtained prior to October 1, 2010, may be used until depleted.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:_____
- ✔ Annual Compliance Certification:_____
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference Part IV Describe: To comply with the sulfur content limitation, the Permittee shall obtain a certification from the fuel supplier consisting of the name of the oil supplier, the date of delivery, the amount of fuel delivered, and a statement from the fuel supplier that the diesel fuel oil complies with the specifications of 40 CFR 80.510.

Testing: Reference None Describe: None

Record Keeping: Reference Part IV Describe: The Permittee shall maintain annual fuel supplier certification stating that the fuel is in compliance with this regulation for at least 5 years.

Reporting: Reference None Describe: None

Frequency of submittal of the compliance demonstration: Annual

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 9-1282 **General Reference:** Part IV Title V Permit

Briefly describe the Emission Standard/Limit or Operational Limitation: Control of Nitrogen Oxides

COMAR 26.11.09.08B(5) – Operator Training

(a) For the purpose of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.

(b) The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department

COMAR 26.11.09.08G – Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less, and Combustion Turbines with a Capacity Factor Greater than 15 Percent. "A person who owns or operates fuel burning equipment with a capacity factor of 15 percent or less shall:

(1) Provide certification of the capacity factor of the equipment to the Department in writing;

(2) For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least annually;

(3) Maintain the results of the combustion analysis and stack tests at the site for at least 2 years and make this data available to the Department and EPA upon request;

(4) Once Every three years, require each operator of the installation to attend operator training programs on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and

(5) Prepare and maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request."

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:
- ☑ Annual Compliance Certification:
- ☐ Semi-Annual Monitoring Report:

Methods used to demonstrate compliance:

Monitoring: Reference NA Describe: NA

Testing: Reference Part IV Describe: Perform combustion analysis

Record Keeping: Reference Part IV Describe: Records of result of combustion analysis and a record of training program attendance for each operator at the site.

Reporting: Reference Part IV Describe: Results of combustion analysis and a record of training program attendance for each operator to the Department upon Request

Frequency of submittal of the compliance demonstration: Annual

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 9-1282 **General Reference:** Part IV Title V Permit

Briefly describe the Emission Standard/Limit or Operational Limitation: Operational Limit

The Permittee shall use diesel fuel only in the emergency generator unless the Permittee applies for and obtains a Permit to Construct from the Department to burn alternate fuel.

The Permittee is prohibited from using the emergency generator other than emergency operation, and maintenance and testing.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:_____
- ✔ Annual Compliance Certification:_____
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference N/A Describe: N/A

Testing: Reference N/A Describe: N/A

Record Keeping: Reference Part IV Describe: Log of amounts of fuel oil combusted, hours of operation, and reason for generator operation.

Reporting: Reference Part IV Describe: N/A

Frequency of submittal of the compliance demonstration: Annual

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 9-1282 **General Reference:** Part IV Title V Permit

Briefly describe the Emission Standard/Limit or Operational Limitation: Control of Sulfur Oxides

COMAR 26.11.09.07A(2) – Sulfur Content Limitations for Fuel.

"A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitation: in Area III and IV: (b) Distillate fuel oil, o.3 percent."

Note: Installations subject to 40 CFR Part 60, Subpart IIII must comply with the fuel standards of §60.4207 which limit the maximum sulfur content of the fuel to 15 ppm beginning October 1, 2010.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:_____
- ✔ Annual Compliance Certification:_____
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference N/A Describe: N/A

Testing: Reference Part IV Describe: Shall obtain a certification from the fuel supplier indicating that the fuel oil complies with the limitation on sulfur content of the fuel oil.

Record Keeping: Reference Part IV Describe: Shall retain annual fuel supplier certifications and maintain for at least 5 years.

Reporting: Reference Part IV Describe: Shall report annual fuel supplier certification to the Department upon request.

Frequency of submittal of the compliance demonstration: Annual

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 9-1282 **General Reference:** Part IV Title V Permit

Briefly describe the Emission Standard/Limit or Operational Limitation:

40 CFR 60.4211(f) - If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) and (2) of this section.

(1) There is no limit on the use of emergency stationary ICE in emergency situations.

(2) You may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year.

(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing as allowed in 40 CFR 60.4211(f)(2)(i);

(ii) Emergency stationary ICE may be operated for emergency demand response for periods declared as an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:
Quarterly Monitoring Report:
Annual Compliance Certification:
Semi-Annual Monitoring Report:

Methods used to demonstrate compliance:

Monitoring: Reference Part IV Describe: N/A

Testing: Reference Part IV Describe: N/A

Record Keeping: Reference Part IV Describe: Log of hours of operation, and reason for generator operation.

Reporting: Reference Part E, PTC Describe: N/A

Frequency of submittal of the compliance demonstration: N/A

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 9-1282 **General Reference:** Part IV Title V Permit

Briefly describe the Emission Standard/Limit or Operational Limitation:

The engine is subject to the requirements of 40 CFR 60, Subpart IIII and shall conform to the standard specified in 60.4205(b) for 2007 model year and later model year engines, and be equipped with a non-resettable hour meter.
[Reference: 40 CFR 60.4205(b) and 60.4209(a)]

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:
Quarterly Monitoring Report:
Annual Compliance Certification:
Semi-Annual Monitoring Report:

Methods used to demonstrate compliance:

Monitoring: Reference Part IV Describe: Equip the engine with a non-resettable hour meter.

Testing: Reference N/A Describe: N/A

Record Keeping: Reference Part IV Describe: Maintain on site for the life of the source the following records for the emergency diesel engine: (a) Documentation of the manufacture date of the diesel engine, if manufactured prior to April 1, 2006 and the manufacturer model year of the diesel engine; (b) the installation date of the engine; and (c) the certifications of compliance or manufacturer engine test data required by 40 CFR 60.4211 and 60.4214(b)

Reporting: Reference N/A Describe: N/A

Frequency of submittal of the compliance demonstration: N/A

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 5-2067 **General Reference:** PTC 510-0077-5-2067

Briefly describe the Emission Standard/Limit or Operational Limitation:

COMAR 26.11.09.05 A(2) – Visible Emissions. "A person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers."

"Exceptions. Section A(1) and A(2) does not apply to emissions during the building of a new fire, cleaning of fires, soot blowing , start-up, or occasional cleaning of control equipment which are not greater than 40 percent opacity for a period or periods aggregating not more than 6 consecutive minutes in any 60 minutes."

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:_____
- ✔ Annual Compliance Certification:_____
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference N/A Describe: N/A

Testing: Reference N/A Describe: N/A

Record Keeping: Reference PTC Part F 1 (a) Describe: The Permittee shall maintain logs of visible emissions observations performed.

Reporting: Reference Title V Permit Describe: The Permittee shall report incidents of visible emissions in accordance with Title V permit condition 4, Section III "Report of Excess Emissions and Deviations."

Frequency of submittal of the compliance demonstration: Annual

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 5-2067 **General Reference:** PTC 510-0077-5-2067

Briefly describe the Emission Standard/Limit or Operational Limitation:

40 CFR Part 60, Subpart KKKK – Nitrogen Oxide (NOx) Emission limit
25 ppm at 15 percent O2 or 150 ng/J of useful output (1.2 lb/MWh)

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:
- ✔ Annual Compliance Certification:
- ✔ Semi-Annual Monitoring Report:

Methods used to demonstrate compliance:

Monitoring: Reference §60.4340 Describe: To demonstrate continuous compliance, (a) perform annual performance tests …(b) as an alternative, you may install, calibrate, maintain and operate… (1) continuous emissions monitoring or (2) continuous parameter monitoring

Testing: Reference §60.8 §60.4340 §60.4400 Describe: Conduct initial performance test

Record Keeping: Reference PTC Part F (1)(b)-(c) Describe: (b) records and results of any test performed… (c) parametric monitoring plan…

Reporting: Reference §60.4375 §60.4395 Describe: Submit report of the results of each performance test…Submit reports of excess emissions and monitoring downtime in accordance with §60.7 (c)

Frequency of submittal of the compliance demonstration: Annual

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 5-2067 **General Reference:** PTC 510-0077-5-2067

Briefly describe the Emission Standard/Limit or Operational Limitation:

40 CFR Part 60, Subpart KKKK – Sulfur Dioxide (SO_2) Emission limit

(1) Not cause to be discharged into the atmosphere from the subject stationary combustion turbine any gases which contain SO_2 in excess of 110 ng/J (0.90 lb/MWh) gross output; or

(2) Not burn in the subject stationary combustion turbine any fuel which contains total potential sulfur emissions in excess of 26 ng SO_2 /J (0.06 lb/MWh) heat input

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:
- ✔ Annual Compliance Certification:
- ✔ Semi-Annual Monitoring Report:

Methods used to demonstrate compliance:

Monitoring: Reference §60.4340 §60.4365 Describe: §60.4360: Must monitor the total sulfur content of the fuel, except as provided in §60.4365. §60.4365: May elect not to monitor the total sulfur content of the fuel combusted…(a) the fuel quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract…

Testing: Reference §60.8 §60.4415 Describe: Conduct initial performance test… methodology: (i) the fuel analyses of this section may be performed either by…the fuel vendor… (ii) For gaseous fuel, ASTM D1072…

Record Keeping: Reference PTC Part F (1)(b)-(c) Describe: (b) records and results of any test performed… (d) records and the results of fuel sulfur content monitoring…

Reporting: Reference §60.4375 §60.4395 Describe: Submit report of the results of each performance test…Submit reports of excess emissions and monitoring downtime in accordance with §60.7 (c)

Frequency of submittal of the compliance demonstration: Annual

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 5-2067 **General Reference:** PTC 510-0077-5-2067

Briefly describe the Emission Standard/Limit or Operational Limitation:

The Permittee shall properly maintain, calibrate and operate all control panel instrumentation and all devices employed to monitor performance of the facility's air pollution control devices. The facility does not currently employ any air pollution control equipment.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:_____
- ✔ Annual Compliance Certification:_____
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference N/A Describe: N/A

Testing: Reference N/A Describe: N/A

Record Keeping: Reference N/A Describe: N/A

Reporting: Reference N/A Describe: N/A

Frequency of submittal of the compliance demonstration: Annual

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 5-2067 **General Reference:** PTC 510-0077-5-2067

Briefly describe the Emission Standard/Limit or Operational Limitation:

The CHP System which comprises of a 4.6 MW combustion turbine (CT) driven generator equipped with a heat recovery steam generator shall fire only natural gas

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:_____
- ✔ Annual Compliance Certification:_____
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference N/A Describe: N/A

Testing: Reference N/A Describe: N/A

Record Keeping: Reference N/A Describe: N/A

Reporting: Reference N/A Describe: N/A

Frequency of submittal of the compliance demonstration: Annual

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 5-2067 **General Reference:** PTC 510-0077-5-2067

Briefly describe the Emission Standard/Limit or Operational Limitation:

You must operate and maintain your stationary combustion turbine, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:
- ✔ Annual Compliance Certification:
- ☐ Semi-Annual Monitoring Report:

Methods used to demonstrate compliance:

Monitoring: Reference N/A Describe: N/A

Testing: Reference N/A Describe: N/A

Record Keeping: Reference N/A Describe: N/A

Reporting: Reference N/A Describe: N/A

Frequency of submittal of the compliance demonstration: Annual

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 5-2206 **General Reference:** PTC 510-0077-5-2206

Briefly describe the Emission Standard/Limit or Operational Limitation: Specific Requirements for All Medium Fuel Burning Equipment

(A) Fuel burning equipment may not be fitted with a rotary cup burner or have a burner replaced with a rotary cup burner (COMAR 26.11.09.05A(3))

(B) Fuel burning equipment is subject to COMAR 26.11.06.08 and 26.11.06.09. These regulations generally prohibit the discharge of emissions beyond the property line in such a manner that a nuisance or air pollution is created.

(C) All fuel burning equipment is subject to COMAR 26.11.09.05A, which in Baltimore City prohibits the discharge of emissions, other than water vapor in an uncombined form, which is visible to human observers. This limitation does not apply during load changing, soot blowing, startup, or adjustments of occasional cleaning of control equipment if visible emissions do not exceed 40% opacity and do not occur for more than six consecutive minutes in any sixty-minute period.

(D) Fuel burning equipment is subject to COMAR 26.11.09.07A(1)(c) or (2)(b), which limit the sulfur content of distillate fuel oil to 0.3% by weight for all areas of Maryland

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:_____
- ✔ Annual Compliance Certification:_____
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: NA Describe: NA

Testing: NA Describe: NA

Record Keeping: NA Describe: NA

Reporting: NA Describe: NA

Frequency of submittal of the compliance demonstration: Annual

STATE-ONLY ENFORCEABLE REQUIREMENTS

Facility Information:

Name of Facility: Johns Hopkins University Homewood Campus	County: Baltimore City
Premises Number: 24-510-00077	
Street Address: 3400 N. Charles Street	
24-hour Emergency Telephone Number for Air Pollution Matters: 410-516-7777	
Type of Equipment (List Significant Units):	
Four large natural gas fired boilers (5-0533 thru 0535 and 5-0763)	
Two 17.6 MMBtu/hr natural gas fired boilers (5-1867 & 1868)	
Two 10.206 MMBtu/hr natural gas fired boilers (5-1728 & 5-1729)	
One 12.5 MMBtu/hr natural gas fired boiler (5-2206)	
Twenty-seven small natural gas fired boilers (5-2024 thru 2036, 2040, 2041, 0964, 0965, 1861 thru 1866, 1885, 2173, 1.0 MMBtu Riello Boiler, and 2.0 MMBtu Lochinvar Boiler)	
One 650 kW diesel emergency generator (9-1179)	
One 1000 kW diesel emergency generator (9-1282)	
One 4.6 MW natural gas fired turbine and associated HRSG (5-2067)	

CITATION TO AND DESCRIPTION OF APPLICABLE STATE-ONLY ENFORCEABLE REQUIREMENTS

Registration No.: 24-510-00077

Emissions Unit No.: Facility-wide **General Reference:** Section VI

Briefly describe the requirement and the emissions limit (if applicable):

COMAR 26.11.06.08 which generally prohibits the discharge of emissions beyond the property line in such a manner that a nuisance or air pollution is created.

COMAR 26.11.06.09 which generally prohibits the discharge into atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created.

Methods used to demonstrate compliance:

Perform visible emissions observations.

Appendix B

Insignificant Activities

Checkoff List of Emissions Units and Activities Exempt from the Part 70 Permit Application

Insignificant Activities

Place a check mark beside each type of emissions unit or activity that is located at the facility. Where noted, please indicate the number of that type of emissions unit or activity located at the facility.

(1) No. 21 Fuel burning equipment using gaseous fuels or no. 1 or no. 2 fuel oil, and having a heat input less than 1,000,000 Btu (1.06 gigajoules) per hour;

(2) No. _____ Fuel-burning equipment using solid fuel and having a heat input of less than 350,000 Btu (0.37 gigajoule) per hour;

(3) No. 18 Stationary internal combustion engines with an output less than 500 brake horsepower (373 kilowatts) and which are not used to generate electricity for sale or for peak or load shaving;

(4) ___ Space heaters utilizing direct heat transfer and used solely for comfort heat;

(5) ___ Water cooling towers and water cooling ponds unless used for evaporative cooling of water from barometric jets or barometric condensers, or used in conjunction with an installation requiring a permit to operate;

(6) No. ___ Unheated VOC dispensing containers or unheated VOC rinsing containers of 60 gallons (227 liters) capacity or less;

(7) ✓ Commercial bakery ovens with a rated heat input capacity of less than 2,000,000 Btu per hour;

(8) ___ Kilns used for firing ceramic ware, heated exclusively by natural gas, liquefied petroleum gas, electricity, or any combination of these;

(9) ✓ Confection cookers where the products are edible and intended for human consumption;

(10) ___ Die casting machines;

(11) ✓ Photographic process equipment used to reproduce an image upon sensitized material through the use of radiant energy;

(12) ✓ Equipment for drilling, carving, cutting, routing, turning, sawing, planing, spindle sanding, or disc sanding of wood or wood products;

(13)___ Brazing, soldering, or welding equipment, and cutting torches related to manufacturing and construction activities that emit HAP metals and not directly related to plant maintenance, upkeep and repair or maintenance shop activities;

(14)___ Equipment for washing or drying products fabricated from metal or glass, provided that no VOC is used in the process and that no oil or solid fuel is burned;

(15)___ Containers, reservoirs, or tanks used exclusively for electrolytic plating work, or electrolytic polishing, or electrolytic stripping of brass, bronze, cadmium, copper, iron, lead, nickel, tin, zinc, and precious metals;

(16) Containers, reservoirs, or tanks used exclusively for:

(a) ___ Dipping operations for applying coatings of natural or synthetic resins that contain no VOC;

(b) ___ Dipping operations for coating objects with oils, waxes, or greases, and where no VOC is used;

(c) ___ Storage of butane, propane, or liquefied petroleum, or natural gas;

(d) No. ___ Storage of lubricating oils:

(e) No. ___ Unheated storage of VOC with an initial boiling point of 300 °F (149 °C) or greater:

(f) No. 24 Storage of Numbers 1, 2, 4, 5, and 6 fuel oil and aviation jet engine fuel,

(g) No. ____ Storage of motor vehicle gasoline and having individual tank capacities of 2,000 gallons (7.6 cubic meters) or less;

(h) No. ✓ The storage of VOC normally used as solvents, diluents, thinners, inks, colorants, paints, lacquers, enamels, varnishes, liquid resins, or other surface coatings and having individual capacities of 2,000 gallons (7.6 cubic meters) or less;

(17) ___ Gaseous fuel-fired or electrically heated furnaces for heat treating glass or metals, the use of which does not involve molten materials;

(18) ___ Crucible furnaces, pot furnaces, or induction furnaces, with individual capacities of 1,000 pounds (454 kilograms) or less each, in which no sweating or distilling is conducted, or any fluxing is conducted using chloride, fluoride,

or ammonium compounds, and from which only the following metals are poured or in which only the following metals are held in a molten state:

(a) ___ Aluminum or any alloy containing over 50 percent aluminum, if no gaseous chloride compounds, chlorine, aluminum chloride, or aluminum fluoride is used;

(b) ___ Magnesium or any alloy containing over 50 percent magnesium;

(c) ___ Lead or any alloy containing over 50 percent lead;

(d) ___ Tin or any alloy containing over 50 percent tin;

(e) ___ Zinc or any alloy containing over 50 percent zinc;

(f) ___ Copper;

(g) ____ Precious metals;

(19) ✓ Charbroilers and pit barbecues as defined in COMAR 26.11.18.01 with a total cooking area of 5 square feet (0.46 square meter) or less;

(20) _____ First aid and emergency medical care provided at the facility, including related activities such as sterilization and medicine preparation used in support of a manufacturing or production process;

(21) _____ Certain recreational equipment and activities, such as fireplaces, barbecue pits and cookers, fireworks displays, and kerosene fuel use;

(22) ✓ Potable water treatment equipment, not including air stripping equipment;

(23)___ Firing and testing of military weapons and explosives;

(24)___ Emissions resulting from the use of explosives for blasting at quarrying operations and from the required disposal of boxes used to ship the explosive;

(25) ✓ Comfort air conditioning subject to requirements of Title VI of the Clean Air Act;

(26)___ Grain, metal, or mineral extrusion presses;

(27)___ Breweries with an annual beer production less than 60,000 barrels;

(28)___ Natural draft hoods or natural draft ventilators that exhaust air pollutants into the ambient air from manufacturing/industrial or commercial processes;

(29) ✓ Laboratory fume hoods and vents;

(30) No. ___ Sheet-fed letter or lithographic printing press(es) with a cylinder width of less than 18 inches;

For the following, attach additional pages as necessary:

(31) any other emissions unit, not listed in this section, with a potential to emit less than the "de minimus" levels listed in COMAR 26.11.02.10X (list and describe units):

No. ___ _____

No. ___ _____

No. ___ _____

No. ___ _____

(32) any other emissions unit at the facility which is not subject to an applicable requirement of the Clean Air Act (list and describe):

No. ___ _____

No. ___ _____

No. ___ _____

Appendix C

MDE Application Completeness Checklist

Application Completeness Checklist

The purpose of this part is to list the information required to achieve a Part 70 application shield.

Cover Page

(✓) Name and address of owner or operator, including telephone number.

(✓) Name and address of facility, including the plant manager's name and telephone number.

(✓) A 24-hour emergency telephone number for air pollution matters.

Section 1 CERTIFICATION STATEMENTS

(✓) The certification statement completed and signed by a responsible official.

Section 2 FACILITY DESCRIPTION SUMMARY

(✓) A brief description of each of the source's process(es), including all applicable SIC codes and end products.

(✓) Flow diagrams indicating all emissions units, emission points, and control devices. - for 1.0 MMBtu Riello Boiler and 2.0 MMBtu Lochinvar Boiler

(✓) A plot plan of the entire facility.

(✓) Emission Certification Report.

( ) General Emissions Information - Not applicable.

Section 3 EMISSIONS UNIT DESCRIPTIONS –

This section must be completed for each emissions unit.

Part A

(✓) Emissions unit number.

(✓) Detailed description of unit, including all emission points.

(✓) Federally enforceable limit(s) on the operating schedule.

(✓) Fuel consumption information for any emissions unit that consumes fuel including the type of fuel, percent sulfur, and annual usage of fuel.

Part B

(✓) A citation and description of each federally enforceable requirement, including all emission standards, for each emissions unit.

(✓) A statement of compliance demonstration techniques for each requirement, including a description of monitoring, record keeping, reporting requirements, and test methods.

(✓) The frequency of submittal of the compliance demonstration during the permit term.

Part C

(✓) Emissions unit number.

(✓) Permit to construct number.

(✓) Emissions point number(s).

(✓) Date(s) the permit to construct was issued.

(✓) Condition number(s) as indicated on the permit to construct.

(✓) Description of the permit condition(s) and the reason(s) why they are believed to be obsolete, extraneous, or insignificant.

Part D – Not applicable

( ) Description of all alternate operating scenarios that apply to an emissions unit.

( ) Number assigned to each scenario.

( ) Emissions unit number.

( ) Description of the operating parameters for the emissions unit and other information which describes the how the operation of the unit will change under the different scenario.

Part E – Not applicable

( ) A citation and description of each federally enforceable requirement triggered by an operating scenario, including all emission standards, for each emissions unit.

( ) As an attachment, the date and results of the most recent compliance demonstration for each emission standard and/or emissions certification report with relevant supporting documentation.

( ) A statement of compliance demonstration techniques for each requirement, including a description of monitoring, record keeping, reporting requirements, and test methods.

( ) The frequency of submittal of the compliance demonstration during the permit term.

Section 4 CONTROL EQUIPMENT - Not applicable

( ) The type of each piece of air pollution control equipment

( ) The capture and control efficiencies of the control equipment.

Section 5 SUMMARY SHEET OF POTENTIAL EMISSIONS – Not applicable

( ) Quantity of potential emissions for criteria pollutants and HAPs emitted in tons per year for each emissions unit.

( ) Fugitive emission estimations for the entire facility for criteria pollutants and HAPs emitted in tons per year.

( ) Basis for all emission calculations.

Section 6 AN EXPLANATION OF PROPOSED EXEMPTIONS FROM OTHERWISE APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS - Not applicable

( ) An explanation of the proposed exemption.

Section 7 COMPLIANCE SCHEDULE FOR NONCOMPLYING EMISSIONS UNITS – Not applicable

( ) Identification of emissions unit(s) not in compliance, including the requirement being violated and the effective compliance date.

( ) Detailed description of methods to be used to achieve compliance.

( ) A schedule of remedial measures, including an enforceable sequence of actions with milestones.

Attachment

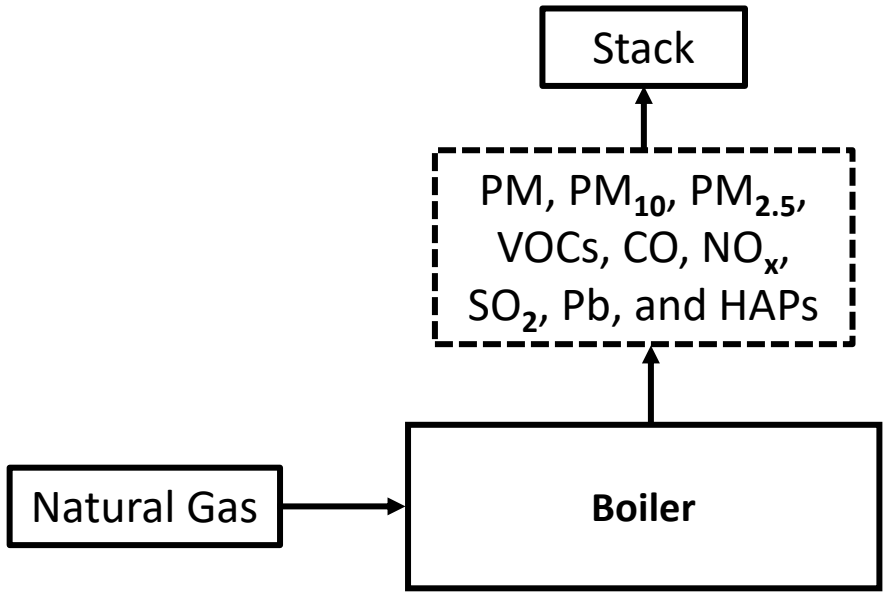
(✓) Checklist of Insignificant Activities

( ) CAM Plan (If Applicable)
– **Not applicable, since facility does not use control devices to meet emission standards.**

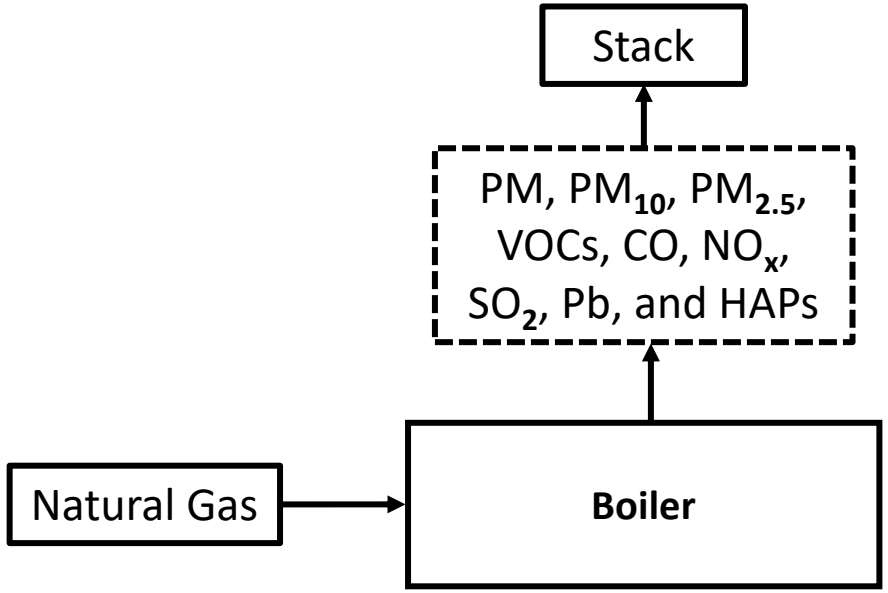
Appendix D

Process Flow Diagram

Process Flow Diagram:
1.0 MMBtu Riello Boiler



Process Flow Diagram:
2.0 MMBtu Lochinvar Boiler



Appendix E

JHU Homewood Campus Map

Homewood Campus Map

Directory

1	Abel Wolman House Alumni Memorial Residences	E4
2	AMR 1	H3
3	AMR 2	H3
4	AMR 3, Building A	H2
5	AMR 3, Building B	H2
6	Ames Hall	E/F2
7	Barnes & Noble Johns Hopkins Bookstore	F4/5
8	Barton Hall	D3
9	Biology East	G2/3
10	The Blackstone Apts.	E4
11	Bloomberg Center for Physics & Astronomy	G1/2
12	Bradford Apts.	F/G5
13	Brody Learning Commons	F3
14	Bunting Meyerhoff Interfaith and Community Service Center	I 3
15	The Charles Apts.	F4
16	Charles Commons	F4
17	Chemistry Bldg.	G2
18	Clark Hall	D2
19	Cordish Lacrosse Center	I 2
20	Croft Hall	D3
21	Dell House	Inset
22	Dunning Hall	G2
23	Education Building	Inset
24	Garland Hall	D2
25	Gatehouse	D4
26	Gilman Hall	F2
27	Glass Pavilion	E2
28	Greenhouse & Greenhouse South	F2
29	Hackerman Hall	D2/3
30	Hodson Hall	D2
31	Homewood Apts.	B5
32	Homewood Apts. Annex	B5
33	Homewood Early Learning Center	C2
34	Homewood Field	I 2
35	Homewood Museum	G3
36	Hopkins Square	B/C5
37	Jenkins Hall	F2
38	Johns Hopkins Club	F/G2
39	Krieger Hall	F2/3
40	Lacrosse Hall of Fame	J1/2
41	Latrobe Hall	E2/3
42	Levering Hall	E2
43	Levi Bldg.	G2
44	Macaulay Hall	G2
45	Malone Hall	C3
46	Maryland Hall	E3
47	Mason Hall	C2/3
48	Mattin Center	E3/4
49	Maxine F. Singer Bldg./ Carnegie Institution of Washington	G1
50	McCoy Hall	G4
51	Mergenthaler Hall	F2
52	Merrick Barn	E3
53	Milton S. Eisenhower Library	F3
54	Mudd Hall	G2
55	Newton H. White Jr. Athletic Center	H/I 2
56	Nichols House	F2
57	Olin Hall	E2
58	Power Plant	D3
59	Ralph S. O'Connor Recreation Center	H2
60	Remsen Hall	F/G2
61	Rogers House	I 4
62	ROTC Bldg.	I I/2
63	San Martin Center	F1/2
64	Schelle Pavilion	I/2
65	Shaffer Hall	D3
66	Shriver Hall	C/D3
67	Smokler Center for Jewish Life (Hillel)	D4/5
68	Steinwald House	E4
69	Steven Muller Bldg./STSci	H1
70	Undergraduate Teaching Labs	G/H2
71	Whitehead Hall	E3
72	Wolman Hall	G4
73	Wyman Park Bldg.	B2
74	1 E. 31st St.	C5
75	5–15 W. 29th St.	Inset
76	115 W. University Pkwy.	J1
77	3001 Remington	A2
78	3001 N. Charles St.	A/B5
79	3003 N. Charles St. South Entrance	A/B5
80	3103 N. Charles St.	C4/5
81	3105 N. Charles St.	C4/5
82	3505 N. Charles St.	H/I 3

Legend

- Visitor Parking
- Visitor Center
- Dining
- Shopping and Dining
- Accessible Entrance
- Under Construction
- You are here

JOHNS HOPKINS UNIVERSITY

CAMPUS MAP GUIDE

Building	Number on Map	Emission Units
Charles Commons	16	5-1861 thru 5-1868, 9-1179
School of Education (Seton)	22	5-2040, 5-2041, 1.0 MMBtu Riello Boiler
Homewood Apartments	30	5-2033 thru 5-2036
McCoy Hall	48	5-2028 thru 5-2032
Olin Hall	55	5-0964, 5-0965
Power Plant	56	5-0763, 5-0533 thru 5-0535, 5-2067, 5-2206
San Martin Center	63	2.0 MMBtu Lochinvar Boiler
Undergraduate Teaching Lab (UTL)	68	9-1282
Wolman Hall	70	5-2024 thru 5-2027, 5-2173
Wyman Park Building	71	5-1728, 5-1729, 5-1885

Appendix F

Request for Coverage: 1.0 MMBtu Riello Boiler and 2.0 MMBtu Lochinvar Boiler

MARYLAND DEPARTMENT OF THE ENVIRONMENT
Air and Radiation Management Administration • Air Quality Permits Program
1800 Washington Boulevard • Baltimore, Maryland 21230
(410)537-3230 • 1-800-633-6101• www.mde.maryland.gov

Mail application and payment to the following address:
MDE/ARMA, PO Box 2037
Baltimore, MD 21203-2037
Don't forget to sign the application!

Make checks payable to the following:
MDE Clean Air Fund

$400 per piece of equipment

Request for Coverage: Air Quality General Permit to Construct

SMALL FUEL BURNING (BOILER/HEATER) EQUIPMENT

1) Business/Institution/Facility where the equipment will be located ☐ **Check if this is a federal facility**
Business/Institution/Facility Name: Johns Hopkins University - Seton Building Phone: 410-516-7655
Contact Person's Name: Lou Morrison Email Address: lmorri32@jhmi.edu
Street Address: 2800 N. Charles Street
City: Baltimore State: MD Zip Code: 21218 County: Baltimore City

2) Owner ☐ **Check if different from above. If checked, complete the following:**
Name: Phone:
Mailing Address: Email:
City: State: Zip Code:

3) Installer
Contact Name: Steve Robidoux - Flo-Tron, Inc. Phone: 410-527-0060

4) Equipment Information
Manufacturer / Model: Riello SpA / AR 1000 Boiler Installation Date: 01/26/2022
Number Installed: 1 Number Removed: 0 (Attach a list of removed equipment)
Maximum Rated Heat Input (from boiler plate): _____ Horsepower or 1.0 Million Btu per Hour

5) Fuel Information
Indicate the type and quantity of fuel burned. You must be able to check ONE AND ONLY ONE of the following fuel types to qualify for this permit:
A. ☑ Natural Gas Only 8,600,000 cubic feet of Natural Gas burned per year
B. ☐ Liquid Petroleum Gas (Propane) Only _____ gallons of Liquid Petroleum Gas (Propane) burned per year
C. ☐ Natural Gas with Distillate Oil as backup fuel only during natural gas curtailment or supply interruption
_____ cubic feet of Natural Gas burned per year **AND** _____ gallons of Distillate Oil burned per year as backup

ATTENTION! Natural gas curtailment or supply interruption means any period during which the supply of natural gas is halted for reasons beyond the control of the facility. An increase in the cost or unit price of natural gas does not constitute a period of natural gas curtailment or interruption. If you plan to burn distillate oil at times OTHER THAN natural gas curtailment or supply interruption, DO NOT SELECT THIS FUEL TYPE. See the fuel types listed under D and E below.

D. ☐ Natural Gas or Distillate Oil with NO RESTRICTIONS on use of either fuel
_____ cubic feet of Natural Gas burned per year **AND** _____ gallons of Distillate Oil burned per year
E. ☐ Distillate Oil Only _____ gallons of Distillate Oil burned per year

6) Business Operational Information
% comfort heat: 100 % process heat: 0
24 hours per day 7 days per week 365 days per year

7) Workers Compensation Information (Environmental Article §1-202)
Workers insurance policy or binder number: SP 4066901
☐ Check is self-employed or otherwise exempt from this requirement

"I CERTIFY UNDER PENALTY OF LAW THAT THE INFORMATION SUBMITTED IN THIS REQUEST FOR COVERAGE IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

Jay Murphy; Senior Director, Facility Operations Aug 25, 2023
Owners Signature **Printed Name and Title** **Date**

MARYLAND DEPARTMENT OF THE ENVIRONMENT
Air and Radiation Management Administration • Air Quality Permits Program
1800 Washington Boulevard • Baltimore, Maryland 21230
(410)537-3230 • 1-800-633-6101• www.mde.maryland.gov

Mail application and payment to the following address:
MDE/ARMA, PO Box 2037
Baltimore, MD 21203-2037
Don't forget to sign the application!

Make checks payable to the following:
MDE Clean Air Fund

$400 per piece of equipment

Request for Coverage: Air Quality General Permit to Construct

SMALL FUEL BURNING (BOILER/HEATER) EQUIPMENT

1) Business/Institution/Facility where the equipment will be located ☐ **Check if this is a federal facility**
Business/Institution/Facility Name: Johns Hopkins University - San Martin Center Phone: 410-516-7655
Contact Person's Name: Lou Morrison Email Address: lmorri32@jhmi.edu
Street Address: 3500 San Martin Drive
City: Baltimore State: MD Zip Code: 21218 County: Baltimore City

2) Owner ☐ **Check if different from above. If checked, complete the following:**
Name: Phone:
Mailing Address: Email:
City: State: Zip Code:

3) Installer
Contact Name: Steve Robidoux - Flo-Tron, Inc. Phone: 410-527-0060

4) Equipment Information
Manufacturer / Model: Lochinvar / PBN 2001 Installation Date: 02/01/2022
Number Installed: 1 Number Removed: 0 (Attach a list of removed equipment)
Maximum Rated Heat Input (from boiler plate): _____ Horsepower or 2.0 Million Btu per Hour

5) Fuel Information
Indicate the type and quantity of fuel burned. You must be able to check ONE AND ONLY ONE of the following fuel types to qualify for this permit:

A. ☑ Natural Gas Only 17,000,000 cubic feet of Natural Gas burned per year

B. ☐ Liquid Petroleum Gas (Propane) Only _____ gallons of Liquid Petroleum Gas (Propane) burned per year

C. ☐ Natural Gas with Distillate Oil as backup fuel only during natural gas curtailment or supply interruption
_____ cubic feet of Natural Gas burned per year **AND** _____ gallons of Distillate Oil burned per year as backup

ATTENTION! Natural gas curtailment or supply interruption means any period during which the supply of natural gas is halted for reasons beyond the control of the facility. An increase in the cost or unit price of natural gas does not constitute a period of natural gas curtailment or interruption. If you plan to burn distillate oil at times OTHER THAN natural gas curtailment or supply interruption, DO NOT SELECT THIS FUEL TYPE. See the fuel types listed under D and E below.

D. ☐ Natural Gas or Distillate Oil with NO RESTRICTIONS on use of either fuel
_____ cubic feet of Natural Gas burned per year **AND** _____ gallons of Distillate Oil burned per year

E. ☐ Distillate Oil Only _____ gallons of Distillate Oil burned per year

6) Business Operational Information
% comfort heat: 100 % process heat: 0
24 hours per day 7 days per week 365 days per year

7) Workers Compensation Information (Environmental Article §1-202)
Workers insurance policy or binder number: SP 4066901
☐ Check is self-employed or otherwise exempt from this requirement

"I CERTIFY UNDER PENALTY OF LAW THAT THE INFORMATION SUBMITTED IN THIS REQUEST FOR COVERAGE IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

Jay Murphy; Senior Director, Facility Operations Aug 25, 2023

Owners Signature **Printed Name and Title** **Date**

Form Number MDE/ARMA/PER.031 Revised: 08/29/2016 For MDE use only: Page 1 of 1
TTY Users 1-800-735-2258

AI# PREMISE#

Appendix G

Annual Compliance Certification (2022)

EPA United States Environmental Protection Agency

OMB No. 2060-0336, Approval Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)

ANNUAL COMPLIANCE CERTIFICATION (A-COMP)

A. GENERAL INFORMATION

Permit No. 24-510-00077

Reporting Period: Beg. 01 / 01 / 2022 End. 12 / 31 / 2022

Source / Company Name Johns Hopkins University – Homewood Campus

Mailing Address: Street or P.O. Box 3910 Keswick Rd. North Bldg 3100

City Baltimore State MD ZIP 21211 -

Contact person Jay Murphy Title Senior Director, Plant Operations

Telephone (443) 997 - 7574 Ext.

Continued on next page

B. COMPLIANCE STATUS

Describe the compliance status of each permit term for the reporting period. Copy this page as many times as necessary to cover all permit terms and conditions.

Emission Unit ID(s):EU 5-0533 thru 5-0535 & 5-0763, EU 5-1728 & 5-1729

Permit Term (Describe requirements and cross-reference)
Section IV 1.1D, 1.4D, 3.1D
Only burn natural gas except during periods of gas curtailment or supply interruption. Testing of liquid fuel limited to 48 hours per unit annually.
Compliance Methods for the Above (Description and Citation):
Logs of fuel usage are maintained on site.

Status (Check one): ___ Intermittent Compliance _x_ Continuous Compliance

---

Emission Unit ID(s): EU 5-0533 thru 5-0535 & 5-0763

Permit Term (Describe requirements and cross-reference)
Properly operate and maintain boilers to prevent visible emissions. Section IV 1.3A
Verify no visible emissions when burning distillate oil by performing visual observation for a 6 minute period for each 168 hours on oil. Section IV 1.3A (Requirement for VEO waived if burner used for < 100 hours in a calendar year)

Compliance Methods for the Above (Description and Citation):
Boilers are maintained to prevent visible emissions. Logs of operations and maintenance are kept on site. Visible emissions observations are conducted when distillate oil is burned.

Status (Check one): ___ Intermittent Compliance _x___ Continuous Compliance

---

Emission Unit ID(s): EU 5-0533 thru 5-0535 & 5-0763, EU 5-1728 & 5-1729, EU 9-1179, EU 9-1379-1382, EU 9-1282

Permit Term (Describe requirements and cross-reference)
Burn only distillate oil with a sulfur content <0.3%. Section IV 1.1B, 3.1C, 5.1B, 6.1B

Compliance Methods for the Above (Description and Citation):
Only low sulfur fuel is used. Certificate of fuel sulfur content from supplier maintained on site.

Status (Check one): ___ Intermittent Compliance _x_ Continuous Compliance

---

Emission Unit ID(s): EU 5-0533 thru 5-0535 & 5-0763, EU 5-1728 & 5-1729, EU 5-1867 & 5-1868, 5-2206, EU 5-2026 & 5-2027, EU 5-2028 thru 2030, EU 5-2033 & 5-2034, 5-2173, 5-2067

Permit Term (Describe requirements and cross-reference)
Perform a combustion analysis at least once per year and optimize combustion based on that analysis. Section IV 1.2C, 1.3C, 3.2B, 3.3B, 4.2B, 4.3B 7.2C, 7.3C

Compliance Methods for the Above (Description and Citation):
Combustion analysis and optimization performed on all units and documentation maintained on site.

Status (Check one): ___ Intermittent Compliance _x_ Continuous Compliance

B. COMPLIANCE STATUS

Describe the compliance status of each permit term for the reporting period. Copy this page as many times as necessary to cover all permit terms and conditions.

Emission Unit ID(s): EU 5-0533 thru 5-0535 & 5-0763, EU 5-1728 & 5-1729, EU 5-1867 & EU 5-1868, EU 5-0964 & 5-0965, EU 5-1861 thru 1866, EU 5-1885, EU 5-2024 & 2025, EU 5-2026 thru 2030, EU 5-2031 & 2032, EU 5-2033 & 2034, 5-2173, EU 5-2035 & 2036, EU 5-2040 & 2041, 5-2206

Permit Term (Describe requirements and cross-reference)
1. Maintain an operation manual and preventative maintenance plan on site;
2. Maintain and record of the maintenance performed that relates to combustion performance;
3. Maintain a log of visible emissions observations performed and make it available to the department's representative upon request;
4. Maintain a record of the hours that No. 2 fuel oil is burned.

Section IV 1.4A (All terms) 2.4A, 3.4A, 4.4A (Terms 1 & 2 only)

Compliance Methods for the Above (Description and Citation):
All required records are maintained on site.

Status (Check one): ___ Intermittent Compliance _x_ Continuous Compliance

---

Emission Unit ID(s): EU 5-0533 thru 5-0535 & 5-0763, EU 5-1728 & 5-1729, EU 5-1867 & EU 5-1868, EU 5-0964 & 5-0965, EU 5-1861 thru 1866, EU 5-1885, EU 5-2024 & 2025, EU 5-2026 thru 2030, EU 5-2031 & 2032, EU 5-2033 & 2034, 5-2173, EU 5-2035 & 2036, EU 5-2040 & 2041, 5-2206, 9-1179, 9-1380, 9-1381, 9-1282, 9-1379, 9-1382, 2-2067

Permit Term (Describe requirements and cross-reference)
Provide required training to operators and maintain training records for each operator.
Section IV 1.1C, 1.4C, 2.1B, 2.4B, 3.1B, 3.4B, 4.1B, 4.4B, 5.1C, 5.4C, 6.1C, 6.4C, 7.1C, 7.4C

Compliance Methods for the Above (Description and Citation):
Records are maintained on site.

Status (Check one): ___ Intermittent Compliance _x_ Continuous Compliance

---

Emission Unit ID(s): EU 5-0533 thru 5-0535 & 5-0763, EU 5-1728 & 5-1729, EU 5-1867 & EU 5-1868, EU 5-0964 & 5-0965, EU 5-1861 thru 1866, EU 5-1885, EU 5-2024 & 2025, EU 5-2026 thru 2030, EU 5-2031 & 2032, EU 5-2033 & 2034, 5-2173, EU 5-2035 & 2036, EU 5-2040 & 2041, 5-2206, 9-1179, 9-1380, 9-1381, 9-1282, 9-1379, 9-1382, 2-2067

Permit Term (Describe requirements and cross-reference)
Submit annual fuel usage, type, and amount with the annual emissions certification.
Section IV 1.5D, 2.5C, 3.5D, 4.5C, 5.5D, 6.5F, 7.5D

Compliance Methods for the Above (Description and Citation):
Fuel usage records are maintained and are used to generate the annual emissions certification.

Status (Check one): ___ Intermittent Compliance _x_ Continuous Compliance

B. COMPLIANCE STATUS

Describe the compliance status of each permit term for the reporting period. Copy this page as many times as necessary to cover all permit terms and conditions.

Emission Unit ID(s): EU 9-1179, 9-1380, 9-1381, 9-1379, 9-1382, 9-1282

Permit Term (Describe requirements and cross-reference)
Perform a combustion analysis and optimize combustion annually for any engine operating more than 500 hours per year. IV.5.2C, 6.2C

Compliance Methods for the Above (Description and Citation):
No generators were run for more than 500 hours. Usage logs are maintained on site

Status (Check one): ___ Intermittent Compliance _x_ Continuous Compliance

---

Emission Unit ID(s): EU 9-1179, 9-1380, 9-1381, 9-1379, 9-1382, 9-1282

Permit Term (Describe requirements and cross-reference)
Maintain a log of the amount of fuel combusted, hours of operation, and reason for generator operation. 5.4D, 6.4D

Compliance Methods for the Above (Description and Citation):
Generators are tested automatically each month for between 20 to 50 minutes. There is also bi-annual minor and annual major maintenance conducted where they may be run an additional 30-60 minutes. Fuel usage is estimated from run times and generator size.

Status (Check one): ___ Intermittent Compliance _x__ Continuous Compliance

---

Emission Unit ID(s) EU 9-1179, 9-1380, 9-1381, 9-1379, 9-1382, 9-1282

Permit Term (Describe requirements and cross-reference)
Use only ultra low sulfur fuel and maintain documentation of fuel specifications. 5.1B, 5.4B, 6.1B, 6.4B

Compliance Methods for the Above (Description and Citation):
Only ultra low sulfur fuel is used. Documentation is kept on site.

Status (Check one): ___ Intermittent Compliance _x__ Continuous Compliance

---

Emission Unit ID(s): EU 9-1179, 9-1380, 9-1381, 9-1379, 9-1382, 9-1282

Permit Term (Describe requirements and cross-reference)
Maintain a log of the amount of fuel combusted, hours of operation, and reason for generator operation. 5.4D, 6.4D

Compliance Methods for the Above (Description and Citation):
Generators are tested automatically each month for between 20 to 50 minutes. There is also bi-annual minor and annual major maintenance conducted where they may be run an additional 30-60 minutes. Fuel usage is estimated from run times and generator size. During 2021, there was an outage in September where some of the generators were used for emergency power

Status (Check one): ___ Intermittent Compliance _x__ Continuous Compliance

B. COMPLIANCE STATUS

Describe the compliance status of each permit term for the reporting period. Copy this page as many times as necessary to cover all permit terms and conditions.

Emission Unit ID(s): EU 9-1282, 9-1379, 9-1382

Permit Term (Describe requirements and cross-reference)
Calculate the capacity factor of the engine within 30 days after the end of each month. 6.3C

Compliance Methods for the Above (Description and Citation):
Capacity factor is calculated and maintained on site.

Status (Check one): ___ Intermittent Compliance _x_ Continuous Compliance

---

Emission Unit ID(s):EU: 5-2067

Permit Term (Describe requirements and cross-reference)
Document the sulfur content of the fuel (7.1B), burn only natural gas (7.1D), perform a combustion analysis yearly(7.2C), properly operate and maintain to prevent visible emissions (7.3A)

Compliance Methods for the Above (Description and Citation):
Fuel data from the pipeline companies indicate that the fuel meets applicable standards to prevent sulfur emissions from exceeding limits, unit only can burn natural gas, combustion analysis was performed and unit is maintained for peak efficiency.

Status (Check one): ___ Intermittent Compliance _x_ Continuous Compliance

---

Emission Unit ID(s): EU: 5-2067

Permit Term (Describe requirements and cross-reference)
Perform an annual combustion analysis (7.2.C.1) and an annual performance test. If the result of the last test was <= 75% of the allowed NOx limit, the test can be done every two years (26 months apart)(7.2.C.2)

Compliance Methods for the Above (Description and Citation):
The June 2021 test showed NOx levels < 75% below the allowed limit (4.05 ppmv v 25 ppmv)

Status (Check one): ___ Intermittent Compliance ___ Continuous Compliance

---

Emission Unit ID(s):

Permit Term (Describe requirements and cross-reference)

Compliance Methods for the Above (Description and Citation):

Status (Check one): ___ Intermittent Compliance ___ Continuous Compliance

C. DEVIATIONS FROM PERMIT TERMS AND CONDITIONS

Report all deviations from permit terms (whether reported previously or not) that occurred during the permit term. Cross-reference deviations already reported in the six-month report. Indicate whether each deviation is a Apossible exception@ to compliance.@ Start and end period of each deviation should be in mo/day/yr, hr:min format (24-hour clock). Also specify the date when the written deviation report was submitted (If written report required, but not submitted, leave the date field blank).

Permit Term for Which There was a Deviation: There were no deviations during the reporting period.

Emission Units (unit IDs):

Deviation Start ___/___/_____ ____:____ End:___/___/_____ ____:____

Date Written Report Submitted __/__/____

Permit Term for Which There was a Deviation:

Emission Units (unit IDs):

Deviation Start _____/_____/_____ ____:____ End:_____/_____/_____ ____:____

Date Written Report Submitted ____/____/_____

Permit Term for Which There was a Deviation:

Emission Units (unit IDs):

Deviation Start _____/_____/_____ ____:____ End:_____/_____/_____ ____:____

Date Written Report Submitted ____/____/_____

Permit Term for Which There was a Deviation:

Emission Units (unit IDs):

Deviation Start _____/_____/_____ ____:____ End:_____/_____/_____ ____:____

Date Written Report Submitted ____/____/_____

CERTIFICATION OF PLANT-WIDE CONDITIONS
(SECTION III OF PART 70 OPERATING PERMIT)

Indicate compliance with the following requirements of Section III of your Part 70 Operating Permit in the space provided below:

1. Particulate Matter from Construction and Demolition

   In compliance

2. Open Burning

   In compliance

3. Air Pollution Episode (N/A)

   N/A

4. Report of Excess Emissions and Deviations
   (All deviations from permit requirements should be clearly identified in quarterly monitoring reports.)

   N/A

5. Accidental Release Provisions (if applicable)

   N/A

6. General Testing Requirements

   In compliance

7. Emissions Test Methods

   In compliance

8. Emission Certification Report

   In compliance

9. Compliance Certification Report

In compliance

10. Certification by Responsible Official

In compliance

11. Sampling and Emissions Testing Record Keeping

In compliance

12. General Record Keeping

In compliance

13. General Conformity (N/A except for federal facilities)

In compliance

14. Asbestos Provisions (if applicable)

In compliance

15. Ozone Depleting Regulations (if applicable)

In compliance

16. Acid Rain Permit (if applicable)

N/A

EPA United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)

CERTIFICATION OF TRUTH, ACCURACY, AND COMPLETENESS (CTAC)

This form must be completed, signed by the "Responsible Official" designated for the facility or emission unit, and sent with each submission of documents (i.e., application forms, updates to applications, reports, or any information required by a part 71 permit).

A. Responsible Official

Name: (Last) Bukowski (First) James (MI) ____

Title Environmental Health Officer

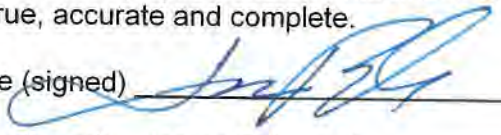
Street or P.O. Box 2024 E. Monument St Ste. B-200

City Baltimore State MD ZIP 21287 - ____

Telephone (410) 955 - 5918 Ext. ____ Facsimile (____) ____ - ____

B. Certification of Truth, Accuracy and Completeness (to be signed by the responsible official)

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in these documents are true, accurate and complete.

Name (signed) 

Name (typed) James Bukowski Date: 04 / 01 / 2023

Appendix H

Annual Emissions Report for Homewood Campus (2022)

Health, Safety & Environment
2024 East Monument Street / Suite B-200
Baltimore, Maryland 21287
410-955-5918 T / 410-955-5929 F

JOHNS HOPKINS
MEDICINE

April 1, 2023

Roland Gorschboth
Maryland Department of the Environment
Air and Radiation Management Administration
1800 Washington Blvd.
Baltimore, MD 21230-1720

Dear Mr. Gorschboth,

Enclosed is the Annual Compliance Certification (A-COMP) for The Johns Hopkins University, Homewood Campus. A copy of the A-COMP was also sent to the EPA Region 3 office in Philadelphia via email.

I am also attaching a copy of the Annual Emissions Certification for the Homewood Campus.

The Johns Hopkins University Homewood Campus is in compliance with Maryland's Air Toxic Regulations.

Please contact me at 410-955-5918 if you have any questions.

Very truly yours,

James Bukowski, MS, CIH
Director, Occupational and Environmental Safety
Johns Hopkins University

MARYLAND DEPARTMENT OF THE ENVIRONMENT
1800 Washington Boulevard, Suite 715 • Baltimore Maryland 21230-1720
410-537-3000 • 1-800-633-6101 • http://www.mde.state.md.us
Air and Radiation Management Administration
Air Quality Compliance Program
410-537-3220

FORM 1:

GENERAL FACILITY INFORMATION
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2022

A. FACILITY IDENTIFICATION	**Do Not Write in This Space**
Facility Name: Johns Hopkins University (Homewood Campus)	Date Received Regional
Address: 3400 N. Charles Street	Date Received State
City: Baltimore County: N/A Zip Code: 21218	AIRS Code
B. Briefly describe the major function of the facility	FINDS Code
Education and research	SIC Code
	Facility Number:
	TEMPO ID:
C. SEASONAL PRODUCTION (%, if applicable)	Reviewed by:
Winter *(Dec.-Feb.)*: 33 / Spring *(Mar – May)*: 27 / Summer *(Jun – Aug)*: 22 / Fall *(Sept – Nov)*: 18	Name Date

D. Explain any increases or decreases in emissions from the previous calendar year for each registration at this facility.

Any changes are due to seasonal variations in temperature and the power demands of the institution.

E. CONTROL DEVICE INFORMATION (for NOx and VOC sources only)

Control Device	Capture Efficiency	Removal Efficiency
No control devices in use		

I am familiar with the facility and the installations and sources for which this report is submitted. I have personally examined the information in this report, which consists of 41 pages (including attachments), and certify that the information is correct to the best of my knowledge.

James Bukowski — Name (Print/Type)

Environmental Health Officer — Title

4/1/2023 — Date

Signature

410-955-5918 — Telephone

1/09/08

FORM 2:

CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2022

Facility Name: Johns Hopkins University (Homewood Campus) Facility ID: 510-00077 Pollutant: SOx

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions: Tons/yr	Actual Emissions: Lbs/day	Operating Schedule (Actual): Hrs/dy	Dys/wk	Wk/yr	Days/yr	TOSD: Lbs/dy	Operating Schedule: Hrs/dy	Start	End	Emissions Methods
Main Power Plant Boiler 5-0763		gas	S	0	0.1	24	7		365					C3
			F											
Main Power Plant Boiler 5-0763		oil	S	0	0.1	24	7		365					C3
			F											
Main Power Plant Boiler 5-0533		gas	S	0	0.1	24	7		365					C3
			F											
Main Power Plant Boiler 5-0533		oil	S	0	0.1	24	7		365					C3
			F											
Main Power Plant Boiler 5-0534		gas	S	0	0.1	24	7		365					C3
			F											
Main Power Plant Boiler 5-0534		oil	S	0	0.1	24	7		365					C3
			F											
Main Power Plant Boiler 5-0535		gas	S	0	0.1	24	7		365					C3
			F											
Main Power Plant Boiler 5-0535		oil	S	0	0.1	24	7		365					C3
			F											
Wyman Power Plant Boiler 5-1728		gas	S	0	0.01	24	7		365					C3
			F											
Wyman Power Plant Boiler 5-1729		gas	S	0	0.01	24	7		365					C3
			F											
Total			S	0.2	0.86									

S - Stack Emissions F - Fugitive Emissions Only emissions (lbs/day) are lbs/operating day of the source

TOSD: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April-September). This section needs to be completed only for VOC and NOx sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method
A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other, Specify

C1-User calculated based on source test or other measurement.
C2-User calculated based on material balance using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by best guess/engineering judgment
C5-User calculated based on a State or local agency emission factor
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standard

1.09.08

FORM 2:

CRITERIA AIR POLLUTANTS EMISSIONS CERTIFICATION REPORT

Calendar Year: 2022

Facility Name: Johns Hopkins University (Homewood Campus) Facility ID: 510-00077 Pollutant: SOx

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions Tons/yr	Actual Emissions Lbs/day	Operating Schedule (Actual) Hrs/dy	Dys/wk	Wk/yr	Days/yr	TOSD Lbs/dy	Operating Schedule Hrs/dy	Start	End	Emissions Methods
Olin Hall S-0964		gas	S	0	0	24	7		365					C3
			F											
Olin Hall S-0965		gas	S	0	0	24	7		365					C3
			F											
Charles Commons S-1961		gas	S	0	0	24	7		365					C3
			F											
Charles Commons S-1962		gas	S	0	0	24	7		365					C3
			F											
Charles Commons S-1963		gas	S	0	0	24	7		365					C3
			F											
Charles Commons S-1964		gas	S	0	0	24	7		365					C3
			F											
Charles Commons S-1965		gas	S	0	0	24	7		365					C3
			F											
Charles Commons S-1966		gas	S	0	0	24	7		365					C3
			F											
Charles Commons S-1967		gas	S	0	0	24	7		365					C3
			F											
Charles Commons S-1968		gas	S	0	0	24	7		365					C3
			F											
Total				0.01	0.03									

S - Stack Emissions F - Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

TOSD: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April-September). This section needs to be completed only for VOC and NOx sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method
A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other, Specify

C1-User calculated based on source test or other measurement
C2-User calculated based on material balance using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by best guess/engineering judgment
C5-User calculated based on a State or local agency emission factor
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standard

1 09 08

FORM 2:

CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2022

Facility Name: Johns Hopkins University (Homewood Campus) Facility ID: 510-00077 Pollutant: SOx

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions Tons/yr	Actual Emissions Lbs/day	Operating Schedule (Actual) Hrs/dy	Dys/wk	Wk/yr	Days/yr	TOSD Lbs/dy	Operating Schedule Hrs/dy	Start	End	Emissions Methods
Charles Commons EG 5-1179		oil	S	0	0.28	0.5	1		52					C3
			F											
Wolman Building 5-2024		gas	S	0	0	24	7		365					C3
			F											
Wolman Building 5-2025		gas	S	0	0	24	7		365					C3
			F											
Wolman Building 5-2026		gas	S	0	0	24	7		365					C3
			F											
Wolman Building 5-2027		gas	S	0	0	24	7		365					C3
			F											
McCoy Building 5-2028		gas	S	0	0	24	7		365					C3
			F											
McCoy Building 5-2029		gas	S	0	0	24	7		365					C3
			F											
McCoy Building 5-2030		gas	S	0	0	24	7		365					C3
			F											
McCoy Building 5-2031		gas	S	0	0	24	7		365					C3
			F											
McCoy Building 5-2032		gas	S	0	0	24	7		365					C3
			F											
Total				0	0.28									

S - Stack Emissions F - Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

TOSD: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April-September). This section needs to be completed only for VOC and NOx sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method
A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other, Specify

C1-User calculated based on source test or other measurement
C2-User calculated based on material balance using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by best guess/engineering Judgment
C5-User calculated based on a State or local agency emission factor
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standard

1 09/08

FORM 2:

CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2022

Facility Name: Johns Hopkins University (Homewood Campus) Facility ID: 510-00077 Pollutant: SOx

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions Tons/yr	Actual Emissions Lbs/day	Operating Schedule (Actual) Hrs/dy	Dys/wk	Wk/yr	Days/yr	TOSD Lbs/dy	Operating Schedule Hrs/dy	Start	End	Emissions Methods
Homewood Building 5-2033		gas	S	0	0	24	7		365					C3
			F											
Homewood Building 5-2034		gas	S	0	0	24	7		365					C3
			F											
Homewood Building 5-2035		gas	S	0	0	24	7		365					C3
			F											
Homewood Building 5-2036		gas	S	0	0	24	7		365					C3
			F											
Seton Building 5-2040		gas	S	0	0	24	7		365					C3
			F											
Seton Building 5-2041		gas	S	0	0	24	7		365					C3
			F											
Gas Turbine EU 5-2067		gas	S	0.3	1.4	24	7		365					C3
			F											
Wyman Bldg EU 5-1885		gas	S	0	0	0	0		0					C3
			F											
Wyman Power Plant Boiler 5-1728		oil	S	0	0	24	7		365					C3
			F											
Wyman Power Plant Boiler 5-1729		oil	S	0	0	24	7		365					C3
			F											
Total				0.3	2.4									

S - Stack Emissions F - Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

TOSD: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April-September). This section needs to be completed only for VOC and NOx sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method
A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other, Specify

C1-User calculated based on source test or other measurement
C2-User calculated based on material balance using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by best guess/engineering judgment
C5-User calculated based on a State or local agency emission factor
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standard

FORM 2:

CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2022

Facility Name: Johns Hopkins University (Homewood Campus) Facility ID: 510-00077 Pollutant: SOx

Equipment Description/ Registration No:	SCC Number	Fuel		Actual Emissions Tons/yr	Actual Emissions Lbs/day	Operating Schedule (Actual) Hrs/dy	Dys/wk	Wk/yr	Days/yr	TOSD Lbs/dy	Operating Schedule Hrs/dy	Start	End	Emissions Methods
UTL Emergency Generator 9-1262		oil	S	0	0.6				12					C3
			F											
Wolman Building 9-2173		gas	S	0	0	24	7		365					C3
			F											
Power Plant BUS 9-2206		gas	S	0	0	24	7		365					C3
			F											
NCS EG 9-1380		oil	S	0	0.3				12					C3
			F											
North Chiller EG 9-1381		oil	S	0	0.7				12					C3
			F											
Brody LC EG 9-1382		oil	S	0	0.3				12					C3
			F											
Hackerman EG 9-1379		oil	S	0	0.3				12					C3
			F											
			S											
			F											
			S											
			F											
			S											
			F											
Total				0	2.2									

S - Stack Emissions F - Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

TOSD: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April-September). This section needs to be completed only for VOC and NO_x sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method
A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other, Specify

C1-User calculated based on source test or other measurement
C2-User calculated based on material balance using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by best guess/engineering Judgment
C5-User calculated based on a State or local agency emission factor
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standard

1/09/08

FORM 2:

CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2022

Facility Name: Johns Hopkins University (Homewood Campus) Facility ID: 510-00077 Pollutant: NOx

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions Tons/yr	Actual Emissions Lbs/day	Operating Schedule (Actual) Hrs/dy	Dys/wk	Wk/yr	Days/yr	TOSD Lbs/dy	Operating Schedule Hrs/dy	Start	End	Emissions Methods
Main Power Plant Boiler S-0763		gas	S	4.2	22.9	24	7		365					C3
			F											
Main Power Plant Boiler S-0763		oil	S	0	0	24	7		365					C3
			F											
Main Power Plant Boiler S-0533		gas	S	4.2	22.9	24	7		365					C3
			F											
Main Power Plant Boiler S-0533		oil	S	0	0	24	7		365					C3
			F											
Main Power Plant Boiler S-0534		gas	S	4.2	22.9	24	7		365					C3
			F											
Main Power Plant Boiler S-0534		oil	S	0	0	24	7		365					C3
			F											
Main Power Plant Boiler S-0535		gas	S	4.2	22.9	24	7		365					C3
			F											
Main Power Plant Boiler S-0535		oil	S	0	0	24	7		365					C3
			F											
Wyman Power Plant Boiler 5-1728		gas	S	0.4	2.2	24	7		365					C3
			F											
Wyman Power Plant Boiler 5-1729		gas	S	0.4	2.2	24	7		365					C3
			F											
Total				17.5	96									

S - Stack Emissions F - Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

TOSD: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April-September). This section needs to be completed only for VOC and NOx sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method:
A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other. Specify

C1-User calculated based on source test or other measurement
C2-User calculated based on material balance using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by best guess/engineering Judgment
C5-User calculated based on a State or local agency emission factor
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standard

1 09 08

FORM 2:

CRITERIA AIR POLLUTANTS EMISSIONS CERTIFICATION REPORT

Calendar Year: 2022

Facility Name: Johns Hopkins University (Homewood Campus) Facility ID: 510-00077 Pollutant: NOx

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions Tons/yr	Actual Emissions Lbs/day	Operating Schedule (Actual) Hrs/dy	Dys/wk	Wk/yr	Days/yr	TOSD Lbs/dy	Operating Schedule Hrs/dy	Start	End	Emissions Methods
Olin Hall 5-0964		gas	S	0.1	0.4	24	7		365					C3
			F											
Olin Hall 5-0965		gas	S	0.1	0.4	24	7		365					C3
			F											
Charles Commons 5-1861		gas	S	0.1	0.7	24	7		365					C3
			F											
Charles Commons 5-1862		gas	S	0.1	0.7	24	7		365					C3
			F											
Charles Commons 5-1863		gas	S	0.1	0.7	24	7		365					C3
			F											
Charles Commons 5-1864		gas	S	0.1	0.7	24	7		365					C3
			F											
Charles Commons 5-1865		gas	S	0.1	0.7	24	7		365					C3
			F											
Charles Commons 5-1866		gas	S	0.1	0.7	24	7		365					C3
			F											
Charles Commons 5-1867		gas	S	0.1	0.7	24	7		365					C3
			F											
Charles Commons 5-1868		gas	S	0.1	0.7	24	7		365					C3
			F											
Total				1.1	6.1									

S - Stack Emissions F - Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

TOSD: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April-September). This section needs to be completed only for VOC and NOx sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method

A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other, Specify

C1-User calculated based on source test or other measurement
C2-User calculated based on material balance using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by best guess/engineering judgment
C5-User calculated based on a State or local agency emission factor
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standard

1 09 08

FORM 2:

CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2022

Facility Name: Johns Hopkins University (Homewood Campus) Facility ID: 510-00077 Pollutant: NOx

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions Tons/yr	Actual Emissions Lbs/day	Operating Schedule (Actual) Hrs/dy	Dys/wk	Wk/yr	Days/yr	TOSD Lbs/dy	Operating Schedule Hrs/dy	Start	End	Emissions Methods
Charles Commons EG 5-1179		oil	S	0.1	2.8	0.5	1		52					C3
			F											
Wolman Building 5-2024		gas	S	0.1	0.3	24	7		365					C3
			F											
Wolman Building 5-2025		gas	S	0.1	0.3	24	7		365					C3
			F											
Wolman Building 5-2026		gas	S	0.1	0.3	24	7		365					C3
			F											
Wolman Building 5-2027		gas	S	0.1	0.3	24	7		365					C3
			F											
McCoy Building 5-2028		gas	S	0	0.1	24	7		365					C3
			F											
McCoy Building 5-2029		gas	S	0	0.1	24	7		365					C3
			F											
McCoy Building 5-2030		gas	S	0	0.1	24	7		365					C3
			F											
McCoy Building 5-2031		gas	S	0	0.1	24	7		365					C3
			F											
McCoy Building 5-2032		gas	S	0	0.1	24	7		365					C3
			F											
Total				0.5	4.6									

S - Stack Emissions F - Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

TOSD: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April-September). This section needs to be completed only for VOC and NOx sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method
A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other, Specify

C1-User calculated based on source test or other measurement
C2-User calculated based on material balance using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by best guess/engineering Judgment
C5-User calculated based on a State or local agency emission factor.
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standard

1 09 08

FORM 2:

CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2022

Facility Name: Johns Hopkins University (Homewood Campus) Facility ID: 510-00077 Pollutant: NOx

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions Tons/yr	Actual Emissions Lbs/day	Operating Schedule (Actual) Hrs/dy	Dys/wk	Wk/yr	Days/yr	TOSD Lbs/dy	Operating Schedule Hrs/dy	Start	End	Emissions Methods
Homewood Building S-2033		gas	S	0	0.1	24	7		365					C3
			F											
Homewood Building S-2034		gas	S	0	0.1	24	7		365					C3
			F											
Homewood Building S-2035		gas	S	0	0.1	24	7		365					C3
			F											
Homewood Building S-2036		gas	S	0	0.1	24	7		365					C3
			F											
Seton Building S-2040		gas	S	0	0.1	24	7		365					C3
			F											
Seton Building S-2041		gas	S	0	0.1	24	7		365					C3
			F											
Gas Turbine EQ S-2067		gas	S	7.7	42.1	24	7		365					C3
			F											
Wyman Bldg EU S-1886		gas	S	0	0	0	0		0					C3
			F											
Wyman Power Plant Boiler S-1728		oil	S	0	0	24	7		365					C3
			F											
Wyman Power Plant Boiler S-1729		oil	S	0	0	24	7		365					C3
			F											
Total				7.8	47.7									

S - Stack Emissions F - Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

TOSD: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April-September). This section needs to be completed only for VOC and NOx sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method
A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other, Specify

C1-User calculated based on source test or other measurement
C2-User calculated based on material balance using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by best guess/engineering judgment
C5-User calculated based on a State or local agency emission factor
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standard

1 09 08

FORM 2:

CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2022

Facility Name: Johns Hopkins University (Homewood Campus) Facility ID: 510-00077 Pollutant: NOx

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions Tons/yr	Actual Emissions Lbs/day	Operating Schedule (Actual) Hrs/dy	Dys/wk	Wk/yr	Days/yr	TOSD Lbs/dy	Operating Schedule Hrs/dy	Start	End	Emissions Methods
UTL Emergency Generator 9-1282		oil	S	0	5.9				12					C3
			F											
Wolman Building 5-2173		gas	S	0	0.4	24	7		365					C3
			F											
Power Plant EU5 5-2205		gas	S	0.4	2.2	24	7		365					C3
			F											
NCB EG 9-1380		oil	S	0	3.3				12					C3
			F											
North Chiller EG 9-1381		oil	S	0	7.4				12					C3
			F											
Brody LC EG 9-1382		oil	S	0	3.0				12					C3
			F											
Hackerman EG 9-1379		oil	S	0	3.7				12					C3
			F											
			S											
			F											
			S											
			F											
			S											
			F											
Total				0.8	25.6									

S - Stack Emissions. F - Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

TOSD: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April-September). This section needs to be completed only for VOC and NOx sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method
A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other, Specify

C1-User calculated based on source test or other measurement.
C2-User calculated based on material balance using engineering knowledge of the process
C3-User calculated based on AP-42.
C4-User calculated by best guess/engineering Judgment
C5-User calculated based on a State or local agency emission factor
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standard

1 09 08

FORM 2:

CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2022

Facility Name: Johns Hopkins University (Homewood Campus) Facility ID: 510-00077 Pollutant: CO

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions Tons/yr	Actual Emissions Lbs/day	Operating Schedule (Actual) Hrs/dy	Dys/wk	Wk/yr	Days/yr	TOSD Lbs/dy	Operating Schedule Hrs/dy	Start	End	Emissions Methods
Main Power Plant Boiler 5-0763		gas	S	3.5	19.3	24	7		365					C3
			F											
Main Power Plant Boiler 5-0763		oil	S	0	0	24	7		365					C3
			F											
Main Power Plant Boiler 5-0533		gas	S	3.5	19.3	24	7		365					C3
			F											
Main Power Plant Boiler 5-0533		oil	S	0	0	24	7		365					C3
			F											
Main Power Plant Boiler 5-0534		gas	S	3.5	19.3	24	7		365					C3
			F											
Main Power Plant Boiler 5-0534		oil	S	0	0	24	7		365					C3
			F											
Main Power Plant Boiler 5-0535		gas	S	3.5	19.3	24	7		365					C3
			F											
Main Power Plant Boiler 5-0535		oil	S	0	0	24	7		365					C3
			F											
Wyman Power Plant Boiler 5-1728		gas	S	0.3	1.9	24	7		365					C3
			F											
Wyman Power Plant Boiler 5-1729		gas	S	0.3	1.9	24	7		365					C3
			F											
Total				14.6	81									

S - Stack Emissions F - Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

TOSD: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April-September). This section needs to be completed only for VOC and NOx sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method

A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other, Specify

C1-User calculated based on source test or other measurement
C2-User calculated based on material balance using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by best guess/engineering Judgment

C5-User calculated based on a State or local agency emission factor
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standard

1 09 08

FORM 2:

CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2022

Facility Name: Johns Hopkins University (Homewood Campus) Facility ID: 510-00077 Pollutant: CO

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions Tons/yr	Actual Emissions Lbs/day	Operating Schedule (Actual) Hrs/dy	Dys/wk	Wks/yr	Days/yr	TOSD Lbs/dy	Operating Schedule Hrs/dy	Start	End	Emissions Methods
Olin Hall 5-0964		gas	S	0.1	0.3	24	7		365					C3
			F											
Olin Hall 5-0965		gas	S	0.1	0.3	24	7		365					C3
			F											
Charles Commons 5-1861		gas	S	0.1	0.6	24	7		365					C3
			F											
Charles Commons 5-1862		gas	S	0.1	0.6	24	7		365					C3
			F											
Charles Commons 5-1863		gas	S	0.1	0.6	24	7		365					C3
			F											
Charles Commons 5-1864		gas	S	0.1	0.6	24	7		365					C3
			F											
Charles Commons 5-1865		gas	S	0.1	0.6	24	7		365					C3
			F											
Charles Commons 5-1866		gas	S	0.1	0.6	24	7		365					C3
			F											
Charles Commons 5-1867		gas	S	0.1	0.6	24	7		365					C3
			F											
Charles Commons 5-1868		gas	S	0.1	0.6	24	7		365					C3
			F											
Total				1.0	5.4									

S - Stack Emissions F - Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

TOSD: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April-September). This section needs to be completed only for VOC and NOx sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method
A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other, Specify

C1-User calculated based on source test or other measurement
C2-User calculated based on material balance using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by best guess/engineering Judgment
C5-User calculated based on a State or local agency emission factor
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standard

1 09 08

FORM 2:

CRITERIA AIR POLLUTANTS EMISSIONS CERTIFICATION REPORT

Calendar Year: 2022

Facility Name: Johns Hopkins University (Homewood Campus) Facility ID: 510-00077 Pollutant: CO

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions Tons/yr	Actual Emissions Lbs/day	Operating Schedule (Actual) Hrs/dy	Dys/wk	Wk/yr	Days/yr	TOSD Lbs/dy	Operating Schedule Hrs/dy	Start	End	Emissions Methods
Charles Commons EG 9-1179		oil	S	0	0.8	0.5	1		52					C3
			F											
Wolman Building 5-2024		gas	S	0.1	0.4	24	7		365					C3
			F											
Wolman Building 5-2025		gas	S	0.1	0.4	24	7		365					C3
			F											
Wolman Building 5-2026		gas	S	0.1	0.4	24	7		365					C3
			F											
Wolman Building 5-2027		gas	S	0.1	0.4	24	7		365					C3
			F											
McCoy Building 5-2028		gas	S	0	0.1	24	7		365					C3
			F											
McCoy Building 5-2029		gas	S	0	0.1	24	7		365					C3
			F											
McCoy Building 5-2030		gas	S	0	0.1	24	7		365					C3
			F											
McCoy Building 5-2031		gas	S	0	0.1	24	7		365					C3
			F											
McCoy Building 5-2032		gas	S	0	0.1	24	7		365					C3
			F											
Total				0.4	1.9									

S - Stack Emissions F - Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

TOSD: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April-September). This section needs to be completed only for VOC and NOx sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method

A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other, Specify

C1-User calculated based on source test or other measurement
C2-User calculated based on material balance using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by best guess/engineering judgment
C5-User calculated based on a State or local agency emission factor
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standard

1 02.08

FORM 2:

CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2022

Facility Name: Johns Hopkins University (Homewood Campus) Facility ID: 510-00077 Pollutant: CO

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions Tons/yr	Actual Emissions Lbs/day	Operating Schedule (Actual) Hrs/dy	Dys/wk	Wk/yr	Days/yr	TOSD Lbs/dy	Operating Schedule Hrs/dy	Start	End	Emissions Methods
Homewood Building S-2033		gas	S	0	0.1	24	7		365					C3
			F											
Homewood Building S-2034		gas	S	0	0.1	24	7		365					C3
			F											
Homewood Building S-2035		gas	S	0	0.1	24	7		365					C3
			F											
Homewood Building S-2036		gas	S	0	0.1	24	7		365					C3
			F											
Seton Building S-2040		gas	S	0	0.1	24	7		365					C3
			F											
Seton Building S-2041		gas	S	0	0.1	24	7		365					C3
			F											
Gas Turbine EU S-2067		gas	S	1.2	6.4	24	7		365					C3
			F											
Wyman Bldg EU S-1885		gas	S	0	0	0	0		0					C3
			F											
Wyman Power Plant Boiler S-1728		oil	S	0	0	24	7		365					C3
			F											
Wyman Power Plant Boiler S-1729		oil	S	0	0	24	7		365					C3
			F											
Total				1.3	7.0									

S - Stack Emissions F - Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

TOSD: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April-September). This section needs to be completed only for VOC and NOx sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method
A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other, Specify

C1-User calculated based on source test or other measurement
C2-User calculated based on material balance using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by best guess/engineering judgment
C5-User calculated based on a State or local agency emission factor
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standard

1 09 08

FORM 2:

CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2022

Facility Name: Johns Hopkins University (Homewood Campus) Facility ID: 510-00077 Pollutant: CO

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions Tons/yr	Actual Emissions Lbs/day	Operating Schedule (Actual) Hrs/dy	Dys/wk	Wk/yr	Days/yr	TOSD Lbs/dy	Operating Schedule Hrs/dy	Start	End	Emissions Methods
UTL Emergency Generator 9-1282		oil	S	0	1.8				12					C8
			F											
Wolman Building 5-2173		gas	S	0	0	24	7		365					C3
			F											
Power Plant BUS 5-2166		gas	S	0.3	1.2	24	7		365					C3
			F											
NCB EG 9-1390		oil	S	0	0.8				12					C3
			F											
North Chiller EG 9-1391		oil	S	0	2.0				12					C3
			F											
Brody LC EG 9-1392		oil	S	0	0.8				12					C3
			F											
Hackerman EG 9-1379		oil	S	0	1.0				12					C3
			F											
			S											
			F											
			S											
			F											
			S											
			F											
Total			S	0.3	8.0									

S - Stack Emissions F - Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

TOSD: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April-September). This section needs to be completed only for VOC and NOx sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method
A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other, Specify

C1-User calculated based on source test or other measurement
C2-User calculated based on material balance using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by best guess/engineering judgment
C5-User calculated based on a State or local agency emission factor
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standard

1-09 08

FORM 2:

CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2022

Facility Name: Johns Hopkins University (Homewood Campus) Facility ID: 510-00077 Pollutant: VOC

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions Tons/yr	Actual Emissions Lbs/day	Operating Schedule (Actual) Hrs/dy	Dys/wk	Wk/yr	Days/Yr	TOSD Lbs/dy	Operating Schedule Hrs/dy	Start	End	Emissions Methods
Main Power Plant Boiler S-0763		gas	S	0.2	1.3	24	7		365					C3
			F											
Main Power Plant Boiler S-0763		oil	S	0	0	24	7		365					C3
			F											
Main Power Plant Boiler S-0533		gas	S	0.2	1.3	24	7		365					C3
			F											
Main Power Plant Boiler S-0533		oil	S	0	0	24	7		365					C3
			F											
Main Power Plant Boiler S-0534		gas	S	0.2	1.3	24	7		365					C3
			F											
Main Power Plant Boiler S-0534		oil	S	0	0	24	7		365					C3
			F											
Main Power Plant Boiler S-0535		gas	S	0.2	1.3	24	7		365					C3
			F											
Main Power Plant Boiler S-0535		oil	S	0	0	24	7		365					C3
			F											
Wyman Power Plant Boiler S-1728		gas	S	0	0.1	24	7		365					C3
			F											
Wyman Power Plant Boiler S-1729		gas	S	0	0.1	24	7		365					C3
			F											
Total				1.0	5.2									

S - Stack Emissions F - Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

TOSD: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April-September). This section needs to be completed only for VOC and NOx sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

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A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
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A9-Other, Specify

C1-User calculated based on source test or other measurement
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C5-User calculated based on a State or local agency emission factor
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standard

1 09 08

FORM 2:

CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2022

Facility Name: Johns Hopkins University (Homewood Campus) Facility ID: 510-00077 Pollutant: VOC

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)				TOSD	Operating Schedule			Emissions Methods
				Tons/yr	Lbs/day	Hrs/dy	Dys/wk	Wk/yr	Days/yr	Lbs/dy	Hrs/dy	Start	End	
Olin Hall 5-4064		gas	S	0	0	24	7		365					C3
			F											
Olin Hall 5-4065		gas	S	0	0	24	7		365					C3
			F											
Charles Commons 5-1861		gas	S	0	0	24	7		365					C3
			F											
Charles Commons 5-1862		gas	S	0	0	24	7		365					C3
			F											
Charles Commons 5-1863		gas	S	0	0	24	7		365					C3
			F											
Charles Commons 5-1864		gas	S	0	0	24	7		365					C3
			F											
Charles Commons 5-1865		gas	S	0	0	24	7		365					C3
			F											
Charles Commons 5-1866		gas	S	0	0	24	7		365					C3
			F											
Charles Commons 5-1867		gas	S	0	0	24	7		365					C3
			F											
Charles Commons 5-1868		gas	S	0	0	24	7		365					C3
			F											
Total				0.1	0.3									

S - Stack Emissions F - Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

TOSD: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April-September). This section needs to be completed only for VOC and NOx sources.

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Emission Estimation Method
A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
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A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other, Specify

C1-User calculated based on source test or other measurement
C2-User calculated based on material balance using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by best guess/engineering Judgment
C5-User calculated based on a State or local agency emission factor
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standard

1 09 08

FORM 2:

CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2022

Facility Name: Johns Hopkins University (Homewood Campus) Facility ID: 510-00077 Pollutant: VOC

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions Tons/yr	Actual Emissions Lbs/day	Operating Schedule (Actual) Hrs/dy	Dys/wk	Wk/yr	Days/yr	TOSD Lbs/dy	Operating Schedule Hrs/dy	Start	End	Emissions Methods
Charles Commons EG 9-1179		oil	S	0	0.1	0.5	1		52					C3
			F											
Wolman Building 5-2024		gas	S	0	0	24	7		365					C3
			F											
Wolman Building 5-2025		gas	S	0	0	24	7		365					C3
			F											
Wolman Building 5-2026		gas	S	0	0	24	7		365					C3
			F											
Wolman Building 5-2027		gas	S	0	0	24	7		365					C3
			F											
McCoy Building 5-2028		gas	S	0	0	24	7		365					C3
			F											
McCoy Building 5-2029		gas	S	0	0	24	7		365					C3
			F											
McCoy Building 5-2030		gas	S	0	0	24	7		365					C3
			F											
McCoy Building 5-2031		gas	S	0	0	24	7		365					C3
			F											
McCoy Building 5-2032		gas	S	0	0	24	7		365					C3
			F											
Total				0	0.2									

S - Stack Emissions F - Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

TOSD: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April-September). This section needs to be completed only for VOC and NOx sources.

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A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other, Specify

C1-User calculated based on source test or other measurement
C2-User calculated based on material balance using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by best guess/engineering judgment

C5-User calculated based on a State or local agency emission factor
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standard

1 09 08

FORM 2:

CRITERIA AIR POLLUTANTS EMISSIONS CERTIFICATION REPORT

Calendar Year: 2022

Facility Name: Johns Hopkins University (Homewood Campus) Facility ID: 510-00077 Pollutant: VOC

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions Tons/yr	Actual Emissions Lbs/day	Operating Schedule (Actual) Hrs/dy	Dys/wk	Wk/yr	Days/yr	TOSD Lbs/dy	Operating Schedule Hrs/dy	Start	End	Emissions Methods
Homewood Building 5-2033		gas	S	0	0	24	7		365					C3
			F											
Homewood Building 5-2034		gas	S	0	0	24	7		365					C3
			F											
Homewood Building 5-2035		gas	S	0	0	24	7		365					C3
			F											
Homewood Building 5-2036		gas	S	0	0	24	7		365					C3
			F											
Seton Building 5-2040		gas	S	0	0	24	7		365					C3
			F											
Seton Building 5-2041		gas	S	0	0	24	7		365					C3
			F											
Gas Turbine EU 5-2067		gas	S	0.2	1.3	24	7		365					C3
			F											
Wyman Bldg. EU 5-1885		gas	S	0	0	0	0		0					C3
			F											
Wyman Power Plant Boiler 5-1728		oil	S	0	0	24	7		365					C3
			F											
Wyman Power Plant Boiler 5-1729		oil	S	0	0	24	7		365					C3
			F											
Total			S	0.2	1.3									

S - Stack Emissions F - Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

TOSD: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April-September). This section needs to be completed only for VOC and NOx sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method
A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other, Specify

C1-User calculated based on source test or other measurement
C2-User calculated based on material balance using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by best guess/engineering judgment
C5-User calculated based on a State or local agency emission factor
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standard

1 09 08

FORM 2:

CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: 2022

Facility Name: Johns Hopkins University (Homewood Campus) Facility ID: 510-00077 Pollutant: VOC

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)				TOSD	Operating Schedule			Emissions Methods
				Tons/yr	Lbs/day	Hrs/dy	Dys/wk	Wk/yr	Days/yr	Lbs/dy	Hrs/dy	Start.	End	
UTL Emergency Generator 9-1282		oil	S	0	0.2				12					C3
			F											
Wolman Building 5-2173		gas	S	0	0	24	7		365					C3
			F											
Power Plant EUS 5-2206		gas	S	0	0.1	24	7		365					C3
			F											
NCB EG 9-1380		oil	S	0	0.1				12					C3
			F											
North Chiller EG 9-1381		oil	S	0	0.2				12					C3
			F											
Brody LC EG 9-1382		oil	S	0	0.1				12					C3
			F											
Hackerman EG 9-1379		oil	S	0	0.1				12					C3
			F											
			S											
			F											
			S											
			F											
			S											
			F											
Total				0	0.8									

S - Stack Emissions F - Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

TOSD: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April-September). This section needs to be completed only for VOC and NOx sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method
A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other, Specify

C1-User calculated based on source test or other measurement
C2-User calculated based on material balance using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by best guess/engineering judgment
C5-User calculated based on a State or local agency emission factor
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standard

1 09 08

FORM 3: PM

EMISSIONS CERTIFICATION REPORT

Particulate Matter

Calendar Year: 2022

Facility Name: Johns Hopkins University (Homewood Campus) **Facility ID:** 510-00077 **Pollutant:** PM

Equipment Description/ Registration No.	SCC Number	Fuel		PM – Filterable		PM 10 – Filterable		PM 2.5 – Filterable		PM Condensable		Operation	Emissions Methods
				Tons/yr	Lbs/day	Tons/yr	Lbs/day	Tons/yr	Lbs/day	Tons/yr	Lbs/day	Days/yr	
Main Power Plant Boiler 5-0763		gas	S	0.3	1.7	0.3	1.7	0.3	1.7	0.2	1.3	365	C3
			F										
Main Power Plant Boiler 5-0763		oil	S	0	0	0	0	0	0	0	0	365	C3
			F										
Main Power Plant Boiler 5-0533		gas	S	0.3	1.7	0.3	1.7	0.3	1.7	0.2	1.3	365	C3
			F										
Main Power Plant Boiler 5-0533		oil	S	0	0	0	0	0	0	0	0	365	C3
			F										
Main Power Plant Boiler 5-0534		gas	S	0.3	1.7	0.3	1.7	0.3	1.7	0.2	1.3	365	C3
			F										
Main Power Plant Boiler 5-0534		oil	S	0	0	0	0	0	0	0	0	365	C3
			F										
Main Power Plant Boiler 5-0535		gas	S	0.3	1.7	0.3	1.7	0.3	1.7	0.2	1.3	365	C3
			F										
Main Power Plant Boiler 5-0535		oil	S	0	0	0	0	0	0	0	0	365	C3
			F										
Wyman Power Plant Boiler 5-1728		gas	S	0	0.2	0	0.2	0	0.2	0	0.1	365	C3
			F										
Wyman Power Plant Boiler 5-1729		gas	S	0	0.2	0	0.2	0	0.2	0	0.1	365	C3
			F										
Total				1.3	7.2	1.3	7.2	1.3	7.2	1.0	5.4		

S - Stack Emissions F - Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method

A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other, Specify

C1-User calculated based on source test or other measurement
C2-User calculated based on material balance: using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by best guess/engineering Judgment.
C5-User calculated based on a State or local agency emission factor
C6-New construction, not operational
C7-Source closed, operation ceased.
C8-Computer calculated based on standard

2.21.08.

FORM 3: PM

EMISSIONS CERTIFICATION REPORT

Particulate Matter

Calendar Year: 2022

Facility Name: Johns Hopkins University (Homewood Campus) Facility ID: 510-00077 Pollutant: PM

Equipment Description/ Registration No.	SCC Number	Fuel		PM – Filterable		PM 10 – Filterable		PM 2.5 – Filterable		PM Condensable		Operation	Emissions Methods
				Tons/yr	Lbs/day	Tons/yr	Lbs/day	Tons/yr	Lbs/day	Tons/yr	Lbs/day	Days/yr	
Olin Hall 5-0964		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
Olin Hall 5-0965		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
Charles Commons 5-1861		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
Charles Commons 5-1862		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
Charles Commons 5-1863		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
Charles Commons 5-1864		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
Charles Commons 5-1865		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
Charles Commons 5-1866		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
Charles Commons 5-1867		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
Charles Commons 5-1868		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
Total				0.1	0.4	0.1	0.4	0.1	0.4	0.1	0.3		

S - Stack Emissions F - Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method
A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other, Specify

C1-User calculated based on source test or other measurement
C2-User calculated based on material balance using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by best guess/engineering judgment

C5-User calculated based on a State or local agency emission factor
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standard

2 21 08

FORM 3: PM

EMISSIONS CERTIFICATION REPORT

Particulate Matter

Calendar Year: 2022

Facility Name: Johns Hopkins University (Homewood Campus) **Facility ID:** 510-00077 **Pollutant:** PM

Equipment Description/ Registration No.	SCC Number	Fuel		PM – Filterable		PM 10 – Filterable		PM 2.5 – Filterable		PM Condensable		Operation	Emissions Methods
				Tons/yr	Lbs/day	Tons/yr	Lbs/day	Tons/yr	Lbs/day	Tons/yr	Lbs/day	Days/yr	
Charles Commons EG 9-1179		oil	S	0	0.1	0	0	0	0	0	0	52	C3
			F										
Wolman Building 5-2024		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
Wolman Building 5-2025		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
Wolman Building 5-2026		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
Wolman Building 5-2027		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
McCoy Building 5-2029		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
McCoy Building 5-2029		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
McCoy Building 5-2030		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
McCoy Building 5-2031		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
McCoy Building 5-2032		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
Total				0	0.3	0	0.2	0	0.2	0	0.1		

S - Stack Emissions F - Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method
A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other; Specify

C1-User calculated based on source test or other measurement
C2-User calculated based on material balance using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by best guess/engineering judgment

C5-User calculated based on a State or local agency emission factor
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standard

2.21.08

FORM 3: PM

EMISSIONS CERTIFICATION REPORT

Particulate Matter

Calendar Year: 2022

Facility Name: Johns Hopkins University (Homewood Campus) **Facility ID:** 510-00077 **Pollutant:** PM

Equipment Description/ Registration No.	SCC Number	Fuel		PM – Filterable		PM 10 – Filterable		PM 2.5 – Filterable		PM Condensable		Operation	Emissions Methods
				Tons/yr	Lbs/day	Tons/yr	Lbs/day	Tons/yr	Lbs/day	Tons/yr	Lbs/day	Days/yr	
Homewood Building 5-2033		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
Homewood Building 5-2034		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
Homewood Building 5-2035		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
Homewood Building 5-2036		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
Seton Building 5-2040		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
Seton Building 5-2041		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
Gas Turbine EU 5-2067		gas	S	0.5	2.8	0.5	2.8	0.5	2.8	0.4	2.0	365	C3
			F										
Wyman Bldg EU 5-1885		gas	S	0	0	0	0	0	0	0	0	0	C3
			F										
Wyman Power Plant Boiler 5-1728		oil	S	0	0	0	0	0	0	0	0	365	C3
			F										
Wyman Power Plant Boiler 5-1729		oil	S	0	0	0	0	0	0	0	0	365	C3
			F										
Total				0.5	2.9	0.5	2.9	0.5	2.9	0.4	2.0		

S - Stack Emissions F - Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method
A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other, Specify

C1-User calculated based on source test or other measurement
C2-User calculated based on material balance using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by best guess/engineering judgment
C5-User calculated based on a State or local agency emission factor
C6-New construction; not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standard

2 21 08

FORM 3: PM

EMISSIONS CERTIFICATION REPORT

Particulate Matter

Calendar Year: 2022

Facility Name: Johns Hopkins University (Homewood Campus) **Facility ID:** 510-00077 **Pollutant:** PM

Equipment Description/ Registration No.	SCC Number	Fuel		PM – Filterable		PM 10 – Filterable		PM 2.5 – Filterable		PM Condensable		Operation	Emissions Methods
				Tons/yr	Lbs/day	Tons/yr	Lbs/day	Tons/yr	Lbs/day	Tons/yr	Lbs/day	Days/yr	
UTL Emergency Generator 9-1282		oil	S	0	0.1	0	0.1	0	0	0	0	12	C3
			F										
Wolman Building 5-2173		gas	S	0	0	0	0	0	0	0	0	365	C3
			F										
Power Plant EUS 5-2266		gas	S	0	0.2	0	0.2	0	0.2	0	0.1	365	C3
			F										
NCB EG 9-1380		oil	S	0	0.1	0	0	0	0	0	0	12	C3
			F										
North Chiller EG 9-1381		oil	S	0	0.1	0	0.1	0	0	0	0	12	C3
			F										
Brody LC EG 9-1382		oil	S	0	0.1	0	0	0	0	0	0	12	C3
			F										
Hackerman EG 9-1379		oil	S	0	0.1	0	0.1	0	0	0	0	12	C3
			F										
			S										
			F										
			S										
			F										
			S										
			F										
~~Total~~				0	0.7	0	0.5	0	0.2	0	0.1		

S - Stack Emissions F - Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method
A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other, Specify

C1-User calculated based on source test or other measurement
C2-User calculated based on material balance using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by best guess/engineering Judgment
C5-User calculated based on a State or local agency emission factor
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standard

2/24/08

FORM 4:

TOXIC AIR POLLUTANTS

Calendar Year: 2022

EMISSIONS CERTIFICATION REPORT

Facility Name: Johns Hopkins University (Homewood Campus) **Facility ID:** 510-00077 **Pollutant:** All Toxics *

Equipment Description/ Registration Number[1]	Actual Emissions			Control Device**	% Efficiency
	Tons/yr	Lbs/day	Lbs/hr		
See Attached Spreadsheet					
TOTALS					

* Please attach all calculations.

* See Attachment 1 for the minimum reporting values.

**Control Device
S = Scrubber
B = Baghouse
ESP = Electrostatic Precipitator
A = Afterburner
C = Condenser
AD = Adsorbtion
O = Other

[1]Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

1/09/08

FORM 5:

BILLABLE TOXIC AIR POLLUTANTS

Calendar Year: 2022

Emissions Certification Report

Facility Name: Johns Hopkins University (Homewood Campus) Facility ID#: 510-00077

Chemical Name	CAS Number		Actual Emissions				Estimation Method
			Tons/year	Lbs/day	Lbs/hr		
carbon disulfide	75-15-0	S	NOT	APPLICABLE			
		F					
carbonyl sulfide	463-58-1	S	FOR	ALL			
		F					
chlorine	7782-50-5	S					
		F					
cyanide compounds	57-12-5	S					
		F					
hydrochloric acid	7647-01-0	S					
		F					
hydrogen fluoride	7664-39-3	S					
		F					
methyl chloroform	71-55-6	S					
		F					
methylene chloride	75-09-2	S					
		F					
perchloroethylene	127-18-4	S					
		F					
phosphine	7803-51-2	S					
		F					
titanium tetrachloride	7550-45-0	S					
		F					
TOTALS							

S-Stack Emissions F-Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

PLEASE NOTE: Be sure to attach all data and calculations necessary to support the emissions figures shown above.

Emission Estimation Method

A1-U.S. EPA Reference Method
A2-Other Particulate Sampling Train
A3-Liquid Absorption Technique
A4-Solid Absorption Technique
A5-Freezing Out Technique
A9-Other, Specify

C1-User calculated based on source test or other measurement
C2-User calculated based on material balance using engineering knowledge of the process
C3-User calculated based on AP-42
C4-User calculated by engineering judgment
C5-User calculated based on a State or local agency factor
C6-New construction, not operational
C7-Source closed, operation ceased
C8-Computer calculated based on standards

This form is to include only the chemicals identified.

03/09/09

FORM 6: Greenhouse Gases

GREENHOUSE GAS AIR POLLUTANTS

Calendar Year: 2022

EMISSIONS CERTIFICATION REPORT

Facility Name: Johns Hopkins University (Homewood Campus) **Facility ID:** 510-00077 **Pollutant:** CO2 *

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
Main Power Plant Boiler 5-0763	5025	27537	1147
Main Power Plant Boiler 5-0533	5025	27537	1147
Main Power Plant Boiler 5-0534	5025	27537	1147
Main Power Plant Boiler 5-0535	5025	27537	1147
Wyman Power Plant Boile 5-1728	484	2654	111
Wyman Power Plant Boile 5-1729	484	2654	111
Olin Hall 5-0964	92	504	21
Olin Hall 5-0965	92	504	21
Charles Commons 5-1861	146	799	33
Charles Commons 5-1862	146	799	33
Charles Commons 5-1863	146	799	33
TOTALS	see spreadsheets	see spreadsheets	see spreadsheets

This form must be used to report Greenhouse gas emissions:

- carbon dioxide (CO2)
- methane (CH4)
- nitrous oxide (N2O)
- hydrofluorocarbons (HFCs)
- perfluorocarbons (PFCs)
- sulfur hexafluoride (SF6)

* Use a separate form for each pollutant.

* Please attach all calculations.

[1] Emissions must be broken down by equipment registration number (ex 9-0076, 9-0077)

1 15 08

FORM 6: Greenhouse Gases

GREENHOUSE GAS AIR POLLUTANTS

Calendar Year: 2022

EMISSIONS CERTIFICATION REPORT

Facility Name: Johns Hopkins University (Homewood Campus) **Facility ID:** 510-00077 **Pollutant:** CO2 *

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
Charles Commons 5-1864	146	799	33
Charles Commons 5-1865	146	799	33
Charles Commons 5-1866	146	799	33
Charles Commons 5-1867	146	799	33
Charles Commons 5-1868	146	799	33
Charles Commons EG 9-1179	4	145	289
Wolman Building 5-2024	104	569	24
Wolman Building 5-2025	104	569	24
Wolman Building 5-2026	104	569	24
Wolman Building 5-2027	104	569	24
McCoy Building 5-2028	37	201	8
TOTALS	see spreadsheets	see spreadsheets	see spreadsheets

This form must be used to report Greenhouse gas emissions:

- carbon dioxide (CO2)
- methane (CH4)
- nitrous oxide (N2O)
- hydrofluorocarbons (HFCs)
- perfluorocarbons (PFCs)
- sulfur hexafluoride (SF6)

*. Use a separate form for each pollutant.

*. Please attach all calculations.

[1]Emissions must be broken down by equipment registration number (ex 9-0076, 9-0077)

1/15/08

FORM 6: Greenhouse Gases

GREENHOUSE GAS AIR POLLUTANTS

Calendar Year: 2022

EMISSIONS CERTIFICATION REPORT

Facility Name: Johns Hopkins University (Homewood Campus) **Facility ID:** 510-00077 **Pollutant:** CO2 *

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
McCoy Building S-2029	37	201	8
McCoy Building S-2030	37	201	8
McCoy Building S-2031	37	201	8
McCoy Building S-2032	37	201	8
Homewood Building S-2033	32	175	7
Homewood Building S-2034	32	175	7
Homewood Building S-2035	32	175	7
Homewood Building S-2036	32	175	7
Seton Building S-2040	24	320	13
Seton Building S-2040	24	320	13
Gas Turbine EU S-2087	3541	46798	1950
TOTALS	see spreadsheets	see spreadsheets	see spreadsheets

This form must be used to report Greenhouse gas emissions:

- carbon dioxide (CO_2)
- methane (CH_4)
- nitrous oxide (N_2O)
- hydrofluorocarbons (HFCs)
- perfluorocarbons (PFCs)
- sulfur hexafluoride (SF_6)

* Use a separate form for each pollutant.

* Please attach all calculations.

[1] Emissions must be broken down by equipment registration number (ex 9-0076, 9-0077)

1 15 08

FORM 6: Greenhouse Gases

GREENHOUSE GAS AIR POLLUTANTS **Calendar Year:** 2022

EMISSIONS CERTIFICATION REPORT

Facility Name: Johns Hopkins University (Homewood Campus) **Facility ID:** 510-00077 **Pollutant:** CO2 *

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
Wyman Bldg. EU 5-1885	0	0	0
UTL Emergency Generator 9-1282	2	304	124
Wolman Bldg. 5-2173	38	206	9
Power Plant EU5 5-2206	480	2630	110
NCB EG 9-1380	1	152	45
North Chiller EG 9-1381	2	380	249
Brody LC EG 9-1382	1	152	240
HAckerman EG 9-1379	1	190	105
TOTALS	see spreadsheets	see spreadsheets	see spreadsheets

This form must be used to report Greenhouse gas emissions:

- carbon dioxide (CO2)
- methane (CH4)
- nitrous oxide (N2O)
- hydrofluorocarbons (HFCs)
- perfluorocarbons (PFCs)
- sulfur hexafluoride (SF6)

* Use a separate form for each pollutant.

* Please attach all calculations.

[1]Emissions must be broken down by equipment registration number (ex 9-0076, 9-0077)

1/15/08

FORM 6: Greenhouse Gases

GREENHOUSE GAS AIR POLLUTANTS

Calendar Year: 2022

EMISSIONS CERTIFICATION REPORT

Facility Name: Johns Hopkins University (Homewood Campus) **Facility ID:** 510-00077 **Pollutant:** CH4 *

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
Main Power Plant Boiler 5-0763	0	1	0
Main Power Plant Boiler 5-0533	0	1	0
Main Power Plant Boiler 5-0534	0	1	0
Main Power Plant Boiler 5-0535	0	1	0
Wyman Power Plant Boile 5-1728	0	0	0
Wyman Power Plant Boile 5-1729	0	0	0
Olin Hall 5-0964	0	0	0
Olin Hall 5-0965	0	0	0
Charles Commons 5-1861	0	0	0
Charles Commons 5-1862	0	0	0
Charles Commons 5-1863	0	0	0
TOTALS	see spreadsheets	see spreadsheets	see spreadsheets

This form must be used to report Greenhouse gas emissions:

- carbon dioxide (CO2)
- methane (CH4)
- nitrous oxide (N2O)
- hydrofluorocarbons (HFCs)
- perfluorocarbons (PFCs)
- sulfur hexafluoride (SF6)

* Use a separate form for each pollutant.

* Please attach all calculations.

[1]Emissions must be broken down by equipment registration number (ex.9-0076, 9-0077)

1 15 08

FORM 6: Greenhouse Gases

GREENHOUSE GAS AIR POLLUTANTS

Calendar Year: 2022

EMISSIONS CERTIFICATION REPORT

Facility Name: Johns Hopkins University (Homewood Campus) **Facility ID:** 510-00077 **Pollutant:** CH4 *

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
Charles Commons 5-1864	0	0	0
Charles Commons 5-1865	0	0	0
Charles Commons 5-1866	0	0	0
Charles Commons 5-1867	0	0	0
Charles Commons 5-1868	0	0	0
Charles Commons EG 9-1179	0	0	0
Wolman Building 5-2024	0	0	0
Wolman Building 5-2025	0	0	0
Wolman Building 5-2026	0	0	0
Wolman Building 5-2027	0	0	0
McCoy Building 5-2028	0	0	0
TOTALS	see spreadsheets	see spreadsheets	see spreadsheets

This form must be used to report Greenhouse gas emissions:

- carbon dioxide (CO_2)
- methane (CH_4)
- nitrous oxide (N_2O)
- hydrofluorocarbons (HFCs)
- perfluorocarbons (PFCs)
- sulfur hexafluoride (SF_6)

* Use a separate form for each pollutant.

* Please attach all calculations.

[1] Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

1/15/08

FORM 6: Greenhouse Gases

GREENHOUSE GAS AIR POLLUTANTS

Calendar Year: 2022

EMISSIONS CERTIFICATION REPORT

Facility Name: Johns Hopkins University (Homewood Campus) **Facility ID:** 510-00077 **Pollutant:** CH4 *

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
McCoy Building 5-2029	0	0	0
McCoy Building 5-2030	0	0	0
McCoy Building 5-2031	0	0	0
McCoy Building 5-2032	0	0	0
Homewood Building 5-2033	0	0	0
Homewood Building 5-2034	0	0	0
Homewood Building 5-2035	0	0	0
Homewood Building 5-2036	0	0	0
Seton Building 5-2040	0	0	0
Seton Building 5-2040	0	0	0
Gas Turbine EU 5-2067	1	4	0
TOTALS	see spreadsheets	see spreadsheets	see spreadsheets

This form must be used to report Greenhouse gas emissions:

- carbon dioxide (CO_2)
- methane (CH_4)
- nitrous oxide (N_2O)
- hydrofluorocarbons (HFCs)
- perfluorocarbons (PFCs)
- sulfur hexafluoride (SF_6)

* Use a separate form for each pollutant.

* Please attach all calculations.

[1]Emissions must be broken down by equipment registration number (ex 9-0076, 9-0077)

1 15 08

FORM 6: Greenhouse Gases

GREENHOUSE GAS AIR POLLUTANTS

Calendar Year: 2022

EMISSIONS CERTIFICATION REPORT

Facility Name: Johns Hopkins University (Homewood Campus) **Facility ID:** 510-00077 **Pollutant:** CH4 *

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
Wyman Bldg. EU 5-1885	0	0	0
UTL Emergency Generator 9-1282	0	0	0
Wolman Bldg. 5-2173	0	0	0
Power Plant EU5 5-2206	0	0	0
NCB EG 9-1380	0	0	0
North Chiller EG 9-1381	0	0	0
Brody LC EG 9-1382	0	0	0
HAckerman EG 9-1379	0	0	0
TOTALS	see spreadsheets	see spreadsheets	see spreadsheets

This form must be used to report Greenhouse gas emissions:

- carbon dioxide (CO_2)
- methane (CH_4)
- nitrous oxide (N_2O)
- hydrofluorocarbons (HFCs)
- perfluorocarbons (PFCs)
- sulfur hexafluoride (SF_6)

* Use a separate form for each pollutant.

* Please attach all calculations.

[1] Emissions must be broken down by equipment registration number (ex 9-0076, 9-0077)

1/15/08

FORM 6: Greenhouse Gases

GREENHOUSE GAS AIR POLLUTANTS

Calendar Year: 2022

EMISSIONS CERTIFICATION REPORT

Facility Name: Johns Hopkins University (Homewood Campus) Facility ID: 510-00077 Pollutant: N2O *

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
Main Power Plant Boiler 5-0763	0	0	0
Main Power Plant Boiler 5-0533	0	0	0
Main Power Plant Boiler 5-0534	0	0	0
Main Power Plant Boiler 5-0535	0	0	0
Wyman Power Plant Boile 5-1728	0	0	0
Wyman Power Plant Boile 5-1729	0	0	0
Olin Hall 5-0964	0	0	0
Olin Hall 5-0965	0	0	0
Charles Commons 5-1861	0	0	0
Charles Commons 5-1862	0	0	0
Charles Commons 5-1863	0	0	0
TOTALS	see spreadsheets	see spreadsheets	see spreadsheets

This form must be used to report Greenhouse gas emissions:

- carbon dioxide (CO_2)
- methane (CH_4)
- nitrous oxide (N_2O)
- hydrofluorocarbons (HFCs)
- perfluorocarbons (PFCs)
- sulfur hexafluoride (SF_6)

* Use a separate form for each pollutant.

* Please attach all calculations.

[1]Emissions must be broken down by equipment registration number (ex 9-0076, 9-0077)

1/15/08

FORM 6: Greenhouse Gases

GREENHOUSE GAS AIR POLLUTANTS

Calendar Year: 2022

EMISSIONS CERTIFICATION REPORT

Facility Name: Johns Hopkins University (Homewood Campus) **Facility ID:** 510-00077 **Pollutant:** N2O *

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
Charles Commons 5-1864	0	0	0
Charles Commons 5-1865	0	0	0
Charles Commons 5-1866	0	0	0
Charles Commons 5-1867	0	0	0
Charles Commons 5-1868	0	0	0
Charles Commons EG 9-1179	0	0	0
Wolman Building 5-2024	0	0	0
Wolman Building 5-2025	0	0	0
Wolman Building 5-2026	0	0	0
Wolman Building 5-2027	0	0	0
McCoy Building 5-2028	0	0	0
TOTALS	see spreadsheets	see spreadsheets	see spreadsheets

[1]Emissions must be broken down by equipment registration number (ex 9-0076, 9-0077)

This form must be used to report Greenhouse gas emissions:

- carbon dioxide (CO_2)
- methane (CH_4)
- nitrous oxide (N_2O)
- hydrofluorocarbons (HFCs)
- perfluorocarbons (PFCs)
- sulfur hexafluoride (SF_6)

* Use a separate form for each pollutant.

* Please attach all calculations.

1/15/08

FORM 6: Greenhouse Gases

GREENHOUSE GAS AIR POLLUTANTS

Calendar Year: 2022

EMISSIONS CERTIFICATION REPORT

Facility Name: Johns Hopkins University (Homewood Campus) **Facility ID:** 510-00077 **Pollutant:** N2O *

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
McCoy Building 5-2029	0	0	0
McCoy Building 5-2030	0	0	0
McCoy Building 5-2031	0	0	0
McCoy Building 5-2032	0	0	0
Homewood Building 5-2033	0	0	0
Homewood Building 5-2034	0	0	0
Homewood Building 5-2035	0	0	0
Homewood Building 5-2036	0	0	0
Seton Building 5-2039	0	0	0
Seton Building 5-2040	0	0	0
Gas Turbine EU 5-2067	0	1	0
TOTALS	see spreadsheets	see spreadsheets	see spreadsheets

This form must be used to report Greenhouse gas emissions:

- carbon dioxide (CO_2)
- methane (CH_4)
- nitrous oxide (N_2O)
- hydrofluorocarbons (HFCs)
- perfluorocarbons (PFCs)
- sulfur hexafluoride (SF_6)

* Use a separate form for each pollutant.

* Please attach all calculations.

[1]Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

1/15/08

FORM 6: Greenhouse Gases

GREENHOUSE GAS AIR POLLUTANTS

Calendar Year: 2022

EMISSIONS CERTIFICATION REPORT

Facility Name: Johns Hopkins University (Homewood Campus) **Facility ID:** 510-00077 **Pollutant:** N2O *

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
Wyman Bldg. EU 5-1885	0	0	0
UTL Emergency Generator 9-1282	0	0	0
Wolman Bldg. 5-2173	0	0	0
Power Plant EU5 5-2206	0	0	0
NCB EG 9-1380	0	0	0
North Chiller EG 9-1381	0	0	0
Brody LC EG 9-1382	0	0	0
HAckerman EG 9-1379	0	0	0
TOTALS	see spreadsheets	see spreadsheets	see spreadsheets

This form must be used to report Greenhouse gas emissions:

- carbon dioxide (CO_2)
- methane (CH_4)
- nitrous oxide (N_2O)
- hydrofluorocarbons (HFCs)
- perfluorocarbons (PFCs)
- sulfur hexafluoride (SF_6)

* Use a separate form for each pollutant.

* Please attach all calculations.

[1]Emissions must be broken down by equipment registration number (ex.9-0076, 9-0077)

1.15.08

Permit requirements for emergency generators for Part 70 Operating Permit 24-510-0077

EU 9-1179 Charles Commons

This generator was run for approximately 26 hours in 2022. Approximately 330 gallons of fuel was used.

Annual Capacity Factor = 26/500=0.052

EU 9-1282 UTL

This generator was run for approximately 7.2 hours in 2022. Approximately 160 gallons of fuel was used.

Annual Capacity Factor = 7.2/500=0.01

EU 9-1380 NCB

This generator was run for approximately 8.6 hours in 2022. Approximately 80 gallons of fuel was used.

Annual Capacity Factor = 8.6/500=0.02

EU 9-1381 North Chiller

This generator was run for approximately 6.7 hours in 2022. Approximately 200 gallons of fuel was used.

Annual Capacity Factor = 6.7/500=0.01

EU 9-1382 Brody

This generator was run for approximately 10.3 hours in 2022. Approximately 80 gallons of fuel was used.

Annual Capacity Factor = 10.3/500=0.02

EU 9-1379 Hackerman

This generator was run for approximately 11 hours in 2022. Approximately 100 gallons of fuel was used.

Annual Capacity Factor = 11/500=0.02