AIR AND RADIATION ADMINISTRATION
DRAFT PART 70 OPERATING PERMIT

DOCKET # 24-03-0317

COMPANY: National Security Agency

LOCATION: 9800 Savage Road
Fort George G. Meade, Maryland, 21863

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MARYLAND DEPARTMENT OF THE ENVIRONMENT
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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 the National Security Agency (NSA), located in Anne Arundel County, MD. The facility consists of paint spray booths, natural gas fired boilers, diesel fired emergency generators, charbroilers, and one vehicle refinishing equipment.

The applicant is represented by:

Ms. Samantha Schutt, Environmental Engineer
National Security Agency
9800 Savage Road, Suite 6218
Fort George G. Meade, MD 20755

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 is 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.

NATIONAL SECURITY AGENCY
9800 SAVAGE ROAD
FORT GEORGE G. MEADE, MD 20755-6218
PERMIT NO. 24-003-0317
PART 70 OPERATING PERMIT FACT SHEET

BACKGROUND

The National Security Agency (NSA) facility is located at Fort George G. Meade in Anne Arundel County, Maryland. The NSA campus at Fort Meade encompasses a wide range of administrative and manufacturing operations. Process operations include a plating operation, several paint spray booths, and a paper pulp operation for the destruction of classified paper products. Fuel burning equipment consisting of boilers and emergency generators are located throughout the facility. The primary SIC for this facility is 9711. Sources associated with SIC 3672 and 3674 were not included in this permit.

The following table summarizes the actual emissions from National Security Agency 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)
2023	23.32	0.58	0.82	9.82	3.23	0.15
2022	19.82	0.55	1.77	12.78	3.31	0.08
2021	33.51	0.84	4.25	39.60	8.40	0.22
2020	31.27	1.53	2.12	5.88	2.04	0.13
2019	30	3.3	0.93	6.63	2.7	0.3

The major source threshold for triggering Title V permitting requirements in Anne Arundel County 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 emission from the facility are greater than the major source threshold, NSA is required to obtain a Title V – Part 70 Operating Permit under COMAR 26.11.03.01.

The Department on January 30, 2024 received NSA's Part 70 renewal permit application. An administrative completeness review was conducted and the application was deemed to be administratively complete. A completeness determination letter was sent to NSA on March 18, 2024 granting NSA an application shield.

NATIONAL SECURITY AGENCY
9800 SAVAGE ROAD
FORT GEORGE G. MEADE, MD 20755-6218
PERMIT NO. 24-003-0317
PART 70 OPERATING PERMIT FACT SHEET

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 NSA:

Equipment Removed

Four (4) Hydrotherm KN-20 natural gas boilers each rated at 1.5 million Btu/hr heat input (Permit No. 003-0317-5-0725 thru 5-0728)
One (1) Detroit Model 8V92TA diesel fuel emergency generator rated at 643 brake horsepower (Permit No. 003-0317-9-0807)
One (1) Katolight Model D900X6T2 diesel fuel emergency generator rated at 415 kW (Permit No. 003-0317-9-0968)
One (1) Magickitch'n natural gas fired charbroiler (Permit No. 003-0317-8-0155)

Additions: Permit to Construct issued:

Emergency Generators

One (1) Cummins diesel fired emergency generator rated at 800 kW (Permit No. 003-0317-9-1243). Permit to Construct issued March 2022.
One (1) Cummins diesel fired emergency generator rated at 600 kW (Permit No. 003-0317-9-1244). Permit to Construct issued March 2022.
One (1) MTU diesel fired emergency generator set rated at 750 kW (Permit No. 003-0317-9-1266). Permit to Construct issued February 2025.

Boilers:

Two (2) Hydrotherm KN20 natural gas fired boilers, each rated at 1.99 million Btu/hr heat input (Permit No. 003-0317-5-0891 and 0892). Permit to Construct issued December 2019.
Two (2) Hydrotherm KN20 natural gas fired boilers, each rated at 1.9 million Btu/hr hear input (Permit No. 003-0317-5-0900). Permit to Construct issued September 2020.
Four (4) Patterson Kelly natural gas fired boilers, each rated at 4.0 million Btu/hr heat input (Permit No. 003-0317-5-0905). Permit to Construct issued February 2021.
Three (3) Lochnivar natural gas fired boilers, each rated at 1.5 million Btu/hr heat input (Permit No. 003-0317-5-0911). Permit to Construct issued November 2021.
Three (3) Patterson Kelly natural gas fired boilers, each rated at 2.0 million Btu/hr heat input (Permit No. 003-0317-5-0915). Permit to Construct issued July 2024.
Three (3) Fulton natural gas fired boilers, each rated at 6.0 million Btu/hr heat input (Permit No. 003-0317-5-0916). Permit to Construct issued January 2025.

MACT and NSPS

NSA is a minor source of HAPs and is subject to the following area source MACT standards (40 CFR Part 63):

1. Subpart JJJJJJ—National Emission Standards for Hazardous Air Pollutants: Industrial, Commercial, and Institutional Boilers Area Sources.
2. Subpart ZZZZ—National Emission Standards for Hazardous Air Pollutants: Reciprocating Internal Combustion Engines.
3. Subpart HHHHHH—National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources.

NSA is subject to the following New Source Performance Standards (NSPS) (40 CFR Part 60),

1. Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

NSA is also subject to the NO_X Reasonably Available Control Technology (RACT) requirements.

Compliance Assurance Monitoring (CAM) Requirement.

NSA conducted a Compliance Assurance Monitoring (CAM) analysis for the facility and determined that the facility is not subject to the (CAM) Rule 40 CFR Subpart 64.

CAM is intended to provide a reasonable assurance of compliance with applicable requirements under the Clean Air Act for large emission units that rely on air pollution control (APC) equipment to achieve compliance. The CAM approach establishes monitoring for the purpose of: (1) documenting continued operation of the control measures within ranges of specified indicators of performance (such as emissions, control device parameters, and process parameters) that are designed to provide a reasonable assurance of compliance with applicable requirements; (2) indicating any excursions from these ranges; and (3) responding to the data so that the cause or causes of the excursions are corrected. In order for a unit for a unit to be subject to CAM, the unit must be located at a major source, be subject to an emission limitation or standard; use a control device to achieve compliance; have post-control emissions of at least 100% of the major source amount (for initial CAM submittals); and must not otherwise be exempt from CAM. Applicability determinations are made on a pollutant-by-pollutant basis for each emission unit.

The Plating Shop (Permit No.6-0375) is the only source that is potentially subject to the CAM rule. During analysis, it was determined that the plating shop does

not have the uncontrolled potential to emit any criteria pollutant, HAP or aggregate of all HAPs that would exceed the relevant major source threshold.

GREENHOUSE GAS (GHG) EMISSIONS

NSA emits the following greenhouse gases (GHGs) related to Clean Air Act requirements: carbon dioxide, methane, and nitrous oxide. These GHGs originate from various processes (i.e., internal combustion engines, and boilers) contained within the facility premises applicable to NSA. The facility has not triggered Prevention of Significant Deterioration (PSD) requirements for GHG emissions; therefore, there are no applicable GHG Clean Air Act requirements. While there may be no applicable requirements as a result of PSD, emission certifications reports for the years 2021, 2022 and 2023, showed that NSA is not a major source (threshold: 100,000tpy CO_2e) for GHG's (see Table 3 shown below). The Permittee shall quantify facility wide GHGs emissions and report them in accordance with Section 3 of the Part 70 permit.

The following table summarizes the actual emissions from NSA based on its Annual Emission Certification Reports:

Table 3: Greenhouse Gases Emissions Summary

GHG	Conversion factor	2023 tpy CO_2e	2022 tpy CO_2e	2021 tpy CO_2e
Carbon dioxide CO_2	1	16,014.11	14,593.2	18,179.24
Methane CH_4	25	1.8	2.82	7.71
Nitrous Oxide N_2O	298	14.06	16.02	24.28
Total GHG CO_{2eq}		**16,029.97**	**14,612.04**	**18,211.23**

EMISSION UNIT IDENTIFICATION

National Security Agency has identified the following emission units as being subject to Title V permitting requirements and having applicable requirements.

Table 2: Emission Unit Identification

Emissions Unit Number	MDE - ARA Registration Number	Emissions Unit Name and Description	Date of Installation
Boilers > 10 MMBtu/hr	5-0502 thru 5-0504	Three (3) Union Iron Works natural gas/No. 2 fuel oil fired boilers each rated at 85 million Btu per hour.	January 1953
	5-0505	One (1) Keeler natural gas/No. 2 fuel oil fired boilers each rated at 90 million Btu per hour.	December 1969
Boilers <= 10 MMBtu/hr	5-0644 and 5-0645	Two (2) Lochinvar Power Fin natural gas boilers, each rated at 1.5 million Btu per hour heat input	August 2006
	5-0809	Four (4) Lochinvar natural gas fired boilers, each rated at 1.5 million Btu per hour heat input	September 2015
	5-0810	Four (4) Harsco natural gas fired boilers, each rated at 2.5 million Btu per hour	September 2015
	5-0811	Two (2) Harsco natural gas fired boilers each rated at 2.0 million Btu per hour	September 2015
	5-0823	Three (3) Lochinvar Crest Model FBN-1501 natural gas fired boilers, each rated at 1.5 million Btu per hour heat input	September 2015
	5-0842	Four (4) Lochinvar natural gas fired boilers, each rated at 4.0 million Btu per hour heat input	November 2016
	5-0891 and 5-0892	Two (2) Hydrotherm KN20 natural gas fired boilers, each rated at 1.99 million Btu per hour heat input	December 2019
	5-0900	Two (2) Hydrotherm KN20 natural gas fired boilers, each rated at 1.99 million Btu per hour heat input	September 2020
	5-0905	Four (4) Patterson Kelly natural gas fired boilers, each rated at 4.0 million Btu per hour heat input	February 2021

Emissions Unit Number	MDE - ARA Registration Number	Emissions Unit Name and Description	Date of Installation
	5-0911	Three (3) Lochnivar natural gas fired boilers, each rated at 1.5 million Btu per hour heat input	November 2021
	5-0915	Three (3) Patterson Kelly natural gas fired boilers, each rated at 2.0 million Btu per hour heat input	July 2024
	5-0916	Three (3) Fulton natural gas fired boilers, each rated at 6.0 million Btu per hour heat input	January 2025
Emergency Generators	9-0804	One (1) Detroit Model 12N-4002 U-12 diesel fuel emergency generator rated at 600 kW	September 1994
	9-0806	One (1) Katolight Model V-1271 diesel fuel emergency generator rated at 560 kW	September 1997
	9-0818 thru 9-0823	Six (6) Cummins/Onan diesel fuel emergency generator sets each rated at 2700 kW (Standby)	March 2005
	9-0918	One (1) Katolight (Model D900X6T2) diesel fuel emergency generator rated at 900 kW	March 2008
	9-0967	One (1) Katolight (Model 415-J6T3) diesel fuel emergency generator rated at 415 kW.	September 2009
	9-1035	Eighteen (18) Cummins diesel emergency generators each rated at 2,750 kW and each equipped with SCR system	April 2012
	9-1055	Twenty-four (24) Caterpillar diesel emergency generators each rated at 2,725 kW and each equipped with SCR system	January 2015
	9-1090	MTU Onsite Energy diesel-fired emergency generator rated at 2,280 kW located in Building 9800C.	2014
	9-1091	Seven (7) Caterpillar C175-16 diesel fired emergency generator sets, each rated at 3000 kW and equipped with selective catalytic reduction	2014
	9-1092	One (1) Caterpillar C32 diesel fired emergency generator set rated at 1000 kW	2014

Emissions Unit Number	MDE - ARA Registration Number	Emissions Unit Name and Description	Date of Installation
	9-1116	Six (6) Caterpillar C175-16 emergency diesel generators each rated at 3000 kW (standby) and each equipped with an E-POD Selective Catalytic Reduction (SCR) system.	September 2015
	9-1117	Two (2) Caterpillar C15 life safety emergency diesel generator each rated at 500 kW (stand-by).	September 2015
	9-1136	One (1) Caterpillar C175-16 emergency diesel generator rated at 3000 kW and equipped with an E-POD Selective Catalytic Reduction (SCR) system.	November 2016
	9-1137	One (1) Caterpillar C 13 life safety emergency generator rated at 400 kW (Standby)	November 2016
	9-1146	One (1) Kohler emergency diesel-fired generator rated at 550 kW.	August 2017
	9-1155	Fourteen (14) Caterpillar diesel fired emergency generator sets, each rated at 3000-kW and equipped with Selective Catalytic Reduction (SCR) systems to control NO_X emissions.	March 2018
	9-1156	One (1)Caterpillar diesel fired emergency generator set rated at 800 kW life safety emergency diesel generator set	January 2018
	9-1243	One (1) Cummins diesel fired emergency generator set rated at 800 kW	March 2022
	9-1244	One (1) Cummins diesel fired emergency generator set rated at 600 kW	March 2022
	9-1266	One (MTU) diesel fired emergency generator set rated at 750 kW	February 2025
9-0449 and 9-0450	9-0449 and 9-0450	Paper Pulp Operation consisting of an automatic material collection system and a separate continuous operating system controlled by baghouses.	March 1978
6-0375	6-0375	Plating Operation consisting of surface coating of steel or aluminum parts to add	June 1992

Emissions Unit Number	MDE - ARA Registration Number	Emissions Unit Name and Description	Date of Installation
		durability and extend service life, controlled by a packed bed scrubber emission control system.	
6-1114	6-1114	One (1) Future Cure Model 1000 paint spray booth for miscellaneous metal coating.	January 2002
6-1095	6-1095	One (1) Vehicle refinishing Equipment	August 2006
8-0340	8-0340	One (1) Radiant charbroiler	May 2018
8-0363	8-0363	Four (4) Garland Radiant natural gas charbroilers	November 2021

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

Emission Unit: Boilers > 10 MMBtu/hr

5-0502 thru 5-0504 – Three Union Works natural gas/No. 2 fuel oil fired boilers each rated at 85 million Btu/hr heat input.
5-0505 – One Keeler natural gas/No. 2 fuel oil fired boiler rated at 90 million Btu/hr heat input.

These boilers are not subject to the NSPS requirements of Subpart Dc since they were installed prior to the applicability of June 9, 1989. The applicability requirement states *"…the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/h)) or less, but greater than or equal to 2.9 MW (10 MMBtu/h)."*
[Reference: §60.40c]

These boilers are subject to the NESHAP requirements for area source boiler MACT Subpart JJJJJJ.

Compliance Status
Results of the October 2023 compliance inspection:
Boilers #4 was operating at 41% fuel flow. The operators confirmed this is typical operation for the season. Method 9 visible emission observation was conducted on Boiler #4, no visible emissions were observed.
Combustion analysis was performed on Boiler 1 for gas and oil on 03/17/23, Boiler 3 combustion analysis for gas was conducted on 02/10/23 and oil on 02/14/2023. Boiler 4 gas combustion analysis was conducted on 02/10/23. Boiler 2 combustion analysis took place on 01/14/2022. Oil combustion analysis on Boiler 4 and testing of Boiler 2 were pending at the time of the inspection. Records of NO_X reduction training was conducted on 09/02/21 and 10/20/21. Fuel sulfur certificate showed 15 ppm ultra low sulfur fuel. O and M plan maintained in MAXIMO computer maintenance system.

Applicable Standards and limits

A. Control of Visible Emissions
COMAR 26.11.09.05A – Fuel Burning Equipment

"(2) 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.
(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:
(1) Properly operate and maintain the boilers in a manner to prevent visible emissions; and
(2) 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.
The Permittee shall perform the following, if emissions are visible:
(1) Inspect combustion control system and boiler operations,
(2) Perform all necessary adjustments and/or repairs to the boiler within 48 hours, so that visible emissions are eliminated;
(3) Document in writing the results of the inspections, adjustments and/or repairs to the boiler; and
(4) 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.
The Permittee shall:
(1) Maintain an operation manual and prevention maintenance plan on site;
(2) Maintain a record of the maintenance preformed 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.
[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 backup with a rated heat input capacity of more than 10 MM Btu/hr

and less than 250 MM Btu/hr 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. No. 2 fuel oil is burned only as a backup fuel. 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 fuel oil is burned. In mild winters, the hours of interrupted gas service may be less than 168 hours. 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 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 oil complies with the limitation on the sulfur content of the fuel oil. 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]**.

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
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."
COMAR 26.11.09.08E. - Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of 100 Million Btu Per Hour or Less. "A person who owns or

operates fuel-burning equipment with a rated heat input capacity of 100 Million Btu per hour or less 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 at the site for at least 2 years and make this data available to the Department and the EPA upon request;
(4) 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
(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."

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:
(1) The Permittee shall maintain records of the results of the annual combustion analysis on site. **[Reference: COMAR 26.11.09.08E(5)].**
(2) Record of training program attendance for each operator at the site.
[Reference: COMAR 26.11.09.08E(5)].
The Permittee shall submit:
(1) The results of combustion analysis to the department and the EPA upon request. **[Reference: COMAR 26.11.09.08E(3)]**
(2) A record of training program attendance for each operator to the Department upon request. **[Reference: COMAR 26.11.09.08E(5)].**

D. Operational Limits

The Permittee shall only burn natural gas with No. 2 fuel oil as back up fuel unless the Permittee applies for and receives an approval or permit from the Department to burn alternate fuels. **[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 burn with the annual emissions certification report. See permit condition 8 of Section III.

Emission Unit: Boilers > 10 MMBtu/hr Cont'd

5-0502 thru 5-0504 – Three Union Works natural gas/No. 2 fuel oil fired boilers each rated at 85 million Btu/hr heat input.
5-0505 – One Keeler natural gas/No. 2 fuel oil fired boiler rated at 90 million Btu/hr heat input.

Compliance Status
Results of the October 2023 compliance inspection:
Tune-ups were conducted in 2023. The one-time energy assessment required by the MACT was conducted in 2011. The facility submits ACOMP reports by April 1st each year certifying compliance or reporting deviations for any permit condition.

Applicable Standards and limits

Control of HAPs:

40 CFR Part 63, Subpart JJJJJJ—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources

§63.11193 - Am I subject to this subpart?
You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler as defined in §63.11237 that is located at, or is part of, an area source of hazardous air pollutants (HAP), as defined in §63.2, except as specified in §63.11195.

§63.11196 - What are my compliance dates?
(a) If you own or operate an existing affected boiler, you must achieve compliance with the applicable provisions in this subpart as specified in paragraphs (a)(1) through (3) of this section.
(1) If the existing affected boiler is subject to a work practice or management practice standard of a tune-up, you must achieve compliance with the work practice or management practice standard no later than March 21, 2014.
(2) If the existing affected boiler is subject to emission limits, you must achieve compliance with the emission limits no later than March 21, 2014.
(3) If the existing affected boiler is subject to the energy assessment requirement, you must achieve compliance with the energy assessment requirement no later than March 21, 2014.

§63.11201 - What standards must I meet?
(a) You must comply with each emission limit specified in Table 1 to this subpart that applies to your boiler.
(b) You must comply with each work practice standard, emission reduction measure, and management practice specified in Table 2 to this subpart that

applies to your boiler. An energy assessment completed on or after January 1, 2008 that meets or is amended to meet the energy assessment requirements in Table 2 to this subpart satisfies the energy assessment requirement. A facility that operates under an energy management program established through energy management systems compatible with ISO 50001, that includes the affected units, also satisfies the energy assessment requirement.
(c) You must comply with each operating limit specified in Table 3 to this subpart that applies to your boiler.
(d) These standards apply at all times the affected boiler is operating, except during periods of startup and shutdown as defined in §63.11237, during which time you must comply only with Table 2 to this subpart.

Table 2 to Subpart JJJJJJ of Part 63—Work Practice Standards, Emission Reduction Measures, and Management Practices
As stated in §63.11201, you must comply with the following applicable work practice standards, emission reduction measures, and management practices:

If your boiler is in this subcategory	You must meet the following
4. Existing oil-fired boilers with heat input capacity **greater than 5 MMBtu/hr** that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio	Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler **biennially** as specified in §63.11223. ***(Tune ups were conducted in 2016, 2017 and 2018)***
16. Existing coal-fired, biomass-fired, or **oil-fired boilers (units with heat input capacity of 10 MMBtu/hr and greater**), not including limited-use boilers	Must have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table satisfies the energy assessment requirement. Energy assessor approval and qualification requirements are waived in instances where past or amended energy assessments are used to meet the energy assessment requirements. A facility that operates under an energy management program compatible with ISO 50001 that includes the affected units also satisfies the energy assessment requirement. The energy assessment must include the following with extent of the evaluation for items (1) to (4)

	appropriate for the on-site technical hours listed in §63.11237*: **(Energy assessment conducted in 2011)***
	(1) A visual inspection of the boiler system,
	(2) An evaluation of operating characteristics of the affected boiler systems, specifications of energy use systems, operating and maintenance procedures, and unusual operating constraints,
	(3) An inventory of major energy use systems consuming energy from affected boiler(s) and which are under control of the boiler owner or operator,
	(4) A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage,
	(5) A list of major energy conservation measures that are within the facility's control,
	(6) A list of the energy savings potential of the energy conservation measures identified, and
	(7) A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.

Compliance Demonstration

§63.11223 - How do I demonstrate continuous compliance with the work practice and management practice standards?

"(a) For affected sources subject to the work practice standard or the management practices of a tune-up, you must conduct a performance tune-up according to paragraph (b) of this section and keep records as required in §63.11225(c) to demonstrate continuous compliance. You must conduct the tune-up while burning the type of fuel (or fuels in the case of boilers that routinely

burn two types of fuels at the same time) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up."
"(b) Except as specified in paragraphs (c) through (f) of this section, you must conduct a tune-up of the boiler biennially to demonstrate continuous compliance as specified in paragraphs (b)(1) through (7) of this section. Each **biennial** tune-up must be conducted no more than 25 months after the previous tune-up. For a new or reconstructed boiler, the first biennial tune-up must be no later than 25 months after the initial startup of the new or reconstructed boiler.
(1) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection.
(2) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.
(3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection.
(4) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any nitrogen oxide requirement to which the unit is subject.
(5) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.
(6) Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (b)(6)(i) through (iii) of this section.
(i) The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler.
(ii) A description of any corrective actions taken as a part of the tune-up of the boiler.
(iii) The type and amount of fuel used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.
(7) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup."

The Permittee must operate and maintain, at all times, any affected source, including air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. **[Reference: 40 CFR §63.11205(a)]**

§63.11225 - What are my **notification, reporting**, and **recordkeeping** requirements?

"(a) You must submit the notifications specified in paragraphs (a)(1) through (5) of this section to the administrator.
(1) You must submit all of the notifications in §§63.7(b); 63.8(e) and (f); and 63.9(b) through (e), (g), and (h) that apply to you by the dates specified in those sections except as specified in paragraphs (a)(2) and (4) of this section.
(2) An Initial Notification must be submitted no later than January 20, 2014 or within 120 days after the source becomes subject to the standard.
(3) If you are required to conduct a performance stack test you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance stack test is scheduled to begin.
(4) You must submit the Notification of Compliance Status no later than 120 days after the applicable compliance date specified in §63.11196 unless you must conduct a performance stack test. If you must conduct a performance stack test, you must submit the Notification of Compliance Status within 60 days of completing the performance stack test. You must submit the Notification of Compliance Status in accordance with paragraphs (a)(4)(i) and (vi) of this section. The Notification of Compliance Status must include the information and certification(s) of compliance in paragraphs (a)(4)(i) through (v) of this section, as applicable, and signed by a responsible official.
(i) You must submit the information required in §63.9(h)(2), except the information listed in §63.9(h)(2)(i)(B), (D), (E), and (F). If you conduct any performance tests or CMS performance evaluations, you must submit that data as specified in paragraph (e) of this section. If you conduct any opacity or visible emission observations, or other monitoring procedures or methods, you must submit that data to the Administrator at the appropriate address listed in §63.13.
(ii) "This facility complies with the requirements in §63.11214 to conduct an initial tune-up of the boiler."
(iii) "This facility has had an energy assessment performed according to §63.11214(c)."
(iv) For units that install bag leak detection systems: "This facility complies with the requirements in §63.11224(f)."
(v) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: "No secondary materials that are solid waste were combusted in any affected unit."

(vi) The notification must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written Notification of Compliance Status must be submitted to the Administrator at the appropriate address listed in §63.13.
(5) If you are using data from a previously conducted emission test to serve as documentation of conformance with the emission standards and operating limits of this subpart, you must include in the Notification of Compliance Status the date of the test and a summary of the results, not a complete test report, relative to this subpart.
(b) You must prepare, by March 1 of each year, and submit to the delegated authority upon request, an annual compliance certification report for the previous calendar year containing the information specified in paragraphs (b)(1) through (4) of this section. You must submit the report by March 15 if you had any instance described by paragraph (b)(3) of this section. For boilers that are subject only to a requirement to conduct a biennial or 5-year tune-up according to §63.11223(a) and not subject to emission limits or operating limits, you may prepare only a biennial or 5-year compliance report as specified in paragraphs (b)(1) and (2) of this section.
(1) Company name and address.
(2) Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart. Your notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official:
(i) “This facility complies with the requirements in §63.11223 to conduct a biennial or 5-year tune-up, as applicable, of each boiler.”
(ii) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: “No secondary materials that are solid waste were combusted in any affected unit.”
(iii) “This facility complies with the requirement in §§63.11214(d) and 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available.”
(3) If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken.
(4) The total fuel use by each affected boiler subject to an emission limit, for each calendar month within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination

by you or EPA through a petition process to be a non-waste under §241.3(c), whether the fuel(s) were processed from discarded non-hazardous secondary materials within the meaning of §241.3, and the total fuel usage amount with units of measure.
(c) You must maintain the records specified in paragraphs (c)(1) through (7) of this section.
(1) As required in §63.10(b)(2)(xiv), you must keep a copy of each notification and report that you submitted to comply with this subpart and all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted.
(2) You must keep records to document conformance with the work practices, emission reduction measures, and management practices required by §63.11214 and §63.11223 as specified in paragraphs (c)(2)(i) through (vi) of this section.
(i) Records must identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned.
(ii) *Not Applicable*.
(iii) For each boiler required to conduct an energy assessment, you must keep a copy of the energy assessment report.
(iv) For each boiler subject to an emission limit in Table 1 to this subpart, you must also keep records of monthly fuel use by each boiler, including the type(s) of fuel and amount(s) used.
(v) For each boiler that meets the definition of seasonal boiler, you must keep records of days of operation per year.
(vi) For each boiler that meets the definition of limited-use boiler, you must keep a copy of the federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent and records of fuel use for the days the boiler is operating.
(3) For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation that were done to demonstrate compliance with the mercury emission limits. Supporting documentation should include results of any fuel analyses. You can use the results from one fuel analysis for multiple boilers provided they are all burning the same fuel type.
(4) Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment.
(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in §63.11205(a), including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.
(6) You must keep the records of all inspection and monitoring data required by §§63.11221 and 63.11222, and the information identified in paragraphs (c)(6)(i) through (vi) of this section for each required inspection or monitoring.
(i) The date, place, and time of the monitoring event.

(ii) Person conducting the monitoring.
(iii) Technique or method used.
(iv) Operating conditions during the activity.
(v) Results, including the date, time, and duration of the period from the time the monitoring indicated a problem to the time that monitoring indicated proper operation.
(vi) Maintenance or corrective action taken (if applicable).
(7) *Not Applicable*.
(d) Your records must be in a form suitable and readily available for expeditious review. You must keep each record for 5 years following the date of each recorded action. You must keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. You may keep the records off site for the remaining 3 years."

Emission Unit: Boilers < 10 MMBtu/hr

5-0644 and 5-0645 – Two (2) Lochinvar Power Fin (Model PB1500M9) natural gas-fired boilers each rated at 1.5 million Btu/hr heat input.
5-0809 - Four (4) Lochinvar natural gas fired boilers, each rated at 1.5 million Btu per hour heat input
5-0810 - Four (4) Harsco natural gas fired boilers, each rated at 2.5 million Btu per hour
5-0811 - Two (2) Harsco natural gas fired boilers, each rated at 2.0 million Btu per hour
5-0823 - Three (3) Lochinvar Crest Model FBN-1501 natural gas fired boilers, each rated at 1.5 million Btu per hour heat input
5-0842 - Four (4) Lochinvar natural gas fired boilers, each rated at 4.0 million Btu per hour heat input.
5-0905 - Four (4) Patterson Kelly natural gas fired boilers, each rated at 4.0 million Btu per hour heat input.
5-0911 - Three (3) Lochnivar natural gas fired boilers, each rated at 1.5 million Btu per hour heat input.
5-0900 - Two (2) Hydrotherm KN20 natural gas fired boilers, each rated at 1.9 million Btu per hour heat input.
5-0891 and 0892 - Two (2) Hydrotherm KN20 natural gas fired boilers, each rated at 1.5 million Btu per hour heat input.
5-0915 – Three (3) Patterson Kelly natural gas fired boilers, each rated at 2.0 million Btu per hour heat input.
5-0916 – Three (3) Fulton natural gas fired boilers, each rated at 6.0 million Btu per hour heat input.

NESHAP for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR Part 63, Subpart JJJJJJ. Gas-fired boilers as defined in this Subpart are not subject to this subpart and to any requirements in this subpart. [**40 CFR §63.11195(e)]**

*"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." [***40 CFR §63.11237**]

Compliance Status

Results of October 2023 compliance inspection:
Preventive Maintenance is planned and tracked in MAXIMO computer system which creates and records work orders for required maintenance tasks. NO_X reduction training conducted in 2021.

Applicable Standards and limits

A. Control of Visible Emissions

COMAR 26.11.09.05A – Fuel Burning Equipment

"(2) 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.

(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

No periodic monitoring for opacity is required.

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 Nitrogen Oxides

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."

COMAR 26.11.09.08F - Requirements for Space Heaters.

"(1) A person who owns or operates a space heater[1] as defined in Regulation .01B of this chapter shall:
(a) Submit to the Department a list of each affected installation on the premises and the types of fuel used in each installation;
(b) 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;
(c) Implement the operating and maintenance plan and maintain the plan at the premises for review upon request by the Department;
(d) 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
(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.
(2) 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."

"Space heater" means fuel-burning equipment that consumes more than 60 percent of its annual fuel during the period from October 31 of one year through March 31 of the following year. For the purpose of this regulation, annual fuel use is the total fuel consumed during the period October 1 of one year to September 30 of the following year, beginning October 1, 1989.

Compliance Demonstration

The Permittee shall develop and maintain an operating and maintenance plan to minimize NO_X emissions. **[Reference: COMAR 26.11.09.08F(1)(b)**].
The Permittee shall maintain:
1) 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)]**.
2) Record of training program attendance for each operator. **[Reference: COMAR 26.11.09.08F(1)(e)**].
3) An operations manual and preventive maintenance plan. **[Reference: COMAR 26.11.09.08F(1)(b)]**.

4) 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 only burn natural gas unless the Permittee applies for and receives an approval or permit 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 burn with the annual emissions certification report. See permit condition 8 of Section III.

Emission Unit: Emergency Generators

9-0804 – One (1) Detroit (Model 12N-4992 U-12) diesel fuel emergency generator rated at 600 kW.
9-0806 – One (1) Katolight (Model V-1271) diesel fuel emergency generator rated at 560 kW.
9-0818 thru 9-0823 – Six (6) Cummins/Onan diesel fuel emergency generator sets each rated at 2700 kW (Standby)
9-0918 – One (1) Katolight (D900X6T2) diesel fuel emergency generator set rated 900 kW.
9-0967– One (1) Katolight (Model 415-J6T30 emergency diesel generator rated at 415 kW.
9-1035 – One (1) group of eighteen (18) Cummins diesel emergency generators each rated at 2,750 kW and each equipped with SCR system
9-1055 - One (1) group of twenty-four (24) Caterpillar diesel emergency generators each rated at 2,725 kW and each equipped with SCR system.
9-1090 - One (1) MTU Onsite Energy diesel-fired emergency generator.
9-1091 - Seven (7) Caterpillar C175-16 diesel fired emergency generator sets, each rated at 3000 kW and equipped with selective catalytic reduction.
9-1092 - One (1) Caterpillar C32 diesel fired emergency generator set rated at 1000 kW.

9-1116 - Six (6) Caterpillar C175-16 emergency diesel generators each rated at 3000 kW (standby) and each equipped with an E-POD Selective Catalytic Reduction (SCR) system.
9-1117 - Two (2) Caterpillar C15 life safety emergency diesel generator each rated at 500 kW (stand-by).
9-1136 - One (1) Caterpillar C175-16 emergency diesel generator rated at 3000 kW and equipped with an E-POD Selective Catalytic Reduction (SCR) system.
9-1137 - One (1) Caterpillar C 13 life safety emergency generator rated at 400-kW (Standby).
9-1146 - One (1) Kohler emergency diesel-fired generator rated at 550 kW.
9-1155 - Fourteen (14) Caterpillar diesel fired emergency generator sets, each rated at 3000 kW and equipped with Selective Catalytic Reduction (SCR) systems to control NO_X emissions.
9-1156 - One (1) 800 kW life safety emergency diesel generator set.
9-1243 – One (1) Cummins diesel fired emergency generator set rated at 800 kW.
9-1244 – One (1) Cummins diesel fired emergency generator set rated at 600 kW.
9-1266 – One (1) MTU diesel fired emergency generator set rated at 750 kW.

Compliance Status
Results of October 2023 compliance inspection:
No emergency generators were operating due to lack of demand for emergency power. In 2021 one engine (9-1146) operated over 500 hours and a combustion analysis was conducted as required. Monthly logs of operating hours and fuel usage are kept on site. Operator training was conducted in 2021. Maintenance records are kept in a database. Engine oil is changed every other year and oil analysis and filter changes are conducted in years without oil changes. Engine hoses and belts are inspected frequently. Coolant is changed every 6 years. Batteries are checked frequently and replaced as a group as necessary. Selective catalytic reduction lances are cleaned using an ammonia solution. Fuel is pumped to a polishing system to keep it clean and engines are tested regularly under load using a load bank on site.

9-1116: On April 20, 2018 NO_X stack testing was conducted on one of the six 3000-kW emergency engines installed. Results show compliance with the permit limit for potential to emit is 1.66 tons below 25 tons of NO_X at 100 hours of operation. Engines are equipped with SCR and were operated at >90% load via use of load bank during the test.

9-1091: On December 21, 2015 results of the NO_X stack test were received. Results indicate potential to emit from all seven engines operating at 100 hr/year is 1.48 tons well below the 25 tons permitting threshold. NOX emission rate is 4.00 lb/hr from each engine with a post control concentration of 56.49 ppm. Engines are each rated 2725-kW and operated at 2730-kW during the test. Urea flow during the test is reported at 38.99 liter/hr.

9-1055: On April 29, 2015 stack test was conducted on one 2725-kW CAT emergency North Campus Utility generator equipped with SCR. Results of the test confirm the SCR achieved 91.9% NO_X reduction which is greater than the 90% minimum required by the permit. Engines are certified Tier 2. An average urea injection rate of 33.30 liters/hr was recorded during testing.

Applicable Standards and limits

A. Control of Visible Emissions

COMAR 26.11.09.05E - Stationary Internal Combustion Engine Powered Equipment.

"(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.

(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.

(4) Exceptions.

(a) Section E(2) of this regulation 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) of this regulation 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) of this regulation do not apply while maintenance, repair, or testing is being performed by qualified mechanics."

Compliance Demonstration

The Permittee shall properly operate and maintain the engines 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"

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

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.

(1) 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:
   (a) Provide certification of the capacity factor of the equipment to the Department in writing;
   (b) 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;
   (c) 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;
   (d) 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
   (e) 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 maintain records of the results of the combustion analyses 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:
Each of the six (6) Cummins/Onan emergency generator sets shall not operate more than 125 hours a year, unless the source obtains a prior approval from the Department. **[Reference: MDE PTC Registration No. 9-0818 thru 9-0823, Condition D2]**

Compliance Demonstration
The Permittee shall log the number of hours each generator is operated on a monthly basis for generator preventive maintenance. **[Reference: COMAR 26.11.03.06C]**
The Permittee shall maintain records of hours of Preventative Maintenance testing operation, utility provider-requested operation and emergency operation and fuel usage on a daily basis and maintain on site for at least five (5) years. **[Reference: MDE Registration No. 9-0818 thru 9-0823, Condition E1]**
The Permittee shall report to the Department records of hours of operation, fuel used and emission estimates for each emergency generator with the annual Emissions Certification Report**[Reference: MDE Registration No. 9-0818 thru 9-0823, Condition E1].**

Emission Unit: Emergency Generators Cont'd

9-0918 – One (1) Katolight (D900X6T2) diesel fuel emergency generator set rated 900 kW.

9-0967 – One (1) Katolight (Model 415-J6T30 emergency diesel generator rated at 415 kW**.**
9-0993 thru 9-0998 – Six (6) Caterpillar Model 3516C diesel emergency generators each rated at 2 MW and equipped with E-POD SCR system
9-1035 – One (1) group of eighteen (18) Cummins diesel emergency generators each rated at 2.75 MW and each equipped with SCR system
9-1055 - One (1) group of twenty-four (24) Caterpillar diesel emergency generators each rated at 2.725 MW and each equipped with SCR system.
9-1090 - One (1) MTU Onsite Energy diesel-fired emergency generator.
9-1091 - Seven (7) Caterpillar C175-16 diesel fired emergency generator sets, each rated at 3000 kW (3988 bhp) and equipped with selective catalytic reduction.
9-1092 - One (1) Caterpillar C32 diesel fired emergency generator set rated at 1000 kW (1474 bhp).
9-1116 - Six (6) Caterpillar C175-16 emergency diesel generators each rated at 3000 kW (standby) and each equipped with an E-POD Selective Catalytic Reduction (SCR) system..
9-1117 - Two (2) Caterpillar C15 life safety emergency diesel generator each rated at 500 kW (stand-by).
9-1136 - One (1) Caterpillar C175-16 emergency diesel generator rated at 3000-KW and equipped with an E-POD Selective Catalytic.
9-1137 - One (1) Caterpillar C 13 life safety emergency generator rated at 400-kW (Standby)
9-1146 - One (1) Kohler emergency diesel-fired generator rated at 550-kW.
9-1155 - Fourteen (14) Caterpillar diesel fired emergency generator sets, each rated at 3000-kW and equipped with Selective Catalytic Reduction (SCR) systems to control NO_X emissions.
9-1156 - One (1) 800-kW life safety emergency diesel generator set.
9-1243 – One (1) Cummins diesel fired emergency generator set rated at 800 kW.
9-1244 – One (1) Cummins diesel fired emergency generator set rated at 600 kW.
9-1266 – One (1) MTU diesel fired emergency generator set rated at 750 kW.

Applicable Standards and limits

A. New Source Performance Standards (**NSPS**) under 40 CFR Part 60 Subpart IIII for Stationary Compression Ignition Internal Combustion Engines.

Note: Beginning October 1, 2010, installations subject to 40 CFR Part 60, Subpart IIII must comply with the diesel fuel standards of §60.4207 which limit the maximum sulfur content of the fuel to 15 ppm.

(1) This permit is valid only for the installation of an emergency diesel generator with piston displacement less than 10 liters per cylinder.

(2) The provisions of 40 CFR Part 60, Subpart IIII apply if the emergency diesel generator uses a diesel engine manufactured after April 1, 2006 [**Ref: §60.4200**].

(3) An emergency diesel generator or diesel engine subject to the requirements of 40 CFR 60, Subpart IIII ("NSPS emergency diesel generator" or "NSPS emergency diesel engine") shall be equipped with a non-resettable hour meter [**Ref: §60.4209(a)].**

(4) The Permittee shall only purchase emergency generator sets certified to meet the emission standards of §60.4205(b). The generators must be installed and configured according to the manufacturer's specifications.[**Ref: §60.4211(c**)]

(5) The Permittee must purchase and install emergency generator sets certified to the emission standards for new nonroad diesel engines in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants [**Ref: §62.4202(b)(2)];**

(6) The requirements of condition (5) above do not apply to owners or operators of NSPS emergency diesel engines that have been modified, reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location [**Ref: §60.4208**].

Compliance Demonstration

(1) The Permittee shall maintain a log for the emergency generator indicating the amounts of fuel oil combusted, the hours of operation, and reason for generator operation (i.e., maintenance or operational testing, power outage, etc.). [**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).

(3) Beginning October 1, 2007, for any NSPS emergency diesel generator the 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.

B. National Emissions Standards for Hazardous Air Pollutants (**NESHAP**) promulgated under 40 CFR 63, Subparts A and ZZZZ for Reciprocating Internal Combustion Engines
"§63.6590 – What parts of my plant does this subpart cover?
This subpart applies to each affected source.
© Stationary RICE subject to Regulations under 40 CFR Part 60. An affected source that meets any of the criteria in paragraphs ©(1) through (7) of this section must meet the requirements of this part by meeting the requirements of **40 CFR part 60 subpart IIII**, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. *No further requirements apply for such engines under this part*.
(1) A new or reconstructed stationary RICE located at an area source."

Compliance Demonstration
See NSPS Requirements.

C. Operational Limits

(1) The Permittee must operate and maintain an NSPS emergency diesel generator and control devices according to the manufacturer's written instructions or according to procedures developed by the owner or operator that are approved by the manufacturer. Additionally the Permittee may change only those settings that are permitted by the manufacturer. The Permittee must also meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they may apply to an owner or operator [**Ref: §60.4211**].

(2) 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.
   [**Ref: 40 CFR §60.4207(b) and §80.510(b)**]

Note: Compliance with this requirement demonstrates compliance with COMAR 26.11.09.07A(2)(b) which limits the sulfur content of diesel fuel (No. 2 fuel oil) to 0.3 percent by weight.

(3) The Permittee must comply with the following emissions standards for the emergency generator set:
   (a) Non-methane Hydrocarbons and NO_X (NMHC+NO_X): 6.4 grams per kilowatt-hour (g/kW-hr)
   (b) Carbon Monoxide (CO): 3.5 g/kW-hr
   (c) Particulate Matter (PM): 0.2 g/kW-hr

[**Ref: §60.4205(b), §60.4202(b)(2), and §89.112**]
Please Note: Limits met by purchasing certified engines.

(4) The exhaust opacity from the emergency generator shall not exceed:
   (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.

[**Ref: 40 CFR §60.4205(b), §60.4202(b)(2), and §89.113**]

(5) The Permittee must use diesel fuel in the emergency generator set that meets the requirements of 40 CFR §80.510(b) (diesel fuel that has a per-gallon sulfur content that does not exceed 15 ppm, and that either has a minimum per-gallon cetane index of 40 or a maximum per-gallon aromatic content of 35 volume percent), unless a waiver is obtained from the Department and/or the EPA Administrator. [**Ref: §60.4207**].

(6) In accordance with 40 CFR §60.4211(f), non-emergency use of the emergency diesel generator set for the purpose of maintenance checks and readiness testing is limited to 100 hours per year or less unless prior approval is received from the Department.

Compliance Demonstration
The Permittee shall report the amounts of fuel oil combusted, the hours of operation, and reason for generator operation (i.e., maintenance or operational testing, power outage, etc.) to the Department in the annual emission certification report due on April 1 of each year. [**Reference: COMAR 26.11.03.06C]**

Emission Unit: Emergency Generators Cont'd

Emergency generators not subject to NSPS Subpart IIII Requirements, but are subject to 40 CFR Part 63, Subpart ZZZZ.

9-0804: One (1) Detroit Model 12N-4002 U-12 diesel fuel emergency generator rated at 600 kW

9-0805: One (1) Caterpillar Model 3406 diesel fuel emergency generator rated at 587 brake horsepower.
9-0806: One (1) Katolight Model V-1271 diesel fuel emergency generator rated at 750 brake horsepower
9-0818 thru 9-0823: Six (6) Cummins/Onan diesel fuel emergency generator sets each rated at 2700 kW (Standby)

Applicable Standards and limits

§63.6595 - When do I have to comply with this subpart?

(a) *Affected sources.* (1)" ….. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, **or an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than May 3, 2013.** …..".

§63.6603 - What emission limitations and operating limitations must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.
(a) If you own or operate existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 1b and Table 2b to this subpart that apply to you.

Table 2d to Subpart ZZZZ of Part 63—Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
4. Emergency stationary CI RICE and black start stationary CI RICE.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1]	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and	

	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	

[1]Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in Table 2d of this subpart.

[2]If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

§63.6605 - What are my general requirements for complying with this subpart?
"(a) You must be in compliance with the emission limitations and operating limitations in this subpart that apply to you at all times.
(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source."

Compliance Demonstration
§63.6625 - What are my monitoring, installation, collection, operation, and maintenance requirements?
"(e) If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:
(3) An **existing emergency** or black start stationary RICE located at an area source of HAP emissions."

"(f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP

emissions or **an existing emergency stationary RICE located at an area source of HAP emissions,** you must install a non-resettable hour meter if one is not already installed."

"(h) If you operate a new, reconstructed, or **existing stationary engine**, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.
(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items **1 or 4 of Table 2d** to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine."

§63.6640 - How do I demonstrate continuous compliance with the emission limitations and operating limitations?
(a) You must demonstrate continuous compliance with each emission limitation and operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.
(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. If you change your

catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, and Other Requirements

As stated in §63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each	Complying with the requirement to	You must demonstrate continuous compliance by
9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP, existing non-emergency stationary RICE <100 HP located at a major source of HAP, **existing emergency** and black start **stationary RICE located at an area source of HAP**, existing non-emergency stationary CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency stationary SI RICE located at an area source of HAP which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate 24 hours or less per calendar year, and existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are remote stationary RICE	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

“(f) If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1)

through (4) 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, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (4) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (4) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.
(1) There is no time limit on the use of emergency stationary RICE in emergency situations.
(2) You may operate your emergency stationary RICE 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. Any operation for non-emergency situations as allowed by paragraphs (f)(3) and (4) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).
(i) Emergency stationary RICE may be operated 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. The owner or operator 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 RICE beyond 100 hours per calendar year.
(4) Emergency stationary RICE located at area sources of HAP may be operated 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 and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraphs (f)(4)(i) and (ii) of this section, the 50 hours per 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."

§63.6655 - <u>What records must I keep?</u>
"(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;
(2) An existing stationary emergency RICE.
(3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart."

"(f) If you own or operate any of the stationary RICE in paragraphs (f)(1) through (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in §63.6640(f)(2)(ii) or (iii) or §63.6640(f)(4)(ii), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.
(2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines."

"If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable." **[Footnote 2 of Table 2d]**

Emission Unit: 9-0449 and 9-0450

9-0449 and 9-0450 – Paper Pulp Operation consisting of an automatic material collection system and a separate continuous operating system controlled by a baghouses.

Compliance Status
Results of October 2023 compliance inspection:
The paper pulp operation was not operating. Records of monthly and annual operation are provided with ECR. Records of 1-minute monthly VE observation were provided and maintained on site. The baghouse was observed.

Applicable Standards and limits

A. Control of Visible Emissions

COMAR 26.11.06.02C(2) – Visible Emission Standards. "A person may not cause or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which is visible to human observers."

Exceptions. **COMAR 26.11.06.02A(2).** "The visible emissions standards in §C of this regulation do not apply to emissions during start-up and process modifications 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 60 minute period."

Compliance Demonstration

The Permittee shall conduct a monthly 1-minute visual observation of the baghouse exhaust. The visual observation must be conducted while the pulp paper operation and baghouse are in operation. If no visible emissions are observed in six consecutive monthly observations from the baghouse exhaust, the Permittee may decrease the frequency of visual observations from monthly to quarterly for the baghouse exhaust. If visible emissions are observed during any quarter visual observation, the Permittee must resume the observation of the baghouse exhaust on a monthly basis and maintain that schedule until no visible emissions are observed in six consecutive monthly visual observations. If visible emissions are observed during any observation, the Permittee must inspect baghouse for cause of visible emission and perform necessary adjustments or repairs within 24-hours or prior to operating the pulp paper operation. If visible emissions have not been eliminated, the Permittee shall perform daily 18-minute visual observation for opacity in accordance with EPA Reference Method 9 when operating the pulp paper operation. The Permittee shall maintain on site a log of the dates and results of visible emissions observations for a period of at least 5 years. **[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"

B. Control of Particulate Matter Emissions

COMAR 26.11.06.03B(2)(a) – Particulate Matter from Confined Sources. "A person may not cause or permit to be discharged into the outdoor atmosphere from any other installation, particulate matter in excess of 0.03 gr./SCFD (68.7 mg/dscm)."

Compliance Demonstration
The Permittee shall develop and maintain a preventive maintenance plan for the baghouse that describes the maintenance activity and time schedule for completing each activity. The Permittee shall perform maintenance activities within the time frames established in the plan and shall maintain a log with records of the dates and description of the maintenance that was performed. **[Reference: COMAR 26.11.03.06C]**.
The Permittee shall maintain a copy of the preventive maintenance plan and a record of the dates of and description of maintenance activity performed. The Permittee shall maintain records of the baghouse malfunctions and the corrective actions taken to bring into proper operation. **[Reference: COMAR 26.11.03.06C].**

C. Operational Limits:
The Permittee shall record the annual quantity of material processed by the automatic material collection system and separate continuous operating system and shall maintain these records for at least 5 years. **[Reference: MDE Permit Condition 5of Permit No. 02-9-0449 & 0450]**

Compliance Demonstration
The Permittee shall record the annual quantity of material processed by the paper pulp operation and shall maintain these records on site for at least 2 years. The Permittee shall make records available to the Department upon request and submit records with annual Emission Certification Report. **[Reference: COMAR 26.11.03.06C].**

Emission Unit: 6-0375

6-0375 – Plating Operation consisting of surface coating of steel or aluminum parts to add durability and extend service life, controlled by a packed bed scrubber emission control system.

Compliance Status
Results of October 2023 compliance inspection:
Records of filter changes from the plating hoods were provided.

Applicable Standards and limits
A. Control of Visible Emissions

COMAR 26.11.06.02C(2) – Visible Emission Standards. "A person may not cause or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which is visible to human observers." Exceptions. **COMAR 26.11.06.02A(2).** "The visible emissions standards in §C of this regulation do not apply to emissions during start-up and process modifications 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 60 minute period."

Compliance Demonstration
See Particulate Matter Requirements.

B. Control of Particulate Matter Emissions
COMAR 26.11.06.03B(2)(a) – Particulate Matter from Confined Sources. "A person may not cause or permit to be discharged into the outdoor atmosphere from any other installation, particulate matter in excess of 0.03 gr./SCFD (68.7 mg/dscm)."

Compliance Demonstration
The Permittee shall perform preventive maintenance once per month or as recommended by the equipment manufacturer on scrubbers that control emissions units. The Permittee shall maintain a log of the maintenance performed on the scrubbers. The log shall be kept on site for at least five years and make available to the Department upon request. **[Reference: COMAR 26.11.03.06C]**

Emission Unit: 6-1114

6-1114 – One (1) Future Cure Model 1000 paint spray booth for miscellaneous metal coating located in the Model Shop of the SPC building.

Compliance Status
Results of October 2023 compliance inspection:
Records of paint usage logs were provided. Paint used met the VOC specs and guns were HVLP. VOC emissions are included with the ECR.

Applicable Standards and limits
Control of VOC Emissions
COMAR 26.11.19.08C. Applicability and Exemptions.

"(1) This regulation applies to a person who owns or operates:
(a) A metal furniture coating installation; or
(b) A metal parts and products coating operation at a premises where the total VOC emissions from all metal parts and products surface coating operations (including emissions from related cleaning activities), exceed 15 pounds (6.8 kilograms) per day."

D. Emission Standards.
"(1) A person subject to this regulation may not exceed the applicable VOC emission standards (expressed in terms of mass of VOC per volume of coating excluding water and exempt compounds, as applied) of the following table when applying a metal furniture coating:

Coating Type	Baked		Air-Dried	
	Lbs/gal	Kg/l	Lbs/gal	Kg/l
General, one-component	2.3	0.275	2.3	0.275
General, multi-component	2.3	0.275	2.8	0.340
Extreme performance	3.0	0.360	3.5	0.420
Metallic	3.5	0.420	3.5	0.420
Pretreatment	3.5	0.420	3.5	0.420
Solar absorbent	3.0	0.360	3.5	0.420
Extreme high gloss	3.0	0.360	2.8	0.340

(2) A person subject to this regulation may not exceed the applicable VOC emission standards (expressed in terms of mass of VOC per volume of coating excluding water and exempt compounds, as applied) of the following table when applying a metal parts and products coating:

Coating Type	Baked		Air-Dried	
	Lbs/gal	Kg/l	Lbs/gal	Kg/l
General, one-component	2.3	0.275	2.8	0.340
General, multi-component	2.3	0.275	2.8	0.340
Adhesion promoter	4.0	0.479	4.0	0.479
Prefabricated architectural one component and multi-component	2.3	0.280	3.5	0.420
Military specification	2.3	0.280	2.8	0.340
Extreme high-gloss; extreme performance; heat-resistant; high performance architectural; repair coating; solar absorbent; or touch up coating	3.0	0.360	3.5	0.420
Camouflage, electric-insulating varnish; etching filler; high temperature; metallic; mold-seal; pan backing; pretreatment; silicone release and vacuum-metalizing	3.5	0.420	2.8	0.420

E. Application Methods.
(1) Except as provided in §E(2) of this regulation, a person subject to the requirements of this regulation shall use the following application methods:
(a) Electrostatic application;

(b) HVLP spray;
(c) Flow coat;
(d) Roller coat;
(e) Dip coat including electrodeposition;
(f) Brush coat; or
(g) A coating application method capable of achieving a transfer efficiency equivalent to or better than the efficiency achieved by HVLP spraying."

Compliance Demonstration
The Permittee shall check safety data sheet (SDS) to ensure that the VOC content of metal coatings is less than the applicable standard. The SDS shall contain VOC data that is based on EPA Method 24 or equivalent. If non-compliant coatings are used, the Permittee shall maintain sufficient records to demonstrate that the emissions on that day were less than 20 pounds. **[Reference: COMAR 26.11.03.06C]**.
The Permittee shall maintain monthly records of the hours of spray booth operation, cleaning, and material usage on site for at least five (5) years and make available to the Department upon request. [**Reference: MDE Permit Number 033-6-1114 N issued July 11, 2007]**
The Permittee shall report material usage to the Department annually in the Emission Certification Report. **[Reference: COMAR 26.11.03.06C]**

Emission Unit: 6-1095

6-1095 – Vehicle Refinishing Equipment.

Compliance Status
Results of October 2023 compliance inspection:
Per the Permittee, the vehicle spray booth was not being used for painting at present.

Applicable Standards and limits
Control of VOC Emissions
[Reference: MDE General Permit to Construct 003-6-1095 issued August 28, 2006]
Applicability: This general permit applies only to autobody repair facilities that: (1) are at a fixed stationary location; (2) Use not more than 400 gallons of vehicle refinishing material per year; (3) Have two or less paint spray booths; and (4) Do not use materials containing: (a) lead; (b) formaldehyde; or (c) pot life extenders.

Operating Requirements

(1) All spray painting shall be conducted exclusively by personnel who are trained and certified as painters. Existing shops (in operation before September 17, 2007) have until January 10, 2011 to comply with this requirement.
(2) The following painting operations can be performed by non-certified painters: (a) Painting with brushes, rollers, markers or other non-atomizing applications; (b) spray painting from non-refillable hand-held aerosol containers; or (c) spray painting from guns with a paint cup size 3 oz or less.
(3) All spray painting shall be conducted in a spray booth or preparation station.
(4) All spray booths and preparation stations used to refinish complete motor vehicles or mobile equipment shall be fully enclosed having four complete walls or side curtains and a full roof. Existing shops (in operation before September 17, 2007) have until January 10, 2011 to comply with this requirement.
(5) All spray booths and preparation stations used to coat miscellaneous parts and products or vehicles subassemblies shall have at least three complete walls or side curtains and a full roof. Existing shops (in operation before September 17, 2007) have until January 10, 2011 to comply with this requirement.
(6) All mobile enclosures used to perform spot repairs must enclose and, if necessary seal against the surface around the area being painted in order to ensure that paint overspray is retained within the enclosure.
(7) All spray booths, preparation stations and mobile enclosures shall be equipped with an exhaust gas filter having at least 98% capture efficiency during all times of use. Waterwash spray booths and preparation stations that are operated and maintained according to the manufacturer's specification are exempt from this requirement.
(8) All spray booths and preparation stations shall be ventilated through the exhaust gas filter at a negative pressure. Fully enclosed and sealed spray booths equipped with an automatic pressure balancing system may be operated at up to, but not more than 0.05 inches water gauge positive pressure.
(9) All spray applied coatings shall be applied by HVLP spray guns, electrostatic application, airless spray guns, air-assisted airless spray guns, or an equivalent technology that is demonstrated by the spray gun manufacturer to achieve transfer efficiency comparable to one of the spray gun technologies listed, and for which written approval has been obtained from the Administrator.
(10) Any paint stripping preformed with a chemical paint stripper containing Methylene Chloride (MeCl) requires the following practices: (a) An evaluation of the application to determine if paint stripping is necessary; (b) An evaluation of the application to determine if another paint stripping alternative could be used; (c) Minimization of air exposure by the chemical paint stripper;

(d) Optimization of application conditions; and (e) The proper storage and disposal of the chemical paint stripper.

(11) VOC content of materials used shall not exceed the following limitations:

Coatings*	VOC (lbs/gal)
Pretreatment	6.5
Precoat	5.5
Primer Surfacer	4.8
Primer Sealer	4.6
Topcoat	5.0
Multi-stage coating system	5.2
Specialty coating	7.0
Preparation materials	
Non-plastic	1.4
Plastic	6.5

** VOC content limitation is for coating as applied.*

(12) Use of specialty coatings may not exceed five percent by volume of all coatings on a monthly basis.

(13) The Permittee shall perform the following good operating practices and equipment cleanup procedures to reduce VOC emissions: (a) Establish good operating practices in writing; (b) Make the written operating practices available to the Department upon request; (c) Display the good operating practices so that they are clearly visible to the operator, or include them in operator training; (d) Provide training for equipment operators on the practices, procedures, and maintenance requirements that are consistent with equipment manufacturer's recommendations and the Permittee's experience in operating the equipment; (e) Minimize material or color changes when applying VOC coatings, whenever practical; (f) Mix or blend VOC materials in closed containers to reduce VOC emissions, as practical; (g) Maintain lids on all VOC containers when not in use; (h) Store VOC contaminated materials in closed containers; (i) Promptly contain and clean p spills and leaks of materials containing VOC; (j) Use enclosed spray gun cleaning, VOC-recycling systems and other spray gun cleaning methods; and Use detergents, high-pressure water, or other non-VOC cleaning options to clean lines, containers and equipment, where practical.

Training Requirements

(1) All personnel, including contract personnel, who spray coatings must be trained and certified no later than 180 days after hiring. Existing shops (in operation before September 17, 2007) have until January 10, 2011 to train and certify painters.

(2) Training and certification is valid for a period not to exceed five years after the date of training is completed.

(3) All personnel who spray coatings must receive refresher training and be recertified every five years

(4) The training program shall at a minimum include the following:
(a) A list of all personnel by name and job description who are required to be trained;

(b) Hand on and classroom instructions on:
(i) Spray gun equipment selection, setup, and operation, including measuring coating viscosity, selecting the proper fluid tip or muzzle, and achieving the proper spray pattern, air pressure and volume, and fluid delivery rate;
(ii) Spray technique for different types of coatings to improve transfer efficiency and minimize coating usage and overspray, including maintaining the correct spray gun distance and angle to the part, using proper banding and overlap and reducing lead and lag spraying at the beginning and end of stroke;
(iii) Routine spray booth and filter maintenance, including filter selection and installation; and
(iv) Environmental compliance with the federal MACT requirements of 40 CFR part 63, subpart HHHHHH; and

(c) A description of the methods to be used at the completion of initial or refresher training to demonstrate, document and provide certification of successful completion of the required training.

(5) The initial training required by this section is not required if the Permittee can show by documentation or certification that a painter's work experience and/or training has resulted in training has resulted in training required in section 4(b) above.

Compliance Demonstration
The Permittee shall check MSDS to ensure that the VOC content of coatings is less than the applicable standard. The MSDS shall contain VOC data that is based on EPA Method 24 testing or equivalent. [**Reference: COMAR 26.11.03.06C**].
Recordkeeping
The following records must be kept for at least 5 years after the date of each record: (a) certification that each painter has completed the required training, with the date of the initial training and the most recent refresher training was

completed; (b) documentation of the filter efficiency of any spray booth exhaust filter material; (c) for spray guns that are not HVLP spray guns, electrostatic application, airless spray guns, or air-assisted air less spray guns, documentation from the manufacturer that the gun achieves equivalent transfer efficiency and has received written approval by the Administrator; (d) copies of any Notifications; (e) copies of any annual reports; (f) records of any deviations from the federal requirements outlined in this permit. These records shall include: (i) the date and time period of the deviation; (ii) a description of the nature of the deviation; and (iii) the actions taken to correct the deviation; (g) Records of any assessments of source compliance performed in support of the initial notification, notification of compliance status, or annual notification of changes report; (h) records of usage of paint stripper containing MeCl, including: (i) Material Safety Data Sheets; and (ii) Purchase records; (i) hours of operation; and (j) Total Volume and VOC content of coatings, cleanup materials and surface preparation materials purchased.

Notification

(1) Initial Notification

(a)The Permittee must submit initial notification within 180 days after the date of the initial startup. Existing shops (in operation before September 17, 2007) have until January 10, 2011 to submit their notification.

(b)The initial notification shall include the following: (i) the company name;; (ii) the street address (physical location) of the source; (iii) the name, title, street address, telephone number, e-mail address(if available) and signature of the owner and operator, or other certifying company official; (iv) the street address where compliance records are maintained, if different; (v) Identification of the relevant standard (40 CFR Part 63, subpart HHHHHH); (vi) a brief description of the type of operation at this location, including the number of paint booth, number of preparation stations, and the number of painters usually employed; (vii) if there is any paint stripping performed with a paint stripper containing MeCl, the methods it is used with and the substrates tripped must be identified;

(c)The Permittee must include a compliance statement specifying whether the operation is in compliance with each of the requirements of the federal standard, or not; and

(d)If the compliance statement is that the facility is already in compliance, then the initial notification must also include a statement by a responsible official with that official's name, title, phone number, e-mail address (if available) and signature, certifying the truth, accuracy and completeness of the notification, a statement that the source has complied with all the relevant

standards of subpart HHHHHH, and that this initial notification also serves as the notification of compliance status.

(e)The initial notification shall be sent to:

United States Environmental Protection Agency
Region III, Enforcement & Compliance Assurance Division
Air, RCRA and Toxics Branch (3ED21)
Four Penn Center
1600 John F. Kennedy Boulevard
Philadelphia, PA 19103-2852

and

Maryland Department of the Environment
Air and Radiation Administration,
Compliance Program
1800 Washington Blvd, Suite 715
Baltimore, MD 21230

(2) Compliance Status Notification

(a) A separate compliance status notification is only required for sources that do not certify compliance on their initial notification.

(b) The Permittee must submit a compliance status notification within 180 days after the date of initial startup, if required. Existing shops (in operation before September 17, 2007) have until March 11, 2011 to submit a compliance status notification.

(c) The compliance status notification shall include the following: (i) the company name; (ii) the street address (physical location of the source; (iii) the name, title, street address, telephone number, e-mail address (if available) and signature of the owner and operator, or other certifying company official; (iv) the street address where compliance records are maintained, if different; (v) a statement certifying the truth, accuracy, and completeness of notification; (vi) a statement whether the source has complied with all the relevant standards and other requirements of this subpart or an explanation of any noncompliance and a description of corrective actions being taken to achieve compliance.

(d) The compliance status notification shall be sent to:

United States Environmental Protection Agency
Region III, Enforcement & Compliance Assurance Division
Air, RCRA and Toxics Branch (3ED21)

Four Penn Center
1600 John F. Kennedy Boulevard
Philadelphia, PA 19103-2852

and

Maryland Department of the Environment
Air and Radiation Administration,
Compliance Program
1800 Washington Blvd, Suite 715
Baltimore, MD 21230

Annual Reporting

(1)An Annual Notification of Changes Report must be submitted by March 1 of each calendar year;

(2)The Annual Notification of Changes Report shall include the following: (a) the company name; (b) the street address (physical location) of the source; (c) the name, title, street address, telephone number, e-mail address (if available) and signature of the owner and operator, or other certifying company official; (d) the street address where compliance records are maintained, if different; (e) a statement certifying the truth, accuracy, and completeness of notification; (f) a statement whether the source has complied with all the relevant standards and other requirements of this subpart or an explanation of any noncompliance and a description of corrective actions being taken to achieve compliance; (g) any changes to any information submitted in either the initial notification or a previous annual notification of changes report; and (h) deviations from the relevant requirements.

(3)This report is not required if there have been no deviations from any of the relevant requirements, and no changes to any information submitted on previous reports or notifications.

(4)The Annual Notification of Changes Report shall be sent to:

United States Environmental Protection Agency
Region III, Enforcement & Compliance Assurance Division
Air, RCRA and Toxics Branch (3ED21)
Four Penn Center
1600 John F. Kennedy Boulevard
Philadelphia, PA 19103-2852

and

Maryland Department of the Environment
Air and Radiation Administration,
Compliance Program
1800 Washington Blvd, Suite 715
Baltimore, MD 21230

Emission Unit:

Facility-wide

Compliance Status
Results of October 2023 compliance inspection:
Records of facility-wide VOC emissions and inspections were provided.

Applicable Standards and limits
Control of VOC Emissions
A. **COMAR 26.11.19.02I.** - Good Operating Practices, Equipment Cleanup, and VOC Storage.
"(1) Applicability. The requirements in this section apply to a person who owns or operates an installation that is subject to any requirement in this chapter.
(2) Good Operating Practices.
(a) A person who is subject to this section shall implement good operating practices to minimize VOC emissions into the atmosphere.
(b) Good operating practices shall, at a minimum, include the following:
(i) Provisions for training of operators on practices, procedures, and maintenance requirements that are consistent with the equipment manufacturers' recommendations and the source's experience in operating the equipment, with the training to include proper procedures for maintenance of air pollution control equipment;
(ii) Maintenance of covers on containers and other vessels that contain VOC and VOC-containing materials when not in use;
(iii) As practical, scheduling of operations to minimize color or material changes when applying VOC coatings or other materials by spray gun;

(iv) For spray gun applications of coatings, use of high volume low pressure (HVLP) or other high efficiency application methods where practical; and
(v) As practical, mixing or blending materials containing VOC in closed containers and taking preventive measures to minimize emissions for products that contain VOC.
(c) A person subject to this regulation shall:

(i) Establish good operating practices in writing;
(ii) Make the written operating practices available to the Department upon request; and
(iii) Display the good operating practices so that they are clearly visible to the operator or include them in operator training.
(3) Equipment Cleanup.
(a) A person subject to this section shall take all reasonable precautions to prevent or minimize the discharge of VOC into the atmosphere when cleaning process and coating application equipment, including containers, vessels, tanks, lines, and pumps.
(b) Reasonable precautions for equipment cleanup shall, at a minimum, include the following:
(i) Storing all wastes and waste materials, including cloth and paper that are contaminated with VOC, in closed containers;
(ii) Preparing written standard operating procedures for frequently cleaned equipment, including when practical, provisions for the use of low-VOC or non-VOC materials and procedures to minimize the quantity of VOC materials used;
(iii) Using enclosed spray gun cleaning, VOC-recycling systems and other spray gun cleaning methods where practical that reduce or eliminate VOC emissions; and
(iv) Using, when practical, detergents, high-pressure water, or other non-VOC cleaning options to clean coating lines, containers, and process equipment.
(4) VOC Storage and Transfer.
(a) A person subject to this section who stores VOCs shall, at a minimum, install conservation vents or other vapor control measures on storage tanks with a capacity of 2,000 gallons or more, to minimize VOC emissions.
(b) A person subject to this section shall, at a minimum, utilize vapor balance, vapor control lines, or other vapor control measures when VOCs are transferred from a tank truck into a stationary storage tank with a capacity greater than 10,000 gallons and less than 40,000 gallons that store VOCs or materials containing VOCs, other than gasoline, that have a vapor pressure greater than 1.5 psia."

Compliance Demonstration
The Permittee shall conduct facility-wide inspections at least once per calendar month to determine the compliance status of facility operations with regard to implementation of "good operating practices" designed to minimize emissions of VOC. **[Reference: COMAR 26.11.03.06C**]
The Permittee shall maintain: (1) Written descriptions of all "good operating practices" designed to minimize emissions of VOC from facility-wide operations.

[Reference: COMAR 26.11.19.02I] (2) Records of all inspections conducted to determine the facility's compliance status with regard to implementation of "good operating practices" designed to minimize emissions of VOC from facility-wide operations. The records shall include for each inspection the name of the inspector, the date and time of the inspection, and an account of the findings. **[Reference: COMAR 26.11.03.06C]** Good operating practices information as required by COMAR 26.11.19.02I shall be made available to the Department upon request.

B. **COMAR 26.11.19.16B, C & D** - Control of VOC Equipment Leaks

"Applicability. A person subject to any VOC emission standard or limitation established in this chapter and not otherwise subject to more specific VOC leak requirements of another regulation is subject to the requirements of this regulation.

General Requirements. A person subject to this regulation shall comply with all of the following requirements:

(1) Visually inspect all components on the premises for leaks at least once each calendar month.

(2) Tag any leak immediately so that the tag is clearly visible. The tag shall be made of a material that will withstand any weather or corrosive conditions to which it may be normally exposed. The tag shall bear an identification number, the date the leak was discovered, and the name of the person who discovered the leak. The tag shall remain in place until the leak has been repaired.

(3) Take immediate action to repair all observed VOC leaks that can be repaired within 48 hours.

(4) Repair all other leaking components not later than 15 days after the leak is discovered. If a replacement part is needed, the part shall be ordered within 3 days after discovery of the leak, and the leak shall be repaired within 48 hours after receiving the part.

(5) Maintain a supply of components or component parts that are recognized by the source to wear or corrode, or that otherwise need to be routinely replaced, such as seals, gaskets, packing, and pipe fittings.

(6) Maintain a log that includes the name of the person conducting the inspection and the date on which leak inspections are made, the findings of the inspection, and a list of leaks by tag identification number. The log shall be made available to the Department upon request. Leak records shall be maintained for a period of not less than 2 years from the date of their occurrence.

Exceptions. Components that cannot be repaired as required in this regulation because they are inaccessible, or that cannot be repaired during operation of the source, shall be identified in the log and included within the source's maintenance schedule for repair during the next source shutdown."

Compliance Demonstration

The Permittee shall visually inspect all components on the premises for VOC leaks at least once each calendar month following the procedures specified in COMAR 26.11.19.16. [**Reference: COMAR 26.11.19.16C(1)]**. The Permittee shall maintain a log that includes the name of the person conducting the inspection and the date on which leak inspections are made, the findings of the inspection, a list of leaks by tag identification number and identity of components that cannot be repaired as required in this regulation because they are inaccessible, or that cannot be repaired during operation if the source. The log shall be made available to the Department upon request. Leak records, along with the log shall be maintained for a period of not less than 2 years from the date of their occurrence. [**Reference: COMAR 26.11.03.06C]**. Leak inspection logs as required by COMAR 26.11.19.16 shall be made available to the Department upon request.

COMPLIANCE SCHEDULE

NSA is currently in compliance with all applicable air quality regulations.

TITLE IV – ACID RAIN

Not Applicable

TITLE VI – OZONE DEPLETING SUBSTANCES

NSA is not subject to Title VI requirements.

SECTION 112(r) – ACCIDENTAL RELEASE

NSA is not subject to the requirements of Section 112(r).

PERMIT SHIELD

The NSA facility 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. 20 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;

[For Areas III and IV]

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.

Exceptions: COMAR 26.11.09.05A(2) 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.

[For Distillate Fuel Oil]

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. 17 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 ***affected units*** 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) ✓ Space heaters utilizing direct heat transfer and used solely for comfort heat;

(4) ✓ 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;

(5) No. 2 Unheated VOC dispensing containers or unheated VOC rinsing containers of 60 gallons (227 liters) capacity or less;

The ***affected units*** are subject to COMAR 26.11.19.09D, which requires that the Permittee control emissions of volatile organic

compounds (VOC) from cold degreasing operations by meeting the following requirements:

(a) COMAR 26.11.19.09D(2)(b), which establishes that the Permittee shall not use any VOC degreasing material that exceeds a vapor pressure of 1 mm Hg at 20 ° C;

(b) COMAR 26.11.19.09D(3)(a—d), which requires that the Permittee implement good operating practices designed to minimize spills and evaporation of VOC degreasing material. These practices, which shall be established in writing and displayed such that they are clearly visible to operators, shall include covers (including water covers), lids, or other methods of minimizing evaporative losses, and reducing the time and frequency during which parts are cleaned;

(c) COMAR 26.11.19.09D(4), which prohibits the use of any halogenated VOC for cold degreasing.

The Permittee shall maintain on site for at least five (5) years, and shall make available to the Department upon request, the following records of operating data:

(a) Monthly records of the total VOC degreasing materials used; and

(b) Written descriptions of good operating practices designed to minimize spills and evaporation of VOC degreasing materials.

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

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

(8) ✓ Die casting machines;

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

(10) ✓ 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;

(11) ✓ 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;

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

(a) ✓ Storage of butane, propane, or liquefied petroleum, or natural gas;

(b) No. 77 Storage of lubricating oils;

(c) No. 125 Storage of Numbers 1, 2, 4, 5, and 6 fuel oil and aviation jet engine fuel;

(d) No. 100 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;

(13) ✓ 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;

The five (5) Garland Radiant natural gas fired charbroilers are subject to **COMAR 26.11.18.06B** - Visible Emissions.
"(1) A person who owns or operates a char-broiler or pit barbecue constructed after December 17, 1974, that is located within 300 feet of the property line of any habitable dwelling may

not cause or permit the discharge of emissions greater than 10 percent opacity."
"(**2)** A person who constructs, owns, or operates a char-broiler or pit barbeque not subject to Sec. B(1), above, may not cause or permit the discharge of emissions greater than 30 percent opacity."

COMAR 26.11.18.06C - Control Device Requirements for New Sources Near Habitable Dwellings.
"(1) A person who construct a char-broiler or pit barbecue and is subject to Sec. B(1), above, shall install an approved control device unless the person demonstrates to the satisfaction of the Department that the installation, when operated without control equipment, will meet Sec. B(1)."

(14) ✓ 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;

(15) ✓ Certain recreational equipment and activities, such as fireplaces, barbecue pits and cookers, fireworks displays, and kerosene fuel use;

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

(17) ✓ Firing and testing of military weapons and explosives;

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

(19) ✓ Laboratory fume hoods and vents;

(20) No. 1 Sheet-fed letter or lithographic printing press(es) with a cylinder width of less than 18 inches;

The Permittee is subject to the following requirements for each printing press:

COMAR 26.11.19.11E, which requires that a person who uses material containing VOC to clean printing equipment:

(a) Store all waste materials containing VOC, including cloth and paper, in closed containers;
(b) Maintain lids on all VOC-containing cleanup materials when not in use;
(c) Establish in writing for persons who clean printing equipment good operating practices designed to minimize the use of VOC-containing materials, and make the written descriptions of these good operating practices available to the Department upon request; and
(d) Upon request by the Department, participate in the evaluation of non-VOC and low-VOC materials used to clean printing equipment when these materials have the potential to be appropriate substitutes for currently used materials.

STATE ONLY ENFORCEABLE REQUIREMENTS

This section of the permit contain state-only enforceable requirements. The requirements in this section will not be enforced by the U.S. Environmental Protection Agency. The requirements in this section are not subject to COMAR 26.11.03 10 - Public Petitions for Review to EPA Regarding Part 70 Permits.

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 a 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."

   (C) COMAR 26.11.15.05, which requires that the Permittee implement "Best Available Control Technology for Toxics" (T – BACT) to control emissions of toxic air pollutants.

   (D) COMAR 26.11.15.06, which prohibits the discharge of toxic air pollutants to the extent that such emissions will unreasonably endanger human health

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.

NATIONAL SECURITY AGENCY
9800 SAVAGE ROAD
FORT GEORGE G. MEADE, MD 20755-6218
DRAFT PART 70 OPERATING PERMIT NO. 24-003-0317

SECTION I SOURCE IDENTIFICATION

1. DESCRIPTION OF FACILITY

The National Security Agency (NSA) facility is located at Fort George G. Meade in Anne Arundel County, Maryland. The NSA campus at Fort Meade encompasses a wide range of administrative and manufacturing operations. Process operations include a plating operation, several paint spray booths, and a paper pulp operation for the destruction of classified paper products. Fuel burning equipment consisting of boilers and emergency generators are located throughout the facility. The primary SIC for this facility is 9711. Sources associated with SIC 3672 and 3674 were not included in this permit.

2. FACILITY INVENTORY LIST

Emissions Unit Number	MDE - ARA Registration Number	Emissions Unit Name and Description	Date of Installation
Boilers > 10 MMBtu/hr	5-0502 thru 5-0504	Three (3) Union Iron Works natural gas/No. 2 fuel oil fired boilers each rated at 85 million Btu per hour.	January 1953
	5-0505	One (1) Keeler natural gas/No. 2 fuel oil fired boilers each rated at 90 million Btu per hour.	December 1969
Boilers <= 10 MMBtu/hr	5-0644 and 5-0645	Two (2) Lochinvar Power Fin natural gas boilers, each rated at 1.5 million Btu per hour heat input	August 2006
	5-0809	Four (4) Lochinvar natural gas fired boilers, each rated at 1.5 million Btu per hour heat input	September 2015
	5-0810	Four (4) Harsco natural gas fired boilers, each rated at 2.5 million Btu per hour	September 2015
	5-0811	Two (2) Harsco natural gas fired boilers each rated at 2.0 million Btu per hour	September 2015
	5-0823	Three (3) Lochinvar Crest Model FBN-1501 natural gas fired boilers, each rated at 1.5 million Btu per hour heat input	September 2015
	5-0842	Four (4) Lochinvar natural gas fired boilers, each rated at 4.0 million Btu per hour heat input	November 2016

Emissions Unit Number	MDE - ARA Registration Number	Emissions Unit Name and Description	Date of Installation
	5-0891 and 5-0892	Two (2) Hydrotherm KN20 natural gas fired boilers, each rated at 1.99 million Btu per hour heat input	December 2019
	5-0900	Two (2) Hydrotherm KN20 natural gas fired boilers, each rated at 1.99 million Btu per hour heat input	September 2020
	5-0905	Four (4) Patterson Kelly natural gas fired boilers, each rated at 4.0 million Btu per hour heat input	February 2021
	5-0911	Three (3) Lochnivar natural gas fired boilers, each rated at 1.5 million Btu per hour heat input	November 2021
	5-0915	Three (3) Patterson Kelly natural gas fired boilers, each rated at 2.0 million Btu per hour heat input	July 2024
	5-0916	Three (3) Fulton natural gas fired boilers, each rated at 6.0 million Btu per hour heat input	January 2025
Emergency Generators	9-0804	One (1) Detroit Model 12N-4002 U-12 diesel fuel emergency generator rated at 600 kW	September 1994
	9-0806	One (1) Katolight Model V-1271 diesel fuel emergency generator rated at 560 kW	September 1997
	9-0818 thru 9-0823	Six (6) Cummins/Onan diesel fuel emergency generator sets each rated at 2700 kW (Standby)	March 2005
	9-0918	One (1) Katolight (Model D900X6T2) diesel fuel emergency generator rated at 900 kW	March 2008
	9-0967	One (1) Katolight (Model 415-J6T3) diesel fuel emergency generator rated at 415 kW.	September 2009
	9-1035	Eighteen (18) Cummins diesel emergency generators each rated at 2,750 kW and each equipped with SCR system	April 2012
	9-1055	Twenty-four (24) Caterpillar diesel emergency generators each rated at 2,725 kW and each equipped with SCR system	January 2015
	9-1090	MTU Onsite Energy diesel-fired emergency generator rated at 2,280 kW located in Building 9800C.	2014

Emissions Unit Number	MDE - ARA Registration Number	Emissions Unit Name and Description	Date of Installation
	9-1091	Seven (7) Caterpillar C175-16 diesel fired emergency generator sets, each rated at 3000 kW and equipped with selective catalytic reduction	2014
	9-1092	One (1) Caterpillar C32 diesel fired emergency generator set rated at 1000 kW	2014
	9-1116	Six (6) Caterpillar C175-16 emergency diesel generators each rated at 3000 kW (standby) and each equipped with an E-POD Selective Catalytic Reduction (SCR) system.	September 2015
	9-1117	Two (2) Caterpillar C15 life safety emergency diesel generator each rated at 500 kW (stand-by).	September 2015
	9-1136	One (1) Caterpillar C175-16 emergency diesel generator rated at 3000 kW and equipped with an E-POD Selective Catalytic Reduction (SCR) system.	November 2016
	9-1137	One (1) Caterpillar C 13 life safety emergency generator rated at 400 kW (Standby)	November 2016
	9-1146	One (1) Kohler emergency diesel-fired generator rated at 550 kW.	August 2017
	9-1155	Fourteen (14) Caterpillar diesel fired emergency generator sets, each rated at 3000-kW and equipped with Selective Catalytic Reduction (SCR) systems to control NO_X emissions.	March 2018
	9-1156	One (1)Caterpillar diesel fired emergency generator set rated at 800 kW life safety emergency diesel generator set	January 2018
	9-1243	One (1) Cummins diesel fired emergency generator set rated at 800 kW	March 2022
	9-1244	One (1) Cummins diesel fired emergency generator set rated at 600 kW	March 2022
	9-1266	One (MTU) diesel fired emergency generator set rated at 750 kW	February 2025
9-0449 and 9-0450	9-0449 and 9-0450	Paper Pulp Operation consisting of an automatic material collection system and a	March 1978

Emissions Unit Number	MDE - ARA Registration Number	Emissions Unit Name and Description	Date of Installation
		separate continuous operating system controlled by baghouses.	
6-0375	6-0375	Plating Operation consisting of surface coating of steel or aluminum parts to add durability and extend service life, controlled by a packed bed scrubber emission control system.	June 1992
6-1114	6-1114	One (1) Future Cure Model 1000 paint spray booth for miscellaneous metal coating.	January 2002
6-1095	6-1095	One (1) Vehicle refinishing Equipment	August 2006
8-0340	8-0340	One (1) Radiant charbroiler	May 2018
8-0363	8-0363	Four (4) Garland Radiant natural gas charbroilers/griddles	November 2021

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**. [Reference: COMAR 26.11.03.06C(5)(g)]**

Table IV – 1	
1.0	**Emissions Unit Number(s): Boilers > 10 MMBtu/hr** 5-0502 thru 5-0504 – Three Union Works natural gas/No. 2 fuel oil fired boilers each rated at 85 million Btu/hr heat input. 5-0505 – One Keeler natural gas/No. 2 fuel oil fired boiler rated at 90 million Btu/hr heat input.
1.1	**Applicable Standards/Limits:** A. Control of Visible Emissions **COMAR 26.11.09.05A** – Fuel Burning Equipment "(2) 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. (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."

Table IV – 1	
	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 **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." **COMAR 26.11.09.08E**. - Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of 100 Million Btu Per Hour or Less. "A person who owns or operates fuel-burning equipment with a rated heat input capacity of 100 Million Btu per hour or less 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 at the site for at least 2 years and make this data available to the Department and the EPA upon request; (4) 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 (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." D. Operational Limits The Permittee shall only burn natural gas with No. 2 fuel oil as back up fuel unless the Permittee applies for and receives an approval or permit from the Department to burn alternate fuels. **[Reference: COMAR 26.11.02.09A].**
1.2	**Testing Requirements:** A. Control of Visible Emissions See Monitoring Requirements.

Table IV – 1	
	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 Limits See Record Keeping Requirements.
1.3	**Monitoring Requirements:** A. Control of Visible Emissions The Permittee shall: (1) Properly operate and maintain the boilers in a manner to prevent visible emissions; and (2) 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. The Permittee shall perform the following, if emissions are visible: (1) Inspect combustion control system and boiler operations, (2) Perform all necessary adjustments and/or repairs to the boiler within 48 hours, so that visible emissions are eliminated; (3) Document in writing the results of the inspections, adjustments and/or repairs to the boiler; and (4) 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. **[Reference: 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 Limits See Record Keeping Requirements.
1.4	**Record Keeping Requirements:** **Note:** 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: (1) Maintain an operation manual and prevention maintenance plan on site; (2) Maintain a record of the maintenance preformed 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. **[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: (1) The Permittee shall maintain records of the results of the annual combustion analysis on site. **[Reference: COMAR 26.11.09.08E(5)].** (2) Record of training program attendance for each operator at the site. **[Reference: COMAR 26.11.09.08E(5)]**. D. Operational Limits 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:** 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".

Table IV – 1	
	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: 1) The results of combustion analysis to the department and the EPA upon request. **[Reference: COMAR 26.11.09.08E(3)]** 2) A record of training program attendance for each operator to the Department upon request. **[Reference: COMAR 26.11.09.08E(5)].** D. Operational Limits The Permittee shall submit records of the quantity and type of fuels burn 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 – 1a	
1a.0	**Emissions Unit Number(s): Boilers > 10 MMBtu/hr Cont'd** 5-0502 thru 5-0504 – Three Union Works natural gas/No. 2 fuel oil fired boilers each rated at 85 million Btu/hr heat input. 5-0505 – One Keeler natural gas/No. 2 fuel oil fired boiler rated at 90 million Btu/hr heat input.
1a.1	**Applicable Standards/Limits:** Control of HAPs: **40 CFR Part 63, Subpart JJJJJJ—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources** **§63.11193** - Am I subject to this subpart? You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler as defined in §63.11237 that is located at, or is part of, an area source of hazardous air pollutants (HAP), as defined in §63.2, except as specified in §63.11195. **§63.11196** - What are my compliance dates?

Table IV – 1a

(a) If you own or operate an existing affected boiler, you must achieve compliance with the applicable provisions in this subpart as specified in paragraphs (a)(1) through (3) of this section.
(1) If the existing affected boiler is subject to a work practice or management practice standard of a tune-up, you must achieve compliance with the work practice or management practice standard no later than March 21, 2014.

(2) If the existing affected boiler is subject to emission limits, you must achieve compliance with the emission limits no later than March 21, 2014.
(3) If the existing affected boiler is subject to the energy assessment requirement, you must achieve compliance with the energy assessment requirement no later than March 21, 2014.

§63.11201 - What standards must I meet?
(a) You must comply with each emission limit specified in Table 1 to this subpart that applies to your boiler.
(b) You must comply with each work practice standard, emission reduction measure, and management practice specified in Table 2 to this subpart that applies to your boiler. An energy assessment completed on or after January 1, 2008 that meets or is amended to meet the energy assessment requirements in Table 2 to this subpart satisfies the energy assessment requirement. A facility that operates under an energy management program established through energy management systems compatible with ISO 50001, that includes the affected units, also satisfies the energy assessment requirement.
(c) You must comply with each operating limit specified in Table 3 to this subpart that applies to your boiler.
(d) These standards apply at all times the affected boiler is operating, except during periods of startup and shutdown as defined in §63.11237, during which time you must comply only with Table 2 to this subpart.

Table 2 to Subpart JJJJJJ of Part 63—Work Practice Standards, Emission Reduction Measures, and Management Practices
As stated in §63.11201, you must comply with the following applicable work practice standards, emission reduction measures, and management practices:

If your boiler is in this subcategory	You must meet the following
4. Existing oil-fired boilers with heat input capacity **greater**	Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of

Table IV – 1a		
	than 5 MMBtu/hr that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio	the boiler **biennially** as specified in §63.11223.
	16. Existing coal-fired, biomass-fired, or **oil-fired boilers (units with heat input capacity of 10 MMBtu/hr and greater**), not including limited-use boilers	Must have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table satisfies the energy assessment requirement. Energy assessor approval and qualification requirements are waived in instances where past or amended energy assessments are used to meet the energy assessment requirements. A facility that operates under an energy management program compatible with ISO 50001 that includes the affected units also satisfies the energy assessment requirement. The energy assessment must include the following with extent of the evaluation for items (1) to (4) appropriate for the on-site technical hours listed in §63.11237:
		(1) A visual inspection of the boiler system,
		(2) An evaluation of operating characteristics of the affected boiler systems, specifications of energy use systems, operating and maintenance procedures, and unusual operating constraints,
		(3) An inventory of major energy use systems consuming energy from

Table IV – 1a

		affected boiler(s) and which are under control of the boiler owner or operator,
		(4) A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage,
		(5) A list of major energy conservation measures that are within the facility's control,
		(6) A list of the energy savings potential of the energy conservation measures identified, and
		(7) A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.
1a.2	**<u>Testing Requirements</u>:** <u>Control of HAPs:</u> **§63.11223** - <u>How do I demonstrate continuous compliance with the work practice and management practice standards?</u> "(a) For affected sources subject to the work practice standard or the management practices of a tune-up, you must conduct a performance tune-up according to paragraph (b) of this section and keep records as required in §63.11225(c) to demonstrate continuous compliance. You must conduct the tune-up while burning the type of fuel (or fuels in the case of boilers that routinely burn two types of fuels at the same time) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up." "(b) Except as specified in paragraphs (c) through (f) of this section, you must conduct a tune-up of the boiler biennially to demonstrate continuous compliance as specified in paragraphs (b)(1) through (7) of this section. Each **biennial** tune-up must be conducted no more than 25 months after the previous tune-up. For a new or reconstructed boiler, the	

Table IV – 1a	
	first biennial tune-up must be no later than 25 months after the initial startup of the new or reconstructed boiler. (1) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. (2) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available. (3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection. (4) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any nitrogen oxide requirement to which the unit is subject. (5) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer. (6) Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (b)(6)(i) through (iii) of this section. (i) The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler. (ii) A description of any corrective actions taken as a part of the tune-up of the boiler. (iii) The type and amount of fuel used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit. (7) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup.”
1a.3	**<u>Monitoring Requirements:</u>** <u>Control of HAPs:</u>

Table IV – 1a	
	The Permittee must operate and maintain, at all times, any affected source, including air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. **[Reference: 40 CFR §63.11205(a)]**
1a.4	**Record Keeping Requirements:** Control of HAPs: **§63.11225** - What are my notification, reporting, and **recordkeeping** requirements? "(c) You must maintain the records specified in paragraphs (c)(1) through (7) of this section. (1) As required in §63.10(b)(2)(xiv), you must keep a copy of each notification and report that you submitted to comply with this subpart and all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted. (2) You must keep records to document conformance with the work practices, emission reduction measures, and management practices required by §63.11214 and §63.11223 as specified in paragraphs (c)(2)(i) through (vi) of this section. (i) Records must identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned. (ii) *Not Applicable*. (iii) For each boiler required to conduct an energy assessment, you must keep a copy of the energy assessment report. (iv) For each boiler subject to an emission limit in Table 1 to this subpart, you must also keep records of monthly fuel use by each boiler, including the type(s) of fuel and amount(s) used. (v) For each boiler that meets the definition of seasonal boiler, you must keep records of days of operation per year. (vi) For each boiler that meets the definition of limited-use boiler, you must keep a copy of the federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent and records of fuel use for the days the boiler is operating. (3) For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation that were done to demonstrate compliance with the mercury emission limits. Supporting documentation should include results of any fuel analyses. You can use the results from one fuel analysis for multiple boilers provided they are all burning the same fuel type.

Table IV – 1a	
	(4) Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment. (5) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in §63.11205(a), including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation. (6) You must keep the records of all inspection and monitoring data required by §§63.11221 and 63.11222, and the information identified in paragraphs (c)(6)(i) through (vi) of this section for each required inspection or monitoring. (i) The date, place, and time of the monitoring event. (ii) Person conducting the monitoring. (iii) Technique or method used. (iv) Operating conditions during the activity. (v) Results, including the date, time, and duration of the period from the time the monitoring indicated a problem to the time that monitoring indicated proper operation. (vi) Maintenance or corrective action taken (if applicable). (7) *Not Applicable*. (d) Your records must be in a form suitable and readily available for expeditious review. You must keep each record for 5 years following the date of each recorded action. You must keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. You may keep the records off site for the remaining 3 years."
1a.5	**Reporting Requirements:** Control of HAPs: **§63.11225** - What are my **notification, reporting**, and recordkeeping requirements? "(a) You must submit the notifications specified in paragraphs (a)(1) through (5) of this section to the administrator. (1) You must submit all of the notifications in §§63.7(b); 63.8(e) and (f); and 63.9(b) through (e), (g), and (h) that apply to you by the dates specified in those sections except as specified in paragraphs (a)(2) and (4) of this section. (2) An Initial Notification must be submitted no later than January 20, 2014 or within 120 days after the source becomes subject to the standard.

Table IV – 1a	
	(3) If you are required to conduct a performance stack test you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance stack test is scheduled to begin. (4) You must submit the Notification of Compliance Status no later than 120 days after the applicable compliance date specified in §63.11196 unless you must conduct a performance stack test. If you must conduct a performance stack test, you must submit the Notification of Compliance Status within 60 days of completing the performance stack test. You must submit the Notification of Compliance Status in accordance with paragraphs (a)(4)(i) and (vi) of this section. The Notification of Compliance Status must include the information and certification(s) of compliance in paragraphs (a)(4)(i) through (v) of this section, as applicable, and signed by a responsible official. (i) You must submit the information required in §63.9(h)(2), except the information listed in §63.9(h)(2)(i)(B), (D), (E), and (F). If you conduct any performance tests or CMS performance evaluations, you must submit that data as specified in paragraph (e) of this section. If you conduct any opacity or visible emission observations, or other monitoring procedures or methods, you must submit that data to the Administrator at the appropriate address listed in §63.13. (ii) “This facility complies with the requirements in §63.11214 to conduct an initial tune-up of the boiler.” (iii) “This facility has had an energy assessment performed according to §63.11214(c).” (iv) For units that install bag leak detection systems: “This facility complies with the requirements in §63.11224(f).” (v) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: “No secondary materials that are solid waste were combusted in any affected unit.” (vi) The notification must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written Notification of Compliance Status must be submitted to the Administrator at the appropriate address listed in §63.13. (5) If you are using data from a previously conducted emission test to serve as documentation of conformance with the emission standards and operating limits of this subpart, you must include in the Notification of Compliance Status the date of the test and a summary of the results, not a complete test report, relative to this subpart. (b) You must prepare, by March 1 of each year, and submit to the delegated authority upon request, an annual compliance certification

Table IV – 1a	
	report for the previous calendar year containing the information specified in paragraphs (b)(1) through (4) of this section. You must submit the report by March 15 if you had any instance described by paragraph (b)(3) of this section. For boilers that are subject only to a requirement to conduct a biennial or 5-year tune-up according to §63.11223(a) and not subject to emission limits or operating limits, you may prepare only a biennial or 5-year compliance report as specified in paragraphs (b)(1) and (2) of this section. (1) Company name and address. (2) Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart. Your notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official: (i) “This facility complies with the requirements in §63.11223 to conduct a biennial or 5-year tune-up, as applicable, of each boiler.” (ii) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: “No secondary materials that are solid waste were combusted in any affected unit.” (iii) “This facility complies with the requirement in §§63.11214(d) and 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available.” (3) If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken. (4) The total fuel use by each affected boiler subject to an emission limit, for each calendar month within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by you or EPA through a petition process to be a non-waste under §241.3(c), whether the fuel(s) were processed from discarded non-hazardous secondary materials within the meaning of §241.3, and the total fuel usage amount with units of measure.”

“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 < 10 MMBtu/hr** 5-0644 and 5-0645 – Two (2) Lochinvar Power Fin (Model PB1500M9) natural gas-fired boilers each rated at 1.5 million Btu/hr heat input. 5-0809 – Four (4) Lochinvar natural gas fired boilers, each rated at 1.5 million Btu per hour heat input 5-0810 – Four (4) Harsco natural gas fired boilers, each rated at 2.5 million Btu per hour 5-0811 – Two (2) Harsco natural gas fired boilers each rated at 2.0 million Btu per hour 5-0823 – Three (3) Lochinvar Crest Model FBN-1501 natural gas fired boilers, each rated at 1.5 million Btu per hour heat input 5-0842 – Four (4) Lochinvar natural gas fired boilers each rated at 4.0 million Btu per hour heat input. 5-089 and 5-0892 – Two (2) Hydrotherm KN20 natural gas fired boilers, each rated at 1.99 million Btu per hour 5-0900 – Two (2) Hydrotherm KN20 natural gas fired boilers, each rated at 1.99 million Btu per hour heat input 5-0905 – Four (4) Patterson Kelly natural gas fired boilers, each rated at 4.0 million Btu per hour heat input 5-0911 – Three (3) Lochnivar natural gas fired boilers, each rated at 1.5 million Btu per hour heat input 5-0915 – Three (3) Patterson Kelly natural gas fired boilers, each rated at 2.0 million Btu per hour heat input 5-0916 – Three (3) Fulton natural gas fired boilers, each rated at 6.0 million Btu per hour heat input
2.1	**Applicable Standards/Limits:** A. Control of Visible Emissions **COMAR 26.11.09.05A** – Fuel Burning Equipment "(2) 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. (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."

Table IV – 2	
	B. Control of Nitrogen Oxides **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." **COMAR 26.11.09.08F** - Requirements for Space Heaters. "(1) A person who owns or operates a space heater as defined in Regulation .01B of this chapter shall: (a) Submit to the Department a list of each affected installation on the premises and the types of fuel used in each installation; (b) 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; (c) Implement the operating and maintenance plan and maintain the plan at the premises for review upon request by the Department; (d) 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 (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. (2) 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." *"Space heater" means fuel-burning equipment that consumes more than 60 percent of its annual fuel during the period from October 31 of one year through March 31 of the following year. For the purpose of this regulation, annual fuel use is the total fuel consumed during the period October 1 of one year to September 30 of the following year, beginning October 1, 1989.* C. Operational Limits The Permittee shall only burn natural gas unless the Permittee applies for and receives an approval or permit from the Department to burn an alternate fuel. **[Reference: COMAR 26.11.02.09A**].
2.2	**Testing Requirements:** A. Control of Visible Emissions

Table IV – 2	
	See Monitoring Requirements. B. Control of Nitrogen Oxides See Monitoring Requirements. C. Operational Limits See Monitoring Requirements.
2.3	**Monitoring Requirements:** A. Control of Visible Emissions No periodic monitoring for opacity is required. B. Control of Nitrogen Oxides The Permittee shall develop and maintain an operating and maintenance plan to minimize NO_X emissions. **[Reference: COMAR 26.11.09.08F(1)(b)**]. C. Operational Limits See Record Keeping Requirements.
2.4	**Record Keeping Requirements:** **Note:** 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 See Reporting Requirements. B. Control of Nitrogen Oxides The Permittee shall maintain: 1) 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)]**. 2) Record of training program attendance for each operator. **[Reference: COMAR 26.11.09.08F(1)(e)**]. 3) An operations manual and preventive maintenance plan. **[Reference: COMAR 26.11.09.08F(1)(b)]**. 4) 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)**].

Table IV – 2	
2.5	**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". 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 records of the quantity and type of fuels burn 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 – 3	
3.0	**Emissions Unit Number(s): Emergency Generators** 9-0804 – One (1) Detroit (Model 12N-4992 U-12) diesel fuel emergency generator rated at 600 kW. 9-0806 – One (1) Katolight (Model V-1271) diesel fuel emergency generator rated at 560 kW. 9-0818 thru 9-0823 – Six (6) Cummins/Onan diesel fuel emergency generator sets each rated at 2700 kW (Standby) 9-0918 – One (1) Katolight (D900X6T2) diesel fuel emergency generator set rated 900 kW. 9-0967 – One (1) Katolight (Model 415-J6T30 emergency diesel generator rated at 415 kW. 9-1035 – One (1) group of eighteen (18) Cummins diesel emergency generators each rated at 2,750 kW and each equipped with SCR system 9-1055 – One (1) group of twenty-four (24) Caterpillar diesel emergency generators each rated at 2,725 kW and each equipped with SCR system.

Table IV – 3	
	9-1090 – One (1) MTU Onsite Energy diesel-fired emergency generator rated at 2,280 kW. 9-1091 – Seven (7) Caterpillar C175-16 diesel fired emergency generator sets, each rated at 3000 kW and equipped with selective catalytic reduction. 9-1092 – One (1) Caterpillar C32 diesel fired emergency generator set rated at 1000 kW. 9-1116 – Six (6) Caterpillar C175-16 emergency diesel generators each rated at 3000 kW (standby) and each equipped with an E-POD Selective Catalytic Reduction (SCR) system. 9-1117 – Two (2) Caterpillar C15 life safety emergency diesel generator each rated at 500 kW (stand-by). 9-1136 – One (1) Caterpillar C175-16 emergency diesel generator rated at 3000-KW and equipped with an E-POD Selective Catalytic Reduction (SCR) system. 9-1137 – One (1) Caterpillar C 13 life safety emergency generator rated at 400-kW (Standby). 9-1146 – One (1) Kohler emergency diesel-fired generator rated at 550 kW. 9-1155 – Fourteen (14) Caterpillar diesel fired emergency generator sets, each rated at 3000 kW and equipped with Selective Catalytic Reduction (SCR) systems to control NO_X emissions. 9-1156 – One (1) Caterpillar diesel fired emergency generator set rated at 850 kW. 9-1243 – One (1) Cummins diesel fired emergency generator set rated at 800 kW. 9-1244 – One (1) Cummins diesel fired emergency generator set rated at 600 kW. 9-1266 – One (1) MTU diesel fired emergency generator set rated at 750 kW.
3.1	**Applicable Standards/Limits:** A. Control of Visible Emissions **COMAR 26.11.09.05E** - Stationary Internal Combustion Engine Powered Equipment. "(**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. (**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. (**4**) Exceptions. (a) Section E(2) of this regulation 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.

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	(b) Section E(2) of this regulation 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) of this regulation do 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 **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. (1) 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: (a) Provide certification of the capacity factor of the equipment to the Department in writing; (b) 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; (c) 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; (d) 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 (e) 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) Each of the six (6) Cummins/Onan emergency generator sets shall not operate more than 125 hours a year, unless the source obtains a prior approval from the Department. **[Reference: MDE PTC Registration No. 9-0818 thru 9-0823, Condition D2]**

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3.2	**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.
3.3	**Monitoring Requirements:** A. Control of Visible Emissions The Permittee shall properly operate and maintain the engines 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 log the number of hours each generator is operated on a monthly basis for generator preventive maintenance. **[Reference: COMAR 26.11.03.06C]**
3.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of 5 years. **[Reference: COMAR 26.11.03.06.C (5)(g)].**

Table IV – 3	
	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 maintain records of the results of the combustion analyses 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]**. D. Operational Limits: The Permittee shall maintain records of hours of Preventative Maintenance testing operation, utility provider-requested operation and emergency operation and fuel usage on a monthly basis and maintain on site for at least five (5) years. **[Reference: MDE Registration No. 9-0818 thru 9-0823, Condition E1]**
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 Condition, “Report of Excess Emissions and Deviations” 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 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

Table IV – 3	
	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 to the Department records of hours of operation, fuel used and emission estimates for each emergency generator with the annual Emissions Certification Report **[Reference: MDE Registration No. 9-0818 thru 9-0823, Condition E1].**

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

Table IV – 3a	
3a.0	**Emissions Unit Number(s): Emergency Generators Cont'd** 9-0918 – One (1) Katolight (D900X6T2) diesel fuel emergency generator set rated 900 kW. 9-0967 – One (1) Katolight (Model 415-J6T30 emergency diesel generator rated at 415 kW. 9-1035 – One (1) group of eighteen (18) Cummins diesel emergency generators each rated at 2,750 kW and each equipped with SCR system 9-1055 – One (1) group of twenty-four (24) Caterpillar diesel emergency generators each rated at 2,725 kW and each equipped with SCR system. 9-1090 – One (1) MTU Onsite Energy diesel-fired emergency generator. 9-1091 – Seven (7) Caterpillar C175-16 diesel fired emergency generator sets, each rated at 3000 kW and equipped with selective catalytic reduction. 9-1092 – One (1) Caterpillar C32 diesel fired emergency generator set rated at 1000 kW. 9-1116 – Six (6) Caterpillar C175-16 emergency diesel generators each rated at 3000 kW (standby) and each equipped with an E-POD Selective Catalytic Reduction (SCR) system.. 9-1117 – Two (2) Caterpillar C15 life safety emergency diesel generator each rated at 500 kW (stand-by). 9-1136 – One (1) Caterpillar C175-16 emergency diesel generator rated at 3000 kW and equipped with an E-POD Selective Catalytic Reduction (SCR) system. 9-1137 – One (1) Caterpillar C 13 life safety emergency generator rated at 400 kW (Standby) 9-1146 – One (1) Kohler emergency diesel-fired generator rated at 550 kW.

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	9-1155 – Fourteen (14) Caterpillar diesel fired emergency generator sets, each rated at 3000 kW and equipped with Selective Catalytic Reduction (SCR) systems to control NO_X emissions. 9-1156 – One (1) Caterpillar diesel fired emergency generator set rated at 800 kW. 9-1243 – One (1) Cummins diesel fired emergency generator set rated at 800 kW. 9-1244 – One (1) Cummins diesel fired emergency generator set rated at 600 kW. 9-1266 – One (1) MTU diesel fired emergency generator set rated at 750 kW.
3a.1	**Applicable Standards/Limits:** A. New Source Performance Standards (**NSPS**) under 40 CFR Part 60 Subpart IIII for Stationary Compression Ignition Internal Combustion Engines. Note: Beginning October 1, 2010, installations subject to 40 CFR Part 60, Subpart IIII must comply with the diesel fuel standards of §60.4207 which limit the maximum sulfur content of the fuel to 15 ppm. (1) This permit is valid only for the installation of an emergency diesel generator with piston displacement less than 10 liters per cylinder. (2) The provisions of 40 CFR Part 60, Subpart IIII apply if the emergency diesel generator uses a diesel engine manufactured after April 1, 2006 [**Ref: §60.4200**]. (3) An emergency diesel generator or diesel engine subject to the requirements of 40 CFR 60, Subpart IIII ("NSPS emergency diesel generator" or "NSPS emergency diesel engine") shall be equipped with a non-resettable hour meter [**Ref: §60.4209(a)].** (4) The Permittee shall only purchase emergency generator sets certified to meet the emission standards of §60.4205(b). The generators must be installed and configured according to the manufacturer's specifications.[**Ref: §60.4211(c**)] (5) The Permittee must purchase and install emergency generator sets certified to the emission standards for new nonroad diesel engines in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants [**Ref: §62.4202(b)(2)];**

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	(6) The requirements of condition (5) above do not apply to owners or operators of NSPS emergency diesel engines that have been modified, reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location [**Ref: §60.4208**]. B. National Emissions Standards for Hazardous Air Pollutants (**NESHAP**) promulgated under 40 CFR 63, Subparts A and ZZZZ for Reciprocating Internal Combustion Engines "§63.6590 - <u>What parts of my plant does this subpart cover?</u> This subpart applies to each affected source. (c) <u>Stationary RICE subject to Regulations under 40 CFR Part 60</u>. An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of **40 CFR part 60 subpart IIII**, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. *No further requirements apply for such engines under this part*. (1) A new or reconstructed stationary RICE located at an area source." C. <u>Operational Limits</u> (1) The Permittee must operate and maintain an NSPS emergency diesel generator and control devices according to the manufacturer's written instructions or according to procedures developed by the owner or operator that are approved by the manufacturer. Additionally the Permittee may change only those settings that are permitted by the manufacturer. The Permittee must also meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they may apply to an owner or operator [**Ref: §60.4211**]. (2) 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. [**Ref: 40 CFR §60.4207(b) and §80.510(b)**] <u>Note:</u> Compliance with this requirement demonstrates compliance with COMAR 26.11.09.07A(2)(b) which limits the sulfur content of diesel fuel (No. 2 fuel oil) to 0.3 percent by weight. (3) The Permittee must comply with the following emissions standards for the emergency generator set:

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	(a) Non-methane Hydrocarbons and NO_X (NMHC+NO_X): 6.4 grams per kilowatt-hour (g/kW-hr) (b) Carbon Monoxide (CO): 3.5 g/kW-hr (c) Particulate Matter (PM): 0.2 g/kW-hr [**Ref: §60.4205(b), §60.4202(b)(2), and §89.112**] *Please Note: Limits met by purchasing certified engines.* (4) The exhaust opacity from the emergency generator shall not exceed: (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. [**Ref: 40 CFR §60.4205(b), §60.4202(b)(2), and §89.113**] (5) The Permittee must use diesel fuel in the emergency generator set that meets the requirements of 40 CFR §80.510(b) (diesel fuel that has a per-gallon sulfur content that does not exceed 15 ppm, and that either has a minimum per-gallon cetane index of 40 or a maximum per-gallon aromatic content of 35 volume percent), unless a waiver is obtained from the Department and/or the EPA Administrator. [**Ref: §60.4207**]. (6) In accordance with 40 CFR §60.4211(f), non-emergency use of the emergency diesel generator set for the purpose of maintenance checks and readiness testing is limited to 100 hours per year or less unless prior approval is received from the Department.
3a.2	**Testing Requirements:** A. NSPS See Recording Keeping Requirements. B. NESHAP See NSPS Requirements. C. Operational Limit See Reporting Requirements.
3a.3	**Monitoring Requirements:** A. NSPS See Record Keeping Requirements.

Table IV – 3a	
	B. NESHAP See NSPS Requirements. C. Operational Limit See Reporting Requirements.
3a.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** A. NSPS (1) The Permittee shall maintain a log for the emergency generator indicating the amounts of fuel oil combusted, the hours of operation, and reason for generator operation (i.e., maintenance or operational testing, power outage, etc.). [**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). (3) Beginning October 1, 2007, for any NSPS emergency diesel generator the 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. B. NESHAP See NSPS Requirements. C. Operational Limit: See Reporting Requirements.
3a.5	**Reporting Requirements:** A. NSPS

Table IV – 3a	
	See Record Keeping Requirements. B. NESHAP See NSPS Requirements. C. Operational Limit The Permittee shall report the amounts of fuel oil combusted, the hours of operation, and reason for generator operation (i.e., maintenance or operational testing, power outage, etc.) 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 – 3b: MACT	
3b.0	**Emissions Unit Number(s): Emergency Generators Cont'd** Emergency generators not subject to NSPS Subpart IIII Requirements, but are subject to 40 CFR Part 63, Subpart ZZZZ. 9-0804 – One (1) Detroit Model 12N-4002 U-12 diesel fuel emergency generator rated at 600 kW. 9-0806 – One (1) Katolight Model V-1271 diesel fuel emergency generator rated at 560 kW. 9-0818 thru 9-0823 – Six (6) Cummins/Onan diesel fuel emergency generator sets each rated at 2700 kW (Standby).
3b.1	**Applicable Standards/Limits:** **§63.6595 - When do I have to comply with this subpart?** (a) *Affected sources.* (1)" ….. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, **or an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than May 3, 2013.** …..".

Table IV – 3b: MACT

§63.6603 - What emission limitations and operating limitations must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 1b and Table 2b to this subpart that apply to you.

Table 2d to Subpart ZZZZ of Part 63—Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
4. Emergency stationary CI RICE and black start stationary CI RICE.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1]	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	

[1]Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in Table 2d of this subpart.

[2]If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

Table IV – 3b: MACT	
	§63.6605 - What are my general requirements for complying with this subpart? "(a) You must be in compliance with the emission limitations and operating limitations in this subpart that apply to you at all times. (b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source."
3b.2	**Testing Requirements:** See Monitoring Requirements
3b.3	**Monitoring Requirements:** **§63.6625** - What are my monitoring, installation, collection, operation, and maintenance requirements? "(e) If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions: (3) An **existing emergency** or black start stationary RICE located at an area source of HAP emissions." "(f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or **an existing emergency stationary RICE located at an area source of HAP emissions,** you must install a non-resettable hour meter if one is not already installed."

Table IV – 3b: MACT	
	"(h) If you operate a new, reconstructed, or **existing stationary engine**, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply. (i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items **1 or 4 of Table 2d** to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine." **§63.6640 -** How do I demonstrate continuous compliance with the emission limitations and operating limitations? (a) You must demonstrate continuous compliance with each emission limitation and operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart. (b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must

Table IV – 3b: MACT

reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, and Other Requirements

As stated in §63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each	Complying with the requirement to	You must demonstrate continuous compliance by
9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP, existing non-emergency stationary RICE <100 HP located at a major source of HAP, **existing emergency** and black start **stationary RICE located at an area source of HAP**, existing non-emergency stationary CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency stationary SI RICE located at an area source of HAP which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate 24 hours or less per calendar year, and	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

Table IV – 3b: MACT

existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are remote stationary RICE		

"(f) If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1) through (4) 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, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (4) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (4) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary RICE in emergency situations.

(2) You may operate your emergency stationary RICE 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. Any operation for non-emergency situations as allowed by paragraphs (f)(3) and (4) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary RICE may be operated 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. The owner or operator 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 RICE beyond 100 hours per calendar year.

(4) Emergency stationary RICE located at area sources of HAP may be operated 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 and emergency demand response provided in paragraph (f)(2) of

Table IV – 3b: MACT	
	this section. Except as provided in paragraphs (f)(4)(i) and (ii) of this section, the 50 hours per 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."
3b.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** **§63.6655** - What records must I keep? "(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE; (2) An existing stationary emergency RICE. (3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart." "(f) If you own or operate any of the stationary RICE in paragraphs (f)(1) through (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in §63.6640(f)(2)(ii) or (iii) or §63.6640(f)(4)(ii), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes. (2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines."
3b.5	**Reporting Requirements:** "If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the management practice can be delayed until the

Table IV – 3b: MACT	
	emergency is over or the unacceptable risk under federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable." **[Footnote 2 of Table 2d]**

"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): 9-0449 and 9-0450** **9-0449 and 9-0450** – Paper Pulp Operation consisting of an automatic material collection system and a separate continuous operating system controlled by a baghouses.
4.1	**Applicable Standards/Limits:** A. Control of Visible Emissions **COMAR 26.11.06.02C(2)** – Visible Emission Standards. "A person may not cause or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which is visible to human observers." Exceptions. **COMAR 26.11.06.02A(2).** "The visible emissions standards in §C of this regulation do not apply to emissions during start-up and process modifications 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 60 minute period." B. Control of Particulate Matter Emissions **COMAR 26.11.06.03B(2)(a)** – Particulate Matter from Confined Sources. "A person may not cause or permit to be discharged into the outdoor atmosphere from any other installation, particulate matter in excess of 0.03 gr./SCFD (68.7 mg/dscm)." C. Operational Limits: The Permittee shall record the annual quantity of material processed by the automatic material collection system and separate continuous operating

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	system and shall maintain these records for at least 5 years. **[Reference: MDE Permit Condition 5of Permit No. 02-9-0449 & 0450]**
4.2	**Testing Requirements:** A. Control of Visible Emissions See Monitoring Requirements. B. Control of Particulate Matter Emissions See Monitoring Requirements. C. Operational Limits See Record Keeping Requirements.
4.3	**Monitoring Requirements:** A. Control of Visible Emissions The Permittee shall conduct a monthly 1-minute visual observation of the baghouse exhaust. The visual observation must be conducted while the pulp paper operation and baghouse are in operation. If no visible emissions are observed in six consecutive monthly observations from the baghouse exhaust, the Permittee may decrease the frequency of visual observations from monthly to quarterly for the baghouse exhaust. If visible emissions are observed during any quarter visual observation, the Permittee must resume the observation of the baghouse exhaust on a monthly basis and maintain that schedule until no visible emissions are observed in six consecutive monthly visual observations. If visible emissions are observed during any observation, the Permittee must inspect baghouse for cause of visible emission and perform necessary adjustments or repairs within 24-hours or prior to operating the pulp paper operation. If visible emissions have not been eliminated, the Permittee shall perform daily 18-minute visual observation for opacity in accordance with EPA Reference Method 9 when operating the pulp paper operation. **[Reference: COMAR 26.11.03.06C]** B. Control of Particulate Matter Emissions The Permittee shall develop and maintain a preventive maintenance plan for the baghouse that describes the maintenance activity and time schedule for completing each activity. The Permittee shall perform maintenance activities within the time frames established in the plan and shall maintain a log with records of the dates and description of the maintenance that was performed. **[Reference: COMAR 26.11.03.06C]**.

Table IV – 4	
	C. Operational Limits See Record Keeping Requirements.
4.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** A. Control of Visible Emissions The Permittee shall maintain on site a log of the dates and results of visible emissions observations for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C]** B. Control of Particulate Matter Emissions The Permittee shall maintain a copy of the preventive maintenance plan and a record of the dates of and description of maintenance activity performed. The Permittee shall maintain records of the baghouse malfunctions and the corrective actions taken to bring into proper operation. **[Reference: COMAR 26.11.03.06C].** C. Operational Limits The Permittee shall record the annual quantity of material processed by the paper pulp operation and shall maintain these records on site for at least 2 years. **[Reference: COMAR 26.11.03.06C].**
4.5	**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” B. Control of Particulate Matter Emissions See Record Keeping Requirements. C. Operational Limits The Permittee shall make records available to the Department upon request and submit records with annual Emission Certification Report. **[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 – 5	
5.0	**Emissions Unit Number(s): 6-0375** **6-0375** – Plating Operation consisting of surface coating of steel or aluminum parts to add durability and extend service life, controlled by a packed bed scrubber emission control system.
5.1	**Applicable Standards/Limits:** A. Control of Visible Emissions **COMAR 26.11.06.02C(2)** – Visible Emission Standards. "A person may not cause or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which is visible to human observers." Exceptions. **COMAR 26.11.06.02A(2).** "The visible emissions standards in §C of this regulation do not apply to emissions during start-up and process modifications 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 60 minute period." B. Control of Particulate Matter Emissions **COMAR 26.11.06.03B(2)(a)** – Particulate Matter from Confined Sources. "A person may not cause or permit to be discharged into the outdoor atmosphere from any other installation, particulate matter in excess of 0.03 gr./SCFD (68.7 mg/dscm)."
5.2	**Testing Requirements:** A. Control of Visible Emissions See Particulate Matter Requirements (5.3B). B. Control of Particulate Matter Emissions See Monitoring Requirements.
5.3	**Monitoring Requirements:**

Table IV – 5	
	A. Control of Visible Emissions See Particulate Matter Requirements (5.3B) B. Control of Particulate Matter Emissions The Permittee shall perform preventive maintenance once per month or as recommended by the equipment manufacturer on scrubbers that control emissions units. **[Reference: COMAR 26.11.03.06C].**
5.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** A. Control of Visible Emissions See Particulate Matter Requirements. B. Control of Particulate Matter Emissions The Permittee shall maintain a log of the maintenance performed on the scrubbers. The log shall be kept on site for at least five years and make available to the Department upon request. **[Reference: COMAR 26.11.03.06C]**
5.5	**Reporting Requirements:** A. Control of Visible Emissions See Particulate Matter Requirements. B. Control of Particulate Matter Emissions See Record Keeping Requirements.

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

Table IV – 6	
6.0	**Emissions Unit Number(s): 6-1114** 6-1114 – One (1) Future Cure Model 1000 paint spray booth for miscellaneous metal coating located in the Model Shop of the SPC building.
6.1	**Applicable Standards/Limits:**

Control of VOC Emissions

COMAR 26.11.19.08C. Applicability and Exemptions.

"(1) This regulation applies to a person who owns or operates:

(a) A metal furniture coating installation; or

(b) A metal parts and products coating operation at a premises where the total VOC emissions from all metal parts and products surface coating operations (including emissions from related cleaning activities), exceed 15 pounds (6.8 kilograms) per day."

D. Emission Standards.

"(1) A person subject to this regulation may not exceed the applicable VOC emission standards (expressed in terms of mass of VOC per volume of coating excluding water and exempt compounds, as applied) of the following table when applying a metal furniture coating:

Coating Type	Baked		Air-Dried	
	Lbs/gal	Kg/l	Lbs/gal	Kg/l
General, one-component	2.3	0.275	2.3	0.275
General, multi-component	2.3	0.275	2.8	0.340
Extreme performance	3.0	0.360	3.5	0.420
Metallic	3.5	0.420	3.5	0.420
Pretreatment	3.5	0.420	3.5	0.420
Solar absorbent	3.0	0.360	3.5	0.420
Extreme high gloss	3.0	0.360	2.8	0.340

(2) A person subject to this regulation may not exceed the applicable VOC emission standards (expressed in terms of mass of VOC per volume of coating excluding water and exempt compounds, as applied) of the following table when applying a metal parts and products coating:

Coating Type	Baked		Air-Dried	
	Lbs/gal	Kg/l	Lbs/gal	Kg/l
General, one-component	2.3	0.275	2.8	0.340
General, multi-component	2.3	0.275	2.8	0.340
Adhesion promoter	4.0	0.479	4.0	0.479
Prefabricated architectural one component and multi-component	2.3	0.280	3.5	0.420
Military specification	2.3	0.280	2.8	0.340
Extreme high-gloss; extreme performance; heat-resistant; high performance architectural; repair coating; solar absorbent; or touch up coating	3.0	0.360	3.5	0.420
Camouflage, electric-insulating varnish; etching filler; high temperature; metallic; mold-seal; pan backing; pretreatment; silicone release and vacuum-metalizing	3.5	0.420	2.8	0.420

E. Application Methods.

Table IV – 6	
	(1) Except as provided in §E(2) of this regulation, a person subject to the requirements of this regulation shall use the following application methods: (a) Electrostatic application; (b) HVLP spray; (c) Flow coat; (d) Roller coat; (e) Dip coat including electrodeposition; (f) Brush coat; or (g) A coating application method capable of achieving a transfer efficiency equivalent to or better than the efficiency achieved by HVLP spraying."
6.2	**Testing Requirements:** Control of VOC Emissions See Monitoring Requirements.
6.3	**Monitoring Requirements:** Control of VOC Emissions The Permittee shall check safety data sheet (SDS) to ensure that the VOC content of metal coatings is less than the applicable standard. The SDS shall contain VOC data that is based on EPA Method 24 or equivalent. If non-compliant coatings are used, the Permittee shall maintain sufficient records to demonstrate that the emissions on that day were less than 15 pounds. **[Reference: COMAR 26.11.03.06C]**.
6.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** Control of VOC Emissions The Permittee shall maintain monthly records of the hours of spray booth operation, cleaning, and material usage on site for at least five (5) years and make available to the Department upon request. [**Reference: MDE Permit Number 033-6-1114 N issued July 11, 2007]**
6.5	**Reporting Requirements:** Control of VOC Emissions The Permittee shall report material usage to the Department annually in the Emission Certification Report. **[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): 6-1095** 6-1095 – Vehicle Refinishing Equipment.
7.1	**Applicable Standards/Limits:** Control of VOC Emissions **[Reference: MDE General Permit to Construct 003-6-1095 issued August 28, 2006**] Applicability: This general permit applies only to autobody repair facilities that: (1) are at a fixed stationary location; (2) Use not more than 400 gallons of vehicle refinishing material per year; (3) Have two or less paint spray booths; and (4) Do not use materials containing: (a) lead; (b) formaldehyde; or (c) pot life extenders. Operating Requirements (1) All spray painting shall be conducted exclusively by personnel who are trained and certified as painters. Existing shops (in operation before September 17, 2007) have until January 10, 2011 to comply with this requirement. (2) The following painting operations can be performed by non-certified painters: (a) Painting with brushes, rollers, markers or other non-atomizing applications; (b) spray painting from non-refillable hand-held aerosol containers; or (c) spray painting from guns with a paint cup size 3 oz or less. (3) All spray painting shall be conducted in a spray booth or preparation station. (4) All spray booths and preparation stations used to refinish complete motor vehicles or mobile equipment shall be fully enclosed having four complete walls or side curtains and a full roof. Existing shops (in operation before September 17, 2007) have until January 10, 2011 to comply with this requirement. (5) All spray booths and preparation stations used to coat miscellaneous parts and products or vehicles subassemblies shall have at least three complete walls or side curtains and a full roof. Existing shops (in operation before September 17, 2007) have until January 10, 2011 to comply with this requirement.

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(6) All mobile enclosures used to perform spot repairs must enclose and, if necessary seal against the surface around the area being painted in order to ensure that paint overspray is retained within the enclosure.

(7) All spray booths, preparation stations and mobile enclosures shall be equipped with an exhaust gas filter having at least 98% capture efficiency during all times of use. Waterwash spray booths and preparation stations that are operated and maintained according to the manufacturer's specification are exempt from this requirement.

(8) All spray booths and preparation stations shall be ventilated through the exhaust gas filter at a negative pressure. Fully enclosed and sealed spray booths equipped with an automatic pressure balancing system may be operated at up to, but not more than 0.05 inches water gauge positive pressure.

(9) All spray applied coatings shall be applied by HVLP spray guns, electrostatic application, airless spray guns, air-assisted airless spray guns, or an equivalent technology that is demonstrated by the spray gun manufacturer to achieve transfer efficiency comparable to one of the spray gun technologies listed, and for which written approval has been obtained from the Administrator.

(10) Any paint stripping preformed with a chemical paint stripper containing Methylene Chloride (MeCl) requires the following practices: (a) An evaluation of the application to determine if paint stripping is necessary; (b) An evaluation of the application to determine if another paint stripping alternative could be used; (c) Minimization of air exposure by the chemical paint stripper; (d) Optimization of application conditions; and (e) The proper storage and disposal of the chemical paint stripper.

(11) VOC content of materials used shall not exceed the following limitations:

Coatings*	VOC (lbs/gal)
Pretreatment	6.5
Precoat	5.5
Primer Surfacer	4.8
Primer Sealer	4.6
Topcoat	5.0
Multi-stage coating system	5.2
Specialty coating	7.0
Preparation materials	
Non-plastic	1.4
Plastic	6.5

** VOC content limitation is for coating as applied.*

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	(12) Use of specialty coatings may not exceed five percent by volume of all coatings on a monthly basis. (13) The Permittee shall perform the following good operating practices and equipment cleanup procedures to reduce VOC emissions: (a) Establish good operating practices in writing; (b) Make the written operating practices available to the Department upon request; (c) Display the good operating practices so that they are clearly visible to the operator, or include them in operator training; (d) Provide training for equipment operators on the practices, procedures, and maintenance requirements that are consistent with equipment manufacturer's recommendations and the Permittee's experience in operating the equipment; (e) Minimize material or color changes when applying VOC coatings, whenever practical; (f) Mix or blend VOC materials in closed containers to reduce VOC emissions, as practical; (g) Maintain lids on all VOC containers when not in use; (h) Store VOC contaminated materials in closed containers; (i) Promptly contain and clean p spills and leaks of materials containing VOC; (j) Use enclosed spray gun cleaning, VOC-recycling systems and other spray gun cleaning methods; and Use detergents, high-pressure water, or other non-VOC cleaning options to clean lines, containers and equipment, where practical. <u>Training Requirements</u> (1) All personnel, including contract personnel, who spray coatings must be trained and certified no later than 180 days after hiring. Existing shops (in operation before September 17, 2007) have until January 10, 2011 to train and certify painters. (2) Training and certification is valid for a period not to exceed five years after the date of training is completed. (3) All personnel who spray coatings must receive refresher training and be recertified every five years (4) The training program shall at a minimum include the following: (a) A list of all personnel by name and job description who are required to be trained; (b) Hand on and classroom instructions on: (i) Spray gun equipment selection, setup, and operation, including measuring coating viscosity, selecting the proper fluid tip or muzzle, and achieving the proper spray pattern, air pressure and volume, and fluid delivery rate;

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	(ii) Spray technique for different types of coatings to improve transfer efficiency and minimize coating usage and overspray, including maintaining the correct spray gun distance and angle to the part, using proper banding and overlap and reducing lead and lag spraying at the beginning and end of stroke; (iii) Routine spray booth and filter maintenance, including filter selection and installation; and (iv) Environmental compliance with the federal MACT requirements of 40 CFR part 63, subpart HHHHHH; and (c) A description of the methods to be used at the completion of initial or refresher training to demonstrate, document and provide certification of successful completion of the required training. (5) The initial training required by this section is not required if the Permittee can show by documentation or certification that a painter's work experience and/or training has resulted in training has resulted in training required in section 4(b) above.
7.2	**Testing Requirements:** Control of VOC Emissions See Monitoring Requirements.
7.3	**Monitoring Requirements:** Control of VOC Emissions The Permittee shall check MSDS to ensure that the VOC content of coatings is less than the applicable standard. The MSDS shall contain VOC data that is based on EPA Method 24 testing or equivalent. [**Reference: COMAR 26.11.03.06C**].
7.4	**Record Keeping Requirements:** **Note:** All records must be maintained for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C(5)(g)]** Control of VOC Emissions Recordkeeping The following records must be kept for at least 5 years after the date of each record: (a) certification that each painter has completed the required training, with the date of the initial training and the most recent refresher training was completed; (b) documentation of the filter efficiency of any

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	spray booth exhaust filter material; (c) for spray guns that are not HVLP spray guns, electrostatic application, airless spray guns, or air-assisted air less spray guns, documentation from the manufacturer that the gun achieves equivalent transfer efficiency and has received written approval by the Administrator; (d) copies of any Notifications; (e) copies of any annual reports; (f) records of any deviations from the federal requirements outlined in this permit. These records shall include: (i) the date and time period of the deviation; (ii) a description of the nature of the deviation; and (iii) the actions taken to correct the deviation; (g) Records of any assessments of source compliance performed in support of the initial notification, notification of compliance status, or annual notification of changes report; (h) records of usage of paint stripper containing MeCl, including: (i) Material Safety Data Sheets; and (ii) Purchase records; (i) hours of operation; and (j) Total Volume and VOC content of coatings, cleanup materials and surface preparation materials purchased.
7.5	**<u>Reporting Requirements</u>:** <u>Control of VOC Emissions</u> <u>Notification</u> (1) Initial Notification (a)The Permittee must submit initial notification within 180 days after the date of the initial startup. Existing shops (in operation before September 17, 2007) have until January 10, 2011 to submit their notification. (b)The initial notification shall include the following: (i) the company name; (ii) the street address (physical location) of the source; (iii) the name, title, street address, telephone number, e-mail address(if available) and signature of the owner and operator, or other certifying company official; (iv) the street address where compliance records are maintained, if different; (v) Identification of the relevant standard (40 CFR Part 63, subpart HHHHHH); (vi) a brief description of the type of operation at this location, including the number of paint booth, number of preparation stations, and the number of painters usually employed; (vii) if there is any paint stripping performed with a paint stripper containing MeCl, the methods it is used with and the substrates tripped must be identified; (c)The Permittee must include a compliance statement specifying whether the operation is in compliance with each of the requirements of the federal standard, or not; and

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	(d)If the compliance statement is that the facility is already in compliance, then the initial notification must also include a statement by a responsible official with that official's name, title, phone number, e-mail address (if available) and signature, certifying the truth, accuracy and completeness of the notification, a statement that the source has complied with all the relevant standards of subpart HHHHHH, and that this initial notification also serves as the notification of compliance status. (e)The initial notification shall be sent to: United States Environmental Protection Agency Region III, Enforcement & Compliance Assurance Division Air, RCRA and Toxics Branch (3ED21) Four Penn Center 1600 John F. Kennedy Boulevard Philadelphia, PA 19103-2852 and Maryland Department of the Environment Air and Radiation Administration, Compliance Program 1800 Washington Blvd, Suite 715 Baltimore, MD 21230 (2) Compliance Status Notification (a) A separate compliance status notification is only required for sources that do not certify compliance on their initial notification. (b) The Permittee must submit a compliance status notification within 180 days after the date of initial startup, if required. Existing shops (in operation before September 17, 2007) have until March 11, 2011 to submit a compliance status notification. (c) The compliance status notification shall include the following: (i) the company name; (ii) the street address (physical location of the source; (iii) the name, title, street address, telephone number, e-mail address (if available) and signature of the owner and operator, or other certifying company official; (iv) the street address where compliance records are maintained, if different; (v) a statement certifying the truth, accuracy, and completeness of notification; (vi) a statement whether the source has complied with all the relevant standards and other requirements of this subpart or an explanation

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of any noncompliance and a description of corrective actions being taken to achieve compliance.

(d) The compliance status notification shall be sent to:

United States Environmental Protection Agency
Region III, Enforcement & Compliance Assurance Division
Air, RCRA and Toxics Branch (3ED21)
Four Penn Center
1600 John F. Kennedy Boulevard
Philadelphia, PA 19103-2852

and

Maryland Department of the Environment
Air and Radiation Administration,
Compliance Program
1800 Washington Blvd, Suite 715
Baltimore, MD 21230

Annual Reporting

(1)An Annual Notification of Changes Report must be submitted by March 1 of each calendar year;

(2)The Annual Notification of Changes Report shall include the following: (a) the company name; (b) the street address (physical location) of the source; (c) the name, title, street address, telephone number, e-mail address (if available) and signature of the owner and operator, or other certifying company official; (d) the street address where compliance records are maintained, if different; (e) a statement certifying the truth, accuracy, and completeness of notification; (f) a statement whether the source has complied with all the relevant standards and other requirements of this subpart or an explanation of any noncompliance and a description of corrective actions being taken to achieve compliance; (g) any changes to any information submitted in either the initial notification or a previous annual notification of changes report; and (h) deviations from the relevant requirements.

(3)This report is not required if there have been no deviations from any of the relevant requirements, and no changes to any information submitted on previous reports or notifications.

(4)The Annual Notification of Changes Report shall be sent to:

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	United States Environmental Protection Agency Region III, Enforcement & Compliance Assurance Division Air, RCRA and Toxics Branch (3ED21) Four Penn Center 1600 John F. Kennedy Boulevard Philadelphia, PA 19103-2852 and Maryland Department of the Environment Air and Radiation Administration, Compliance Program 1800 Washington Blvd, Suite 715 Baltimore, MD 21230

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

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8.0	**Emissions Unit Number(s)** Facility-Wide
8.1	**Applicable Standards/Limits:** Control of VOC Emissions A. **COMAR 26.11.19.02I.** - Good Operating Practices, Equipment Cleanup, and VOC Storage. "(1) Applicability. The requirements in this section apply to a person who owns or operates an installation that is subject to any requirement in this chapter. (2) Good Operating Practices. (a) A person who is subject to this section shall implement good operating practices to minimize VOC emissions into the atmosphere. (b) Good operating practices shall, at a minimum, include the following: (i) Provisions for training of operators on practices, procedures, and maintenance requirements that are consistent with the equipment manufacturers' recommendations and the source's experience in operating the equipment, with the training to include

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	proper procedures for maintenance of air pollution control equipment; (ii) Maintenance of covers on containers and other vessels that contain VOC and VOC-containing materials when not in use; (iii) As practical, scheduling of operations to minimize color or material changes when applying VOC coatings or other materials by spray gun; (iv) For spray gun applications of coatings, use of high volume low pressure (HVLP) or other high efficiency application methods where practical; and (v) As practical, mixing or blending materials containing VOC in closed containers and taking preventive measures to minimize emissions for products that contain VOC. (c) A person subject to this regulation shall: (i) Establish good operating practices in writing; (ii) Make the written operating practices available to the Department upon request; and (iii) Display the good operating practices so that they are clearly visible to the operator or include them in operator training. (3) Equipment Cleanup. (a) A person subject to this section shall take all reasonable precautions to prevent or minimize the discharge of VOC into the atmosphere when cleaning process and coating application equipment, including containers, vessels, tanks, lines, and pumps. (b) Reasonable precautions for equipment cleanup shall, at a minimum, include the following: (i) Storing all wastes and waste materials, including cloth and paper that are contaminated with VOC, in closed containers; (ii) Preparing written standard operating procedures for frequently cleaned equipment, including when practical, provisions for the use of low-VOC or non-VOC materials and procedures to minimize the quantity of VOC materials used; (iii) Using enclosed spray gun cleaning, VOC-recycling systems and other spray gun cleaning methods where practical that reduce or eliminate VOC emissions; and (iv) Using, when practical, detergents, high-pressure water, or other non-VOC cleaning options to clean coating lines, containers, and process equipment. (4) VOC Storage and Transfer. (a) A person subject to this section who stores VOCs shall, at a minimum, install conservation vents or other vapor control

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	measures on storage tanks with a capacity of 2,000 gallons or more, to minimize VOC emissions. (b) A person subject to this section shall, at a minimum, utilize vapor balance, vapor control lines, or other vapor control measures when VOCs are transferred from a tank truck into a stationary storage tank with a capacity greater than 10,000 gallons and less than 40,000 gallons that store VOCs or materials containing VOCs, other than gasoline, that have a vapor pressure greater than 1.5 psia." B. **COMAR 26.11.19.16B, C & D** - Control of VOC Equipment Leaks "Applicability. A person subject to any VOC emission standard or limitation established in this chapter and not otherwise subject to more specific VOC leak requirements of another regulation is subject to the requirements of this regulation. General Requirements. A person subject to this regulation shall comply with all of the following requirements: (1) Visually inspect all components on the premises for leaks at least once each calendar month. (2) Tag any leak immediately so that the tag is clearly visible. The tag shall be made of a material that will withstand any weather or corrosive conditions to which it may be normally exposed. The tag shall bear an identification number, the date the leak was discovered, and the name of the person who discovered the leak. The tag shall remain in place until the leak has been repaired. (3) Take immediate action to repair all observed VOC leaks that can be repaired within 48 hours. (4) Repair all other leaking components not later than 15 days after the leak is discovered. If a replacement part is needed, the part shall be ordered within 3 days after discovery of the leak, and the leak shall be repaired within 48 hours after receiving the part. (5) Maintain a supply of components or component parts that are recognized by the source to wear or corrode, or that otherwise need to be routinely replaced, such as seals, gaskets, packing, and pipe fittings. (6) Maintain a log that includes the name of the person conducting the inspection and the date on which leak inspections are made, the findings of the inspection, and a list of leaks by tag identification number. The log shall be made available to the Department upon request. Leak records shall be maintained for a period of not less than 2 years from the date of their occurrence. Exceptions. Components that cannot be repaired as required in this regulation because they are inaccessible, or that cannot be

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	repaired during operation of the source, shall be identified in the log and included within the source's maintenance schedule for repair during the next source shutdown."
8.2	**Testing Requirements:** Control of VOC Emissions A. See Monitoring Requirements. B. See Monitoring Requirements.
8.3	**Monitoring Requirements:** Control of VOC Emissions A. The Permittee shall conduct facility-wide inspections at least once per calendar month to determine the compliance status of facility operations with regard to implementation of "good operating practices" designed to minimize emissions of VOC. **[Reference: COMAR 26.11.03.06C**] B. The Permittee shall visually inspect all components on the premises for VOC leaks at least once each calendar month following the procedures specified in COMAR 26.11.19.16. [**Reference: COMAR 26.11.19.16C(1)]**.
8.4	**Record Keeping Requirements:** Control of VOC Emissions A. The Permittee shall maintain: (1) Written descriptions of all "good operating practices" designed to minimize emissions of VOC from facility-wide operations. **[Reference: COMAR 26.11.19.02I]** (2) Records of all inspections conducted to determine the facility's compliance status with regard to implementation of "good operating practices" designed to minimize emissions of VOC from facility-wide operations. The records shall include for each inspection the name of the inspector, the date and time of the inspection, and an account of the findings. **[Reference: COMAR 26.11.03.06C]** B. The Permittee shall maintain a log that includes the name of the person conducting the inspection and the date on which leak inspections are made, the findings of the inspection, a list of leaks by tag identification number and identity of components that cannot be

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	repaired as required in this regulation because they are inaccessible, or that cannot be repaired during operation if the source. The log shall be made available to the Department upon request. Leak records, along with the log shall be maintained for a period of not less than 2 years from the date of their occurrence. [**Reference: COMAR 26.11.03.06C]**.
8.5	**<u>Reporting Requirements</u>:** <u>Control of VOC Emissions</u> A. Good operating practices information as required by COMAR 26.11.19.02I shall be made available to the Department upon request. B. Leak inspection logs as required by COMAR 26.11.19.16 shall be made available to the Department upon request.

"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. 20 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;

[For Areas III and IV]

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.

Exceptions: COMAR 26.11.09.05A(2) 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.

[For Distillate Fuel Oil]

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. 17 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 *affected units* 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) ✓ Space heaters utilizing direct heat transfer and used solely for comfort heat;

(4) ✓ 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;

(5) No. 2 Unheated VOC dispensing containers or unheated VOC rinsing containers of 60 gallons (227 liters) capacity or less;

The ***affected units*** are subject to COMAR 26.11.19.09D, which requires that the Permittee control emissions of volatile organic compounds (VOC) from cold degreasing operations by meeting the following requirements:

(a) COMAR 26.11.19.09D(2)(b), which establishes that the Permittee shall not use any VOC degreasing material that exceeds a vapor pressure of 1 mm Hg at 20 ° C;

(b) COMAR 26.11.19.09D(3)(a—d), which requires that the Permittee implement good operating practices designed to minimize spills and evaporation of VOC degreasing material. These practices, which shall be established in writing and displayed such that they are clearly visible to operators, shall include covers (including water covers), lids, or other methods of minimizing evaporative losses, and reducing the time and frequency during which parts are cleaned;

(c) COMAR 26.11.19.09D(4), which prohibits the use of any halogenated VOC for cold degreasing.

The Permittee shall maintain on site for at least five (5) years, and shall make available to the Department upon request, the following records of operating data:

(a) Monthly records of the total VOC degreasing materials used; and

(b) Written descriptions of good operating practices designed to minimize spills and evaporation of VOC degreasing materials.

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

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

(8) ✓ Die casting machines;

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

(10) ✓ 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;

(11) ✓ 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;

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

(a) ✓ Storage of butane, propane, or liquefied petroleum, or natural gas;

(b) No. 77 Storage of lubricating oils;

(c) No. 125 Storage of Numbers 1, 2, 4, 5, and 6 fuel oil and aviation jet engine fuel;

(d) No. 100 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;

(13) ✓ 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;

The five (5) Garland natural gas fired charbroilers are subject to **COMAR 26.11.18.06B** - Visible Emissions.
"**(1)** A person who owns or operates a char-broiler or pit barbecue constructed after December 17, 1974, that is located within 300 feet of the property line of any habitable dwelling may not cause or permit the discharge of emissions greater than 10 percent opacity."
"**(2)** A person who constructs, owns, or operates a char-broiler or pit barbeque not subject to Sec. B(1), above, may not cause or permit the discharge of emissions greater than 30 percent opacity."

COMAR 26.11.18.06C - Control Device Requirements for New Sources Near Habitable Dwellings.
"(1) A person who construct a char-broiler or pit barbecue and is subject to Sec. B(1), above, shall install an approved control device unless the person demonstrates to the satisfaction of the

Department that the installation, when operated without control equipment, will meet Sec. B(1)."

(14) ✓ 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;

(15) ✓ Certain recreational equipment and activities, such as fireplaces, barbecue pits and cookers, fireworks displays, and kerosene fuel use;

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

(17) ✓ Firing and testing of military weapons and explosives;

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

(19) ✓ Laboratory fume hoods and vents;

(20) No. 1 Sheet-fed letter or lithographic printing press(es) with a cylinder width of less than 18 inches;

The Permittee is subject to the following requirements for each printing press:

COMAR 26.11.19.11E, which requires that a person who uses material containing VOC to clean printing equipment:

(a) Store all waste materials containing VOC, including cloth and paper, in closed containers;

(b) Maintain lids on all VOC-containing cleanup materials when not in use;

(c) Establish in writing for persons who clean printing equipment good operating practices designed to minimize the use of VOC-containing materials, and make the written

descriptions of these good operating practices available to the Department upon request; and

(d) Upon request by the Department, participate in the evaluation of non-VOC and low-VOC materials used to clean printing equipment when these materials have the potential to be appropriate substitutes for currently used materials.

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 a 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."

   (C) COMAR 26.11.15.05, which requires that the Permittee implement "Best Available Control Technology for Toxics" (T – BACT) to control emissions of toxic air pollutants.

   (D) COMAR 26.11.15.06, which prohibits the discharge of toxic air pollutants to the extent that such emissions will unreasonably endanger human health

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.

NATIONAL SECURITY AGENCY
CENTRAL SECURITY SERVICE
FORT GEORGE G.MEADE, MARYLAND 20755-6218

January 26, 2024

Ms. Marcellina Gurley
Air and Radiation Management Administration
Maryland Department of the Environment
1800 Washington Boulevard, Suite 715
Baltimore, MD 21230-1720

Dear Ms. Gurley:

The National Security Agency is submitting three copies of a renewal application for Part 70 Operating Permit No. 24-003-00317. The application includes all registered sources at the Fort George G. Meade campus that support the principle activity under standard industrial classification code 9711. As under the current Part 70 Operating Permit, the renewal application does not include registered sources conducting other industrial activities, per guidance from the USEPA Office of Air Quality and Planning Standards for military installations (memorandum from John S. Seitz dated August 2, 1996). Those registered sources not included are as follows:

- 9-0442 – Building 9700 Life/Safety Generator
- 6-0720 – Circuit Board Assembly
- 6-0717 – Building 9700 Paint Spray Booth
- 5-0674 – APC Boiler
- 5-0890 – Building 9700 Boiler

Over the course of the current Part 70 Operating Permit, several registered sources have been removed from service, and therefore were not included in this renewal application. Those closed sources are as follows:

- 5-7025 through 5-7028 – Four (4) Hydrotherm KN-20 natural gas-fired boilers, each rated at 1.5 million Btu per hour heat input
- 9-0807 - One (1) Detroit (Model 8V92TA) diesel fuel emergency generator rated at 643 BHP
- 9-0968 – One (1) Katolight (Model 415-J6T3) diesel fuel emergency generator rated at 415 kW
- 8-0155 – One (1) Magikitch’n natural gas-fired charbroiler

Additionally, over the course of the current Part 70 Operating Permit, several registered sources have been added to service, and therefore was included in this renewal application. Those added sources are as follows:

- 5-0900 – Two (2) Hydrotherm KN-20 natural gas-fired boilers each rated at 1.99 million BTU per hour

- 5-0891 – One (1) Hydrotherm KN-20 natural gas-fired boilers rated at 1.99 million BTU per hour
- 5-0892 – One (1) Hydrotherm KN-20 natural gas-fired boilers rated at 1.99 million Btu per hour heat input
- 5-0905 - Four (4) Patterson Kelly natural gas-fired boilers each rated at 4.0 million Btu per hour heat input
- 5-0911 -Three (3) Lochinvar natural gas-fired boilers each rated at 1.5 million Btu per hour heat input
- 9-1243 - One (1) Cummins diesel-fired emergency generator rated at 800 kW
- 9-1244 - One (1) Cummins diesel-fired emergency generator rated at 600 kW
- 8-0363 – Four (4) Garland Radiant natural gas-fired charbroilers

The Permit Shield under COMAR 26.11.03.23 has been requested for each Emissions Unit, indicating that the National Security Agency is in compliance with the Federally Enforceable conditions of the permit.

This application contains national security information, which although not classified, is protected from release under Section 6 of the National Security Agency Act of 1959 (50 U.S.C. Section 402 note). The information is to be used on a "need-to-know" basis by Maryland Department of the Environment employees only. The information may not be released without prior written permission of the Director, National Security Agency.

If you have any questions or concerns, please contact me at srschu2@nsa.gov or (443) 479-0442. Thank you for your time and assistance in this matter.

Sincerely,

Samantha Schutt

Samantha Schutt
Environmental Engineer

Enclosures

MARYLAND DEPARTMENT OF THE ENVIRONMENT
1800 Washington Boulevard • Suite 720 • Baltimore, Maryland 21230-1720
410-537-3000 • 800-633-6101 • http://www.mde.state.md.us
Air and Radiation Administration • Air Quality Permits Program

Budget Reconciliation and Financing Act of 2003
(Commonly referred as Maryland House Bill 935)

On July 1, 2003, House Bill 935, Chapter 203 amended § 1-203 of the Environment Article, Annotated Code of Maryland, as follows:

Section 1-203(b).
(1) A license or permit is considered renewed for purposes of this subsection if the license or permit is issued by a unit of State government to a person for the period immediately following a period for which the person previously possessed the same or a substantially similar license.
(2) Before any license or permit may be renewed under this article, **the issuing authority shall verify through the office of the Comptroller (emphasis added)** that the applicant has paid all undisputed taxes and the unemployment insurance contributions payable to the Comptroller or the Secretary of Labor, Licensing, and Regulation or that the applicant has provided for payment in a manner satisfactory to the unit responsible for collection.

In order for the Maryland Department of the Environment (MDE) to verify this compliance, we would need you to provide the following information before we can process or issue your renewal license, permit, or certification:

Current MDE License/Permit No.: 24-003-0317

Name of Licensee or Permit Holder: National Security Agency

Address: 9800 Savage Road
Fort George G Meade, Maryland 20755-6218

Contact Name: Samantha Schutt **Title:** Environmental Engineer

Contact Telephone Number: 301-688-2970

Privacy Act Notice: This Notice is provided pursuant to the Federal Privacy Act of 1974, 5 U.S.C. § 552a. Disclosure of your Social Security or Federal Tax Identification on this form is mandatory pursuant to the provisions of § 1-203 (2003) of Environment Article, Annotated Code of Maryland, which requires MDE to verify that an applicant for a permit or license has paid all undisputed taxes and unemployment insurance. Social Security and Federal Tax Identification Nos. will not be used for any purposes other than those described in this Notice.

Federal Employer Identification Number (FEIN): 53-0205701

Certification: I certify that the above information is true and correct to the best of my knowledge.

Samantha Schutt
Signature

01/25/2024
Date

Complete and return this form to the above address. If you have any questions, please contact our office at (410) 537-3225.

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 MANAGEMENT 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: National Security Agency		
Street Address: 9800 Savage Road, Suite 6218		
City: Fort Meade	State: MD	Zip Code: 20755-6218
Telephone Number 301-688-2970		Fax Number

Facility Information:

Name of Facility: National Security Agency		
Street Address: 9800 Savage Road, Suite 6218		
City: Fort Meade	State: MD	Zip Code: 20755-6218
Plant Manager: Randy Westfall	Telephone Number: 301-688-2970	Fax Number:
24-Hour Emergency Telephone Number for Air Pollution Matters: 301-688-6911 Security Operations Center		

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 RW Westfall 01-25-2024

SIGNATURE DATE

Randy Westfall

PRINTED NAME

Chief, Installations & Logistics

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).

9711 - National Security

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: tons per year

PM10 1.8 NOx 19.8 VOC 3.3 SOx 0.6 CO 12.8 HAPs 0.05

3. Include With the Application:

Flow Diagrams showing all emissions units, emission points, and control devices; See Appendix A

Emissions Certification Report (copy of the most recent submitted to the Department.) See Appendix B

Compliance Assurance Monitoring Plan; See Appendix C

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: Boilers > 10MM BTU/hr

1a. Date of installation (month/year): January/1953(3) and December/1969(1)

2. MDE Registration No.:(if applicable) 5-0502, 5-0503, 5-0504, 5-0505

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):
Three (3) Union Iron Works natural gas & No. 2 fuel oil-fired boilers each rated at 85 million BTU per hour. Each boiler vents to a separate stack, identified as emission points 9807-1, 9807-2 and 9807-3.
One (1) Keeler natural gas & No. 2 fuel oil-fired boiler rated at 90 million BTU per hour. Boiler vents to a separate stack, identified as emission point 9807-4.

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

General Reference: _____

Continuous Processes: _____ hours/day _____ 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	3,927 gal
2.	Natural gas	N/A	193 million cf
3.			

6. Emissions in Tons:

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

B. Actual Emissions: NOx 11.7 SOx 0.5 VOC 0.7 PM10 0.5 HAPs 0

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Boilers>10MMBTU/hr **General Reference:** COMAR 26.11.09.05A

Briefly describe the Emission Standard/Limit or Operational Limitation:
No discharge of visible emissions, other than water in an uncombined form, except during load changing, soot blowing, startup, or adjustments if not greater than 40% opacity and does not occur for more than 6 consecutive minutes in any sixty minute period.

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 26.11.03.06C Describe: Properly operate and maintain the boilers in a manner to prevent visible emissions and during burning of No. 2 Fuel Oil, perform a visible observation for a 6-minute period once for each 168 hours that the boilers burns oil or at least 1/year.

Testing: Reference _____ Describe: _____

Record Keeping: Reference 26.11.03.06C Describe: Maintain an operation manual and prevention maintenance plan; maintain combustion performance maintenance records; maintain a visible emissions observation log; and maintain records of the hours that No. 2 Fuel Oil is burned.

Reporting: Reference 26.11.01.07 Describe: Report incidents of visible emissions in accordance with "Report of Excess Emissions and Deviations" plant wide conditions.

Frequency of submittal of the compliance demonstration: As required

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Boilers>10MMBTU/hr **General Reference:** COMAR 26.11.09.07A(2)

Briefly describe the Emission Standard/Limit or Operational Limitation:
No burning of Distillate fuel oils with a sulfur content by weight in excess of or which otherwise exceeds 0.3%.

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 26.11.03.06C Describe: Obtain a certification from the fuel supplier indicating that the oil complies with the limitation on the sulfur content of the fuel oil.

Testing: Reference _____ Describe: _____

Record Keeping: Reference 26.11.03.06C Describe: Maintain records of fuel supplier's certification.

Reporting: Reference _____ Describe: _____

Frequency of submittal of the compliance demonstration: As required

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Boilers>10MMBTU/hr **General Reference:** COMAR 26.11.09.08

Briefly describe the Emission Standard/Limit or Operational Limitation:
Perform a combustion analysis for each boiler at least once per year and train boiler operators on combustion optimization once every 3 years.

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 26.11.03.06C Describe: Optimize combustion based on the annual combustion analysis.

Testing: Reference 26.11.09.08E(2) Describe: Perform a combustion analysis once per year.

Record Keeping: Reference 26.11.09.08E Describe: Maintain records of the results of the annual combustion analysis and records of the combustion optimization training attendance for each operator.

Reporting: Reference _____ Describe: _____

Frequency of submittal of the compliance demonstration: As required

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Boilers>10MMBTU/hr **General Reference:** COMAR 26.11.02.09A

Briefly describe the Emission Standard/Limit or Operational Limitation:
Only burn natural gas with No. 2 Fuel Oil as back-up fuel.

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 Describe:

Testing: Reference Describe:

Record Keeping: Reference 26.11.02.19C Describe: Maintain records of the quantity and types of fuel burned.

Reporting: Reference 26.11.01.05-1 Describe: Submit records of the quantity and type of fuels burned with the annual emissions certification report.

Frequency of submittal of the compliance demonstration: As required

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Boilers>10MMBTU/hr **General Reference:** 40 CFR 63 Subpart JJJJJJ

Briefly describe the Emission Standard/Limit or Operational Limitation:
Conduct biennual tune-up and a one-time energy assessment.

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 _____ Describe: _____

Testing: Reference 40CFR63.11223 Describe: Conduct biennial boiler tune-up.

Record Keeping: Reference 40CFR63.11223 Describe: Maintain on-site report containing concentrations of CO in the effluent stream, percent Oxygen before and after tune-up, description of corrective actions taken and the type and amount of fuel used in the prior 12 months.

Reporting: Reference _____ Describe: _____

Frequency of submittal of the compliance demonstration: As required

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: Boilers <=10MM BTU/hr 1a. Date of installation (month/year): September/2006, December/2010, September/2015, November/2016	2. MDE Registration No.:(if applicable) 5-0644, 5-0645, 5-0900,5-0891, 5-0892, 5-0809, 5-0810, 5-0811

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

Two (2) Lochinvar Power Fin (Model PBN1500M9) natural gas-fired boilers each rated 1.5 million BTU per hour, identified as emission points 9900-4 and 9900-5.
Four (4) Hydrotherm KN-20 naturalgas-fired boilers each rated at 1.99 million BTU per hour, identified as emission points 9960-1 thru 4.
Four (4)Lochinvar natural gas-fired boilers each rated at 1.5 million BTU per hour, identified as emission points 9220-1 thru 4.
Four (4)Harsco natural gas-fired boilers each rated at 2.5 million BTU, identified as emission points 9230-1 thru 4.
Two (2)Harsco natural gas-fired boilers each rated at 2.0 million BTU, identified as emission point 9230-5 and 9230-6.

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

General Reference:_____

Continuous Processes: _____ hours/day _____ 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	25 million cf
2.		
3.		

6. Emissions in Tons:

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

B. Actual Emissions: NOx 0.6 SOx 0 VOC 0.08 PM10 0.01 HAPs 0

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: Boilers <=10MM BTU/hr 1a. Date of installation (month/year): See page 11	2. MDE Registration No.:(if applicable) 5-0823, 5-0842, 5-0905, 5-0911

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

Three (3) Lochinvar natural gas-fired boilers each rated at 1.5 million BTU, identified as emission points 9225-1 thru 3.

Four (4) Lochnivar natural gas-fired boilers each rated at 4.0 million BTU, identified as emission points 9250-1 thru 4.

Four (4) Patterson Kelly natural gas-fired boilers each rated at 4.0 million BTU, identified as emission points 9245-1 thru 4.

Three (3) Lochinvar natural gas-fired boilers each rated at 4.0 million BTU, identified as emission points 9715-1 thru 3.

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

General Reference:_____

Continuous Processes: _____ hours/day _____ days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1. See page 11.		
2.		
3.		

6. Emissions in Tons: See page 11

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

B. Actual Emissions: NOx_____ SOx_____ VOC_____ PM10_____ HAPs_____

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Boilers <=10MM BTU/hr **General Reference:** COMAR 26.11.09.05A

Briefly describe the Emission Standard/Limit or Operational Limitation:
No discharge of visible emissions, other than water in an uncombined form, except during load changing, soot blowing, startup, or adjustments if not greater than 40% opacity and does not occur for more than 6 consecutive minutes in any sixty minute period.

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 _____ Describe: _____

Testing: Reference _____ Describe: _____

Record Keeping: Reference _____ Describe: _____

Reporting: Reference 26.11.01.07 Describe: Report incidents of visible emissions in accordance with "Report of Excess Emissions and Deviations" plant wide conditions.

Frequency of submittal of the compliance demonstration: As required

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Boilers <=10MM BTU/hr **General Reference:** COMAR 26.11.09.08D(5)

Briefly describe the Emission Standard/Limit or Operational Limitation:
Triennial Operator Training in NOx Control and develop an operations and maintenance plan for space heaters.

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 26.11.09.08F(1)(b) Describe: Develop and maintain an operations and maintenance plan.

Testing: Reference Describe:

Record Keeping: Reference 26.11.09.08 Describe: Keep records of maintenance activity, maintain operator training records, keep a record of the operations and maintenance plan, and keep records to evaluates the validity of the space heater designation.

Reporting: Reference 26.11.09.08F(1)(e) Describe: Provide training program attendance records to Department upon request.

Frequency of submittal of the compliance demonstration: As required

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Boilers <=10MM BTU/hr **General Reference:** COMAR 26.11.02.19C

Briefly describe the Emission Standard/Limit or Operational Limitation:
Only burn 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 Describe:

Testing: Reference Describe:

Record Keeping: Reference 26.11.02.19C Describe: Maintain records of the quantity and types of fuel burned.

Reporting: Reference 26.11.01.05-1 Describe: Submit records of the quantity and type of fuels burned with the annual emissions certification report.

Frequency of submittal of the compliance demonstration: As required

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: Emergency Generators 1a. Date of installation (month/year): Various (Listed on emission calculation sheets.)	2. MDE Registration No.:(if applicable) 9-0804, 9-0806, 9-0918, 9-0967, 9-1090

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

One (1) Detroit Diesel Model 12N-4002 U-12 diesel emergency generator rate at 600 kW with exhaust point 3900-1.

One (1) Katolight Model V-1271 diesel emergency generator rated at 560 kW, with exhaust point 9960-3.

One (1) Katolight Model D900X6T2 diesel emergency generator rated at 900 kW, with exhaust point 9840-1.

One(1) Katolight Model 415-J6T3 diesel emergency generator rated at 415 KW, with exhaust points VCC-1.

One(1) MTU Onsite Energy diesel emergency generator rated at 2,280kW, with exhaust point 9800C-1.

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

General Reference: Various - Listed in Section 3B

Continuous Processes: _____ hours/day _____ days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1. Diesel	<15 ppm	316,350 gallons
2.		
3.		

6. Emissions in Tons:

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

B. Actual Emissions: NOx 9.9 SOx 0 VOC 2.27 PM10 0.47 HAPs 0.04

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: Emergency Generators (continued) 1a. Date of installation (month/year): Various (Listed on emission calculation sheets.)	2. MDE Registration No.:(if applicable) 9-1035, 9-0818, 9-0819, 9-0820, 9-0821, 9-0822, 9-0823,9-1055 9-1091, 9-1092

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

Eighteen (18) Cummins diesel emergency generators each rated at 2,750 kW and each equipped with SCR systems, with exhaust points SCEUP-1 thru SCEUP-18

Six (6) Cummins/Onan diesel emergency generators each rated 2700 kW, with exhaust points SCEUP-19 thru 24.

Twenty-four (24) Caterpillar diesel emergency generators each rated at 2,725 kW and each equipped with SCR systems,with exhaust points NCEUP-1 thru NCEUP-24.

Seven (7)Caterpillar diesel emergency generators each rated at 3000kW and each equipped with SCR systems, with exhaust points ECEUP-1 thru ECEUP-7.

One (1)Caterpillar diesel emergency generator rated at 1000kW, with exhaust point 9000-1.

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

General Reference: See page 16

Continuous Processes: _____ hours/day _____ days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption: See page 16

Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.		
2.		
3.		

6. Emissions in Tons: See page 16

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

B. Actual Emissions: NOx_____ SOx_____ VOC_____ PM10_____ HAPs_____

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: Emergency Generators (continued) 1a. Date of installation (month/year): Various (Listed on emission calculation sheets.)	2. MDE Registration No.:(if applicable) 9-1116, 9-1117, 9-1136, 9-1137, 9-1146, 9-1155, 9-1156

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

Six (6) Caterpillar diesel emergency generators each rated at 3000kW and each equipped with SCR systems, with exhaust points ECEUP-8 thru ECEUP-13.

Two (2) Caterpillar diesel emergency generators rated at 500kW each, with exhaust point 9230-1 and 9220-1.

One (1) Caterpillar diesel emergency generator rated at 3000kW, with exhaust point 9225-1.

One (1) Caterpillar diesel emergency generator rated at 400kW, with exhaust point 9225-2.

One (1) Kohler diesel emergency generator rated at 550kW, with exhaust point 9210-1.

Fourteen (14) Caterpillar diesel emergency generators each rated at 3000kW and each equipped with SCR systems, with exhaust points ECEUP-14 thru ECEUP-27.

One (1) Caterpillar C 175-16 diesel emergency generator rated at 850kW, with exhaust point 9250-1.

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

General Reference: See page 16

Continuous Processes: _____ hours/day _____ days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption: See page 16

Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.		
2.		
3.		

6. Emissions in Tons: See page 16

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

B. Actual Emissions: NOx_____ SOx_____ VOC_____ PM10_____ HAPs_____

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: Emergency Generators (continued) 1a. Date of installation (month/year): Various (Listed on emission calculation sheets.)	2. MDE Registration No.:(if applicable) 9-1243, 9-1244

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

One (1) Cummins QSK 23 diesel emergency generator rated at 800kW, with exhaust point 9243-1.

One (1) Cummins QSK 23 diesel emergency generator rated at 600kW, with exhaust point 9244-1.

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

General Reference: See page 16

Continuous Processes: _____ hours/day _____ days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption: See page 16

Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.		
2.		
3.		

6. Emissions in Tons: See page 16

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

B. Actual Emissions: NOx_____ SOx_____ VOC_____ PM10_____ HAPs_____

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Emergency Generators **General Reference:** COMAR 26-11.09-05E

Briefly describe the Emission Standard/Limit or Operational Limitation:
No discharge of visible emissions greater than 10% opacity during idle mode or greater than 40% opacity during operation at other than idle conditions, with exceptions for start-up, clearing exhaust, maintenance, repair or testing 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 26.11.03.06C Describe: Properly operate and maintain the generators in a manner to minimize visible emissions.

Testing: Reference Describe:

Record Keeping: Reference 26.11.03.06C Describe: Maintain records of preventive maintenance on-site for at least five years.

Reporting: Reference 26.11.01.07 Describe: Report incidents of visible emissions in accordance with "Report of Excess Emissions and Deviations" plant wide conditions.

Frequency of submittal of the compliance demonstration: As required

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Emergency Generators **General Reference:** COMAR 26.11.09.07A(2)

Briefly describe the Emission Standard/Limit or Operational Limitation:
No burning of Distillate fuel oils with a sulfur content by weight in excess of or which otherwise exceeds 0.3%.

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 26.11.03.06C Describe: Obtain a certification from the fuel supplier indicating that the oil complies with the limitation on the sulfur content of the fuel oil.

Testing: Reference _____ Describe: _____

Record Keeping: Reference 26.11.09.07C Describe: Retain fuel supplier certifications for at least five (5) years.

Reporting: Reference 26.11.09.07C Describe: Report annual fuel supplier certification to the Department upon request.

Frequency of submittal of the compliance demonstration: As required

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Emergency Generators **General Reference:** COMAR 26.11.09.08G

Briefly describe the Emission Standard/Limit or Operational Limitation:
Perform a combustion analysis on each generator that operates more than 500 hours in a calendar year and train operators on combustion optimization every three (3) years.

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 26.11.03.06C Describe: Perform a combustion analysis and optimize combustion at least annually for any engine that operates more than 500 hours during a calendar year.

Testing: Reference 26.11.09.08G(1)(b)(c) Describe: Perform a combustion analysis and optimize combustion at least annually for any engine that operates more than 500 hours during a calendar year.

Record Keeping: Reference 26.11.09.08G Describe: Maintain records of the results of the combustion analyses for at least five (5) years.

Reporting: Reference _____ Describe: _____

Frequency of submittal of the compliance demonstration: As required

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Emergency Generators **General Reference:** COMAR 26.11.09.08G

Briefly describe the Emission Standard/Limit or Operational Limitation:
Provide certification of the capacity factor of the equipment to the Department in writing.

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 26.11.03.06C Describe: Calculate the capacity factor of the combustion turbine within 30 days after the end of each month.

Testing: Reference Describe:

Record Keeping: Reference 26.11.09.08G(1)(c) Describe: Maintain a record of the calculated capacity factor.

Reporting: Reference 26.11.03.06C Describe: Provide certification of the capacity factor of the equipment to the Department in writing as part of the April 1 certification report.

Frequency of submittal of the compliance demonstration: As required

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Emergency Generators **General Reference:** COMAR 26.11.09.08G

Briefly describe the Emission Standard/Limit or Operational Limitation:
Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization and maintain a record of training program attendance for each operator at the site.

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 _____ Describe: _____

Testing: Reference _____ Describe: _____

Record Keeping: Reference 26.11.09.08G(e) Describe: 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.

Reporting: Reference 26.11.09.08G(e) Describe: Submit a list of trained operators to the Department upon request.

Frequency of submittal of the compliance demonstration: As required

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Emergency Generators **General Reference:** MDE PTC Condition D2
Registration #'s:9-0818 thru 9-0823

Briefly describe the Emission Standard/Limit or Operational Limitation:
Each of the six (6) emergency generator sets shall not operate more than 125 hours a year, unless that source obtains a prior approval from the Department.

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 26.11.03.06C Describe: Log the number of hours each generator is operated on a daily basis for generator preventative maintenance.

Testing: Reference Describe:

Record Keeping: Reference MDE PTC Condition E1 Describe: Maintain records of preventative maintenance testing operation, utility provider-requested operation, and emergency operation hours and fuel usage on a daily basis and on-site for at least five (5) years.

Reporting: Reference MDE PTC Condition E1 Describe: Submit a record of the hours of operation, fuel used, and emission estimates for each emergency generator with the annual Emissions Certification Report.

Frequency of submittal of the compliance demonstration: As required

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Emergency Generators **General Reference:** 40 CFR 60 Subpart IIII

Registration #'s: 9-0918, 9-0967, 9-1035, 9-1055, 9-1090, 9-1091, 9-1092, 9-1116, 9-1117, 9-1136, 9-1137, 9-1146, 9-1155, 9-1156, 9-1243, 9-1244

Briefly describe the Emission Standard/Limit or Operational Limitation:
Purchase and install engines certified to the emission standards of 40 CFR 60.4205(b) for the same model year and maximum engine horsepower.

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 _____ Describe: _____

Testing: Reference _____ Describe: _____

Record Keeping: Reference 40CFR60 Subpart IIII Describe: Maintain on site for the life of the source the documentation of the manufacture date of the diesel engine, the manufacturer model year of the diesel engine, the installation date of the diesel engine and the certifications of compliance or manufacturer engine test date required by 40CFR 60.4211 and 60.4214(b).

Reporting: Reference _____ Describe: _____

Frequency of submittal of the compliance demonstration: As required

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Emergency Generators **General Reference:** 40 CFR 60 Subpart IIII

Registration #'s: 9-0918, 9-0967, 9-1035, 9-1055, 9-1090, 9-1091, 9-1092, 9-1116, 9-1117, 9-1136, 9-1137, 9-1146, 9-1155, 9-1156, 9-1243, 9-1244

Briefly describe the Emission Standard/Limit or Operational Limitation:
Operate and maintain an NSPS emergency diesel generator and control devices according to the manufacturer's written instructions or according to procedures developed by the owner or operator that are approved by the manufacturer. Change only those settings that are permitted by the manufacturer and meet the requirements of 40CFR89, 94 and/or 1068 as they apply.

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 Describe:

Testing: Reference Describe:

Record Keeping: Reference 40CFR60.4211 Describe: Maintain a copy of the manufacturer's written instructions and approved changes developed by the owner or operator.

Reporting: Reference Describe:

Frequency of submittal of the compliance demonstration: As required

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Emergency Generators **General Reference:** 40 CFR 60 Subpart IIII

Registration #'s: 9-0918, 9-0967, 9-1035, 9-1055, 9-1090, 9-1091, 9-1092, 9-1116, 9-1117, 9-1136, 9-1137, 9-1146, 9-1155, 9-1156, 9-1243, 9-1244

Briefly describe the Emission Standard/Limit or Operational Limitation:
Only combust diesel fuel in an NSPS emergency diesel generator that meets the requirements of 40CFR80.510(b) (sulfur content: 15ppm maximum, cetane index of 40 minimum, and aromatic content of 35 volume percent minimum), unless a waiver is obtained from the Department and/or the EPA Administrator.

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 _____ Describe: _____

Testing: Reference _____ Describe: _____

Record Keeping: Reference 40CFR60.4207 Describe: For each fuel delivery, obtain from the fuel supplier a fuel supplier certification consisting of the name of the fuel supplier, the date of delivery, the amount of fuel delivered, and a statement from the fuel supplier that the diesel fuel complies with the specifications of 40CFR80.510. Maintain for at least 5 years.

Reporting: Reference _____ Describe: _____

Frequency of submittal of the compliance demonstration: As required

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Emergency Generators **General Reference:** 40 CFR 60 Subpart IIII

Registration #'s: 9-0918, 9-0967, 9-1035, 9-1055, 9-1090, 9-1091, 9-1092, 9-1116, 9-1117, 9-1136, 9-1137, 9-1146, 9-1155, 9-1156, 9-1243, 9-1244

Briefly describe the Emission Standard/Limit or Operational Limitation:
Non-emergency use of each NSPS emergency diesel generator for the purpose of maintenance checks and readiness testing is limited to 100 hours per year or less unless prior approval is received from the Department.

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 _____ Describe: _____

Testing: Reference _____ Describe: _____

Record Keeping: Reference 26.11.03.06C Describe: Maintain a log for the emergency generator indicating the amounts of fuel combusted, the hours of operation,amount of urea used and reason for generator operation (i.e., maintenance or operational testing, power outage, etc.)

Reporting: Reference 26.11.03.06C Describe: Report the amounts of fuel combusted, the hours of operation, and reason for generator operation (i.e., maintenance or operational testing, power outage, etc.) to the Department in the annual emission certification report due on April 1 of each year.

Frequency of submittal of the compliance demonstration: As required

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Emergency Generators **General Reference:** 40 CFR 63 Part ZZZZ

Registration #'s: 9-0918, 9-0967, 9-1035, 9-1055, 9-1090, 9-1091, 9-1092, 9-1116, 9-1117, 9-1136, 9-1137, 9-1146, 9-1155, 9-1156, 9-1243, 9-1244

Briefly describe the Emission Standard/Limit or Operational Limitation:
To comply, a new stationary emergency generator located at an area source for Hazardous Air Pollutants must meet the requirements of 40 CFR 60 Subpart IIII.

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 _____ Describe: _____

Testing: Reference _____ Describe: _____

Record Keeping: Reference 40CFR63.6590(c)(1) Describe: Maintain on site for the life of the source the documentation of the manufacture date of the diesel engine, the manufacturer model year of the diesel engine, the installation date of the diesel engine and the certifications of compliance or manufacturer engine test date required by 40CFR 60.4211 and 60.4214(b).

Reporting: Reference _____ Describe: _____

Frequency of submittal of the compliance demonstration: As required

SECTION 4. CONTROL EQUIPMENT

1. Associated Emissions Units No. :	2. Emissions Point No.:
9-1035, 9-1055, 9-1091, 9-1116, 9-1136, 9-1155	SCEUP-1 to SCEUP-18, NCEUP-1 to NCEUP-24, ECEUP-1 to ECEUP-28

3. Type and Description of Control Equipment:

Selective Catalytic Reduction (SCR) unit on each generator.

4. Pollutants Controlled:	Control Efficiency:
NOx	90%

5. Capture Efficiency: 100%

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 9-0449 & 9-0450 1a. Date of installation (month/year): March/1978	2. MDE Registration No.:(if applicable) 9-0449 & 9-0450

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):
Paper Pulp Operation consisting of an automatic material collection system and a separate continuous operating system controlled by baghouses. Exhaust points are identified as 9814A-2 and 9814A-3, respectively.

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

Continuous Processes: _____ hours/day _____ days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.		
2.		
3.		

6. Emissions in Tons:

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

B. Actual Emissions: NOx 0 SOx 0 VOC 0 PM10 0 HAPs 0

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 9-0449 & 9-0450 **General Reference:** COMAR 26.11.06.02C(2)

Briefly describe the Emission Standard/Limit or Operational Limitation:
No discharge of emissions, other than water in an uncombined form, which is visible to human observers, unless during start-up, process modifications or occasional cleaning of control equipment if not greater than 40% opacity and do not occur for more than 6 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 26.11.03.06C Describe: Conduct visual observations of the baghouse exhaust quarterly.

Testing: Reference Describe:

Record Keeping: Reference 26.11.03.06C Describe: Maintain a log of the dates and times of visible emissions observations for a period of at least 5 years.

Reporting: Reference Describe: Report incidents of visible emissions to the Department through establish procedures.

Frequency of submittal of the compliance demonstration: As required

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 9-0449 & 9-0450 **General Reference:** COMAR 26.11.06.03B(2)(a)

Briefly describe the Emission Standard/Limit or Operational Limitation:
No discharge into the outdoor atmosphere particulate matter in excess of 0.03 grains per standard cubic feet dry.

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 26.11.03.06C Describe: Develop and maintain a preventive maintenance plan for the baghouse that describes the maintenance activity and time schedule for completing each activity.

Testing: Reference _____ Describe: _____

Record Keeping: Reference 26.11.03.06C Describe: Maintain a copy of the preventive maintenance plan and a record of the dates and description of activity performed. Maintain records of baghouse malfunctions and corrective actions. All records to be maintained for at least 5 years.

Reporting: Reference 26.11.03.06C Describe: Submit the maintenance plan and records of maintenance activities to the Department upon request.

Frequency of submittal of the compliance demonstration: As required

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 9-0449 & 9-0450 **General Reference:** MDE PTC Condition 5

Briefly describe the Emission Standard/Limit or Operational Limitation:
Record the annual quantity of material processed by the automatic material collection system and separate continuous operating system.

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 _____ Describe: _____

Testing: Reference _____ Describe: _____

Record Keeping: Reference 26.11.03.06C Describe: Maintain the material throughput records for at least 5 years.

Reporting: Reference MDE PTC Condition 6 Describe: Make records available to the Department upon request.

Frequency of submittal of the compliance demonstration: As required

SECTION 4. CONTROL EQUIPMENT

1. Associated Emissions Units No. : 9-0449 and 9-0450	2. Emissions Point No.: 9814A-2 and 9814A-3

3. Type and Description of Control Equipment:
Baghouse

4. Pollutants Controlled:	Control Efficiency:
PM (9-0449)	99.3%
PM (9-0450)	99.1%

5. Capture Efficiency: 100%

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 6-0375 1a. Date of installation (month/year): June/1992	2. MDE Registration No.:(if applicable) 6-0375

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):
Plating Operation consisting of surface coating of steel or aluminum parts to add durability and extend service life, controlled by a packed bed scrubber emission control system. The exhaust point is identified as 9706-1.

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

General Reference:_____

Continuous Processes: _____ hours/day _____ days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.		
2.		
3.		

6. Emissions in Tons:

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

B. Actual Emissions: NOx 0 SOx 0 VOC 0 PM10 0 HAPs 0

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 6-0375 **General Reference:** COMAR 26.11.06.02C(2)

Briefly describe the Emission Standard/Limit or Operational Limitation:
No discharge of emissions, other than water in an uncombined form, which is visible to human observers, unless during start-up, process modifications or occasional cleaning of control equipment if not greater than 40% opacity and do not occur for more than 6 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 26.11.03.06C Describe:
Perform preventative maintenance once per month or as recommended by the equipment manufacturer on scrubbers that control emission units.

Testing: Reference Describe:

Record Keeping: Reference 26.11.03.06C Describe:
Maintain a log of the maintenance performed on the scrubbers. The log shall be kept on site for at least 5 years and make available to the Department upon request.

Reporting: Reference Describe:

Frequency of submittal of the compliance demonstration: As required

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 6-0375 **General Reference:** COMAR 26.11.06.03B(2)(a)

Briefly describe the Emission Standard/Limit or Operational Limitation:
No discharge into the outdoor atmosphere particulate matter in excess of 0.03 grains per standard cubic feet dry.

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 26.11.03.06C Describe: Perform preventive maintenance once per month or as recommended by the equipment manufacturer on scrubbers that control emissions units.

Testing: Reference Describe:

Record Keeping: Reference 26.11.03.06C Describe: Maintain a log of maintenance performed on the scrubbers. The log shall be kept on site for at least 5 years and make available to the Department upon request.

Reporting: Reference Describe:

Frequency of submittal of the compliance demonstration: As required

SECTION 4. CONTROL EQUIPMENT

1. Associated Emissions Units No. : 6-0375	2. Emissions Point No.: 9706-1

3. Type and Description of Control Equipment:

Four packed bed scrubbers controlling individual and separate plating lines

4. Pollutants Controlled:	Control Efficiency:
Sulfuric Acid	99%
Nitric Acid	33%
Hydrofluoric Acid	88.2%
Chromic Acid (mist)	99.3%

5. Capture Efficiency: 100%, as air flow creates negative pressure for room.

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 6-1114 1a. Date of installation (month/year): January/2002	2. MDE Registration No.:(if applicable) 6-1114

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):
One (1) Future Cure Model 1000 paint spray booth for miscellaneous metal coating. The exhaust point is identified as 9706-2.

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

General Reference:_____

Continuous Processes: _____ hours/day _____ days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.		
2.		
3.		

6. Emissions in Tons:

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

B. Actual Emissions: NOx 0 SOx 0 VOC 0.02 PM10 0 HAPs 0

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 6-1114 **General Reference:** COMAR 26.11.19.02I

Briefly describe the Emission Standard/Limit or Operational Limitation:
Implement good operating practices to minimize VOC emissions into the atmosphere.

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 26.11.19.02I Describe: Establish good operating practices in writing. Display the good operating practices so that they are clearly visible to the operator or include them in operator training.

Testing: Reference Describe:

MDE PTC

Record Keeping: Reference Condition Da Describe: Maintain records of monthly material usage and hours of operation for at least 5 years.

Reporting: Reference 26.11.19.02I Describe: Make written operating practices available to the Department upon request.

Frequency of submittal of the compliance demonstration: As required

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 6-1114 **General Reference:** COMAR 26.11.19.02I

Briefly describe the Emission Standard/Limit or Operational Limitation:
Take all reasonable precautions to prevent or minimize the discharge of VOC into the atmosphere when cleaning process and coating application equipment, including containers, vessels, tanks, lines and pumps.

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 Describe:

Testing: Reference Describe:

Record Keeping: Reference 26.11.19.02I Describe: Maintain written standard operating procedures for frequently cleaned equipment.

Reporting: Reference Describe:

Frequency of submittal of the compliance demonstration: As required

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: 6-1095 1a. Date of installation (month/year):August/2006	2. MDE Registration No.:(if applicable) 6-1095

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):
Vehicle Refinishing Equipment. The exhaust point is identified as 3900-2.

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

General Reference:_____

Continuous Processes: _____ hours/day _____ days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.		
2.		
3.		

6. Emissions in Tons:

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

B. Actual Emissions: NOx 0 SOx 0 VOC 0 PM10 0 HAPs 0

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 6-1095 **General Reference:** General PTC

Briefly describe the Emission Standard/Limit or Operational Limitation:
Exclusively perform vehicle refinishing and use less than 400 gallons of vehicle refinishing materials per year.

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 _____ Describe: _____

Testing: Reference _____ Describe: _____

Record Keeping: Reference _____ Describe: Maintain monthly records of material usage.

Reporting: Reference _____ Describe: _____

Frequency of submittal of the compliance demonstration: As required

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 6-1095 **General Reference:** General PTC

Briefly describe the Emission Standard/Limit or Operational Limitation:
Materials used may not exceed VOC content for Vehicle Refinishing.

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 Describe:

Testing: Reference Describe:

Record Keeping: Reference Describe: Maintain monthly records of material usage.

Reporting: Reference Describe:

Frequency of submittal of the compliance demonstration: As required

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 6-1095 **General Reference:** General PTC

Briefly describe the Emission Standard/Limit or Operational Limitation:
Coatings shall be applied by HVLP spray guns or equivalent.

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 _____ Describe: _____

Testing: Reference _____ Describe: _____

Record Keeping: Reference _____ Describe: _____

Reporting: Reference _____ Describe: _____

Frequency of submittal of the compliance demonstration: As required

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 6-1095 **General Reference:** General PTC

Briefly describe the Emission Standard/Limit or Operational Limitation:
All spray painting shall be conducted in a spray booth, and the spray booth shall be equipped with an exhaust filter during all times of use.

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 _____ Describe: _____

Testing: Reference _____ Describe: _____

Record Keeping: Reference _____ Describe: _____

Reporting: Reference _____ Describe: _____

Frequency of submittal of the compliance demonstration: As required

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 6-1095 **General Reference:** General PTC

Briefly describe the Emission Standard/Limit or Operational Limitation:
Use of specialty coatings may not exceed five percent of volume of all coatings on a monthly basis.

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 Describe:

Testing: Reference Describe:

Record Keeping: Reference Describe: Maintain monthly records of material usage.

Reporting: Reference Describe:

Frequency of submittal of the compliance demonstration: As required

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: 6-1095 **General Reference:** General PTC

Briefly describe the Emission Standard/Limit or Operational Limitation:
Perform good operating practices and equipment cleanup procedures to reduce VOC emissions.

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 _____ Describe: _____

Testing: Reference _____ Describe: _____

Record Keeping: Reference General PTC Describe: Maintain written good operating practices.

Reporting: Reference _____ Describe: _____

Frequency of submittal of the compliance demonstration: As required

STATE-ONLY ENFORCEABLE REQUIREMENTS

Facility Information:

Name of Facility: National Security Agency	County Anne Arundel
Premises Number: 003-00317	
Street Address: 9800 Savage Road, Suite 6218 Fort Meade, MD 20755-6218	
24-hour Emergency Telephone Number for Air Pollution Matters:	
Type of Equipment (List Significant Units): Four (4) Garland natural gas-fired charbroilers, Model Radiant.	
One (1) Jade Supreme natural gas-fired charbroiler, Model JB-48-F.	

CITATION TO AND DESCRIPTION OF APPLICABLE STATE-ONLY ENFORCEABLE REQUIREMENTS

Registration No.: 8-0363, 8-0340

Emissions Unit No.: 8-0363, 8-0340 **General Reference:** 26.11.18.06B

Briefly describe the requirement and the emissions limit (if applicable):

Discharge of visible emissions shall be less than or equal to 30 percent opacity.

Methods used to demonstrate compliance:

Charbroiler is operated per the manufacturer's instructions.

III. Check-off 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. 20 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. 17 Stationary internal combustion engines with less than 500 brake horsepower (373 kilowatts)of power output

(4) X Space heaters utilizing direct heat transfer and used solely for comfort heat;

(5) X 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. 2 Unheated VOC dispensing containers or unheated VOC rinsing containers of 60 gallons (227 liters) capacity or less;

(7) X 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) X Confection cookers where the products are edible and intended for human consumption;

(10) X Die casting machines;

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

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

(13) X 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) X 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) X Storage of butane, propane, or liquefied petroleum, or natural gas;

(d) No. 77 Storage of lubricating oils:

(e) No. ___ Unheated storage of VOC with an initial boiling point of 300 °F (

(f) No. 125 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. 100 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) _X_ 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) _X_ 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) _X_ Certain recreational equipment and activities, such as fireplaces, barbecue pits and cookers, fireworks displays, and kerosene fuel use;

(22) _X_ Potable water treatment equipment, not including air stripping equipment;

(23) _X_ 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) _X_ 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)_X_ Laboratory fume hoods and vents;

(30)No. _1_ 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. ___ _____

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. ___ _____

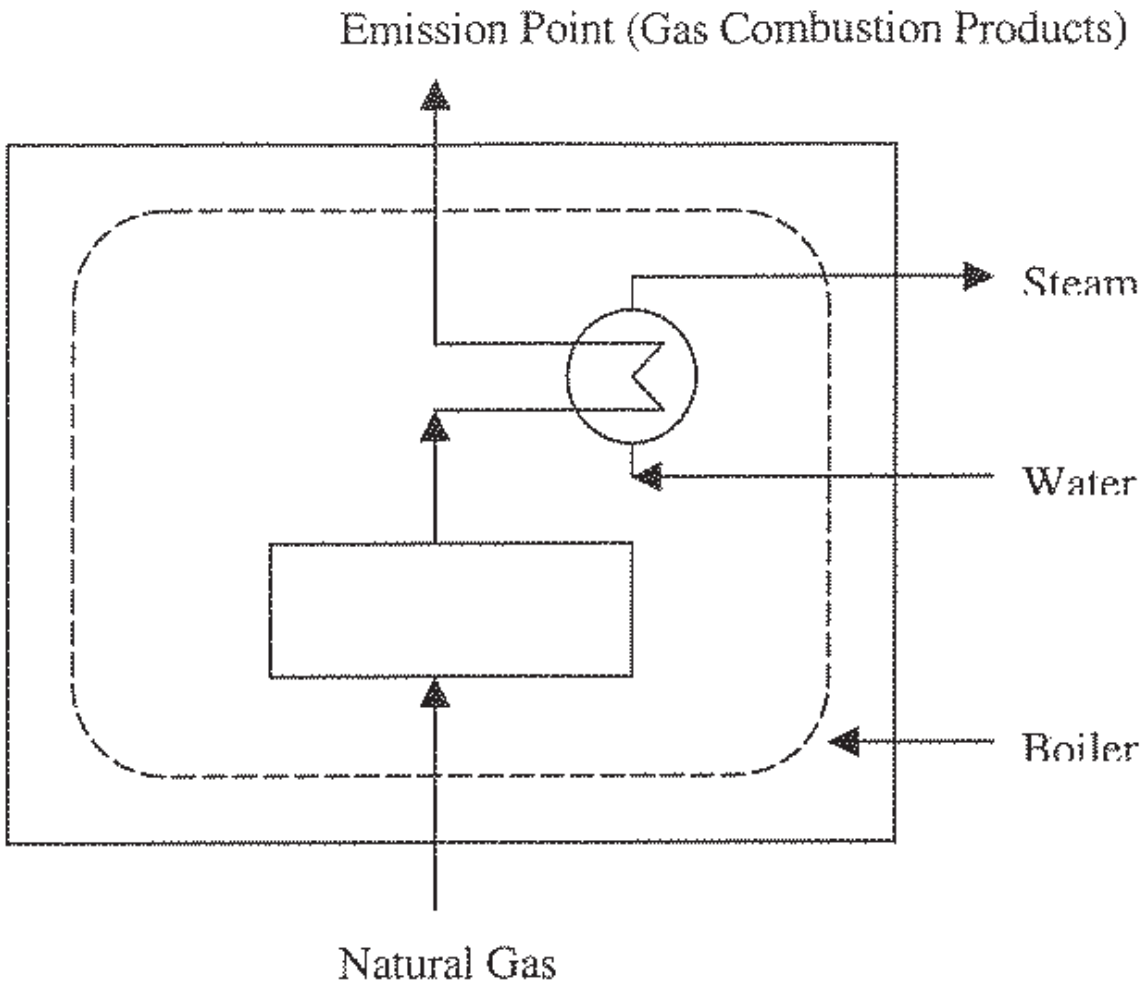
No. ___ _____

No. ___ _____

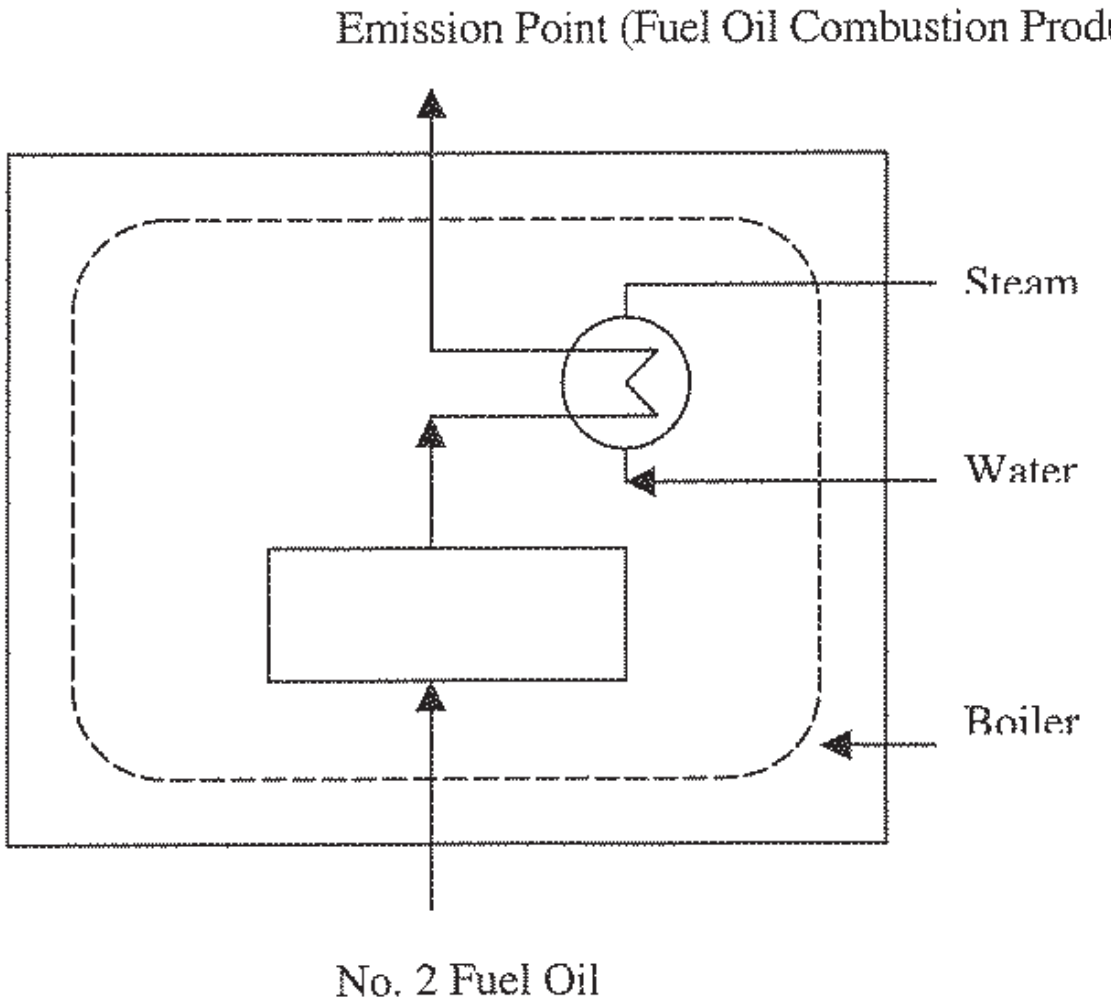
Appendix A

Flow Diagrams

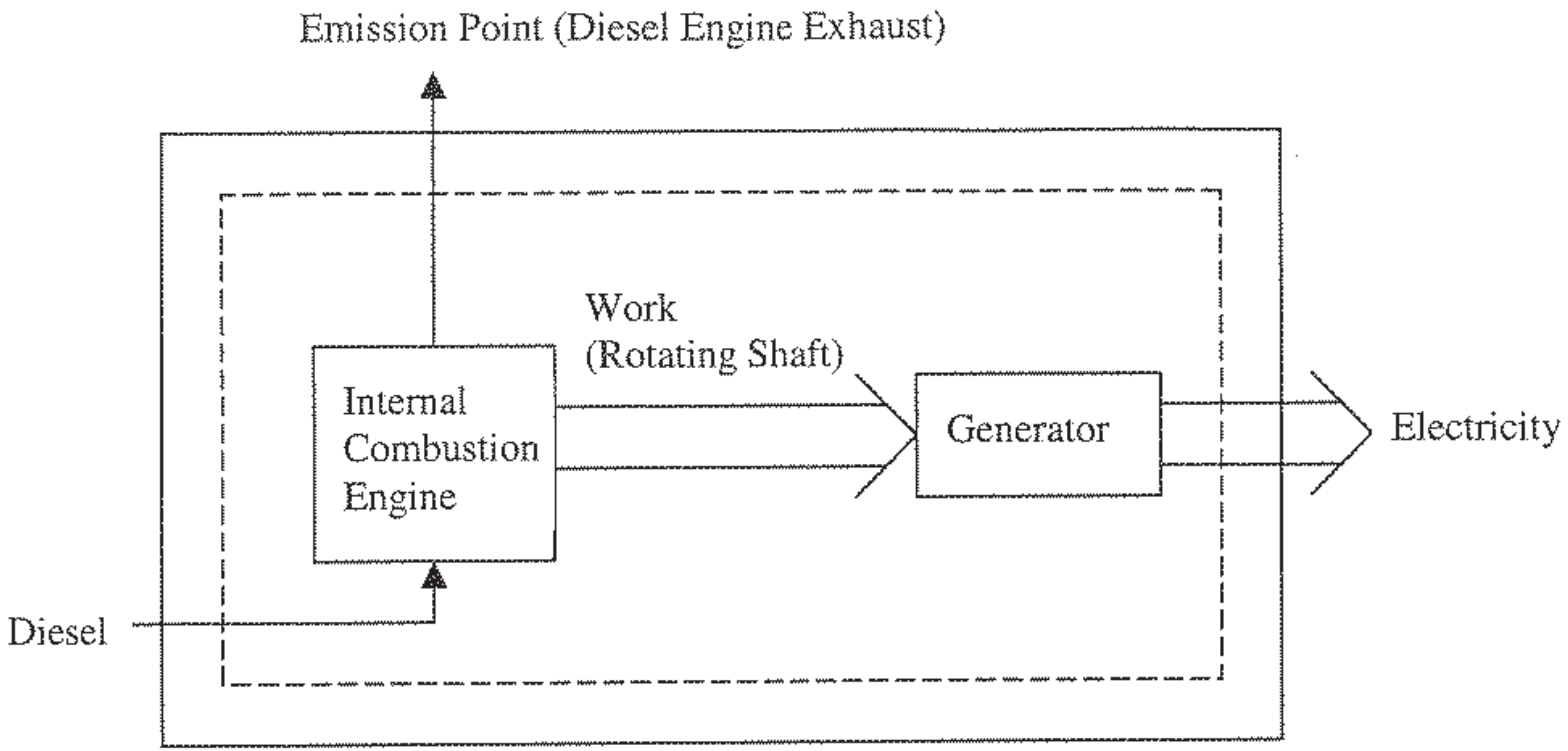
BOILER PROCESS FLOW DIAGRAM #1: NATURAL GAS-FIRED BOILER



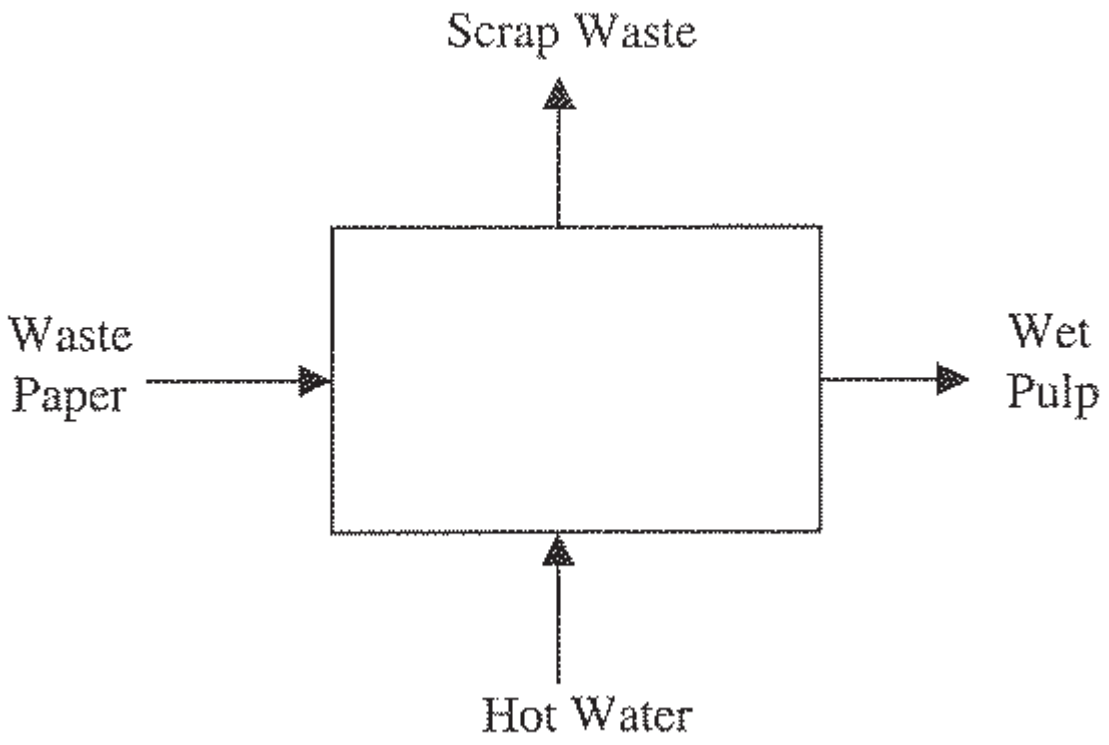
BOILER PROCESS FLOW DIAGRAM #2: NO. 2 FUEL OIL-FIRED BOILER



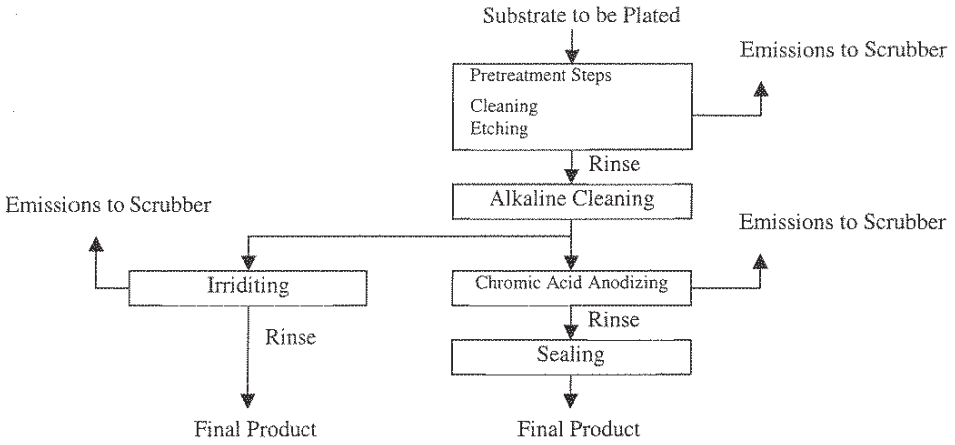
DIESEL GENERATOR PROCESS FLOW DIAGRAM



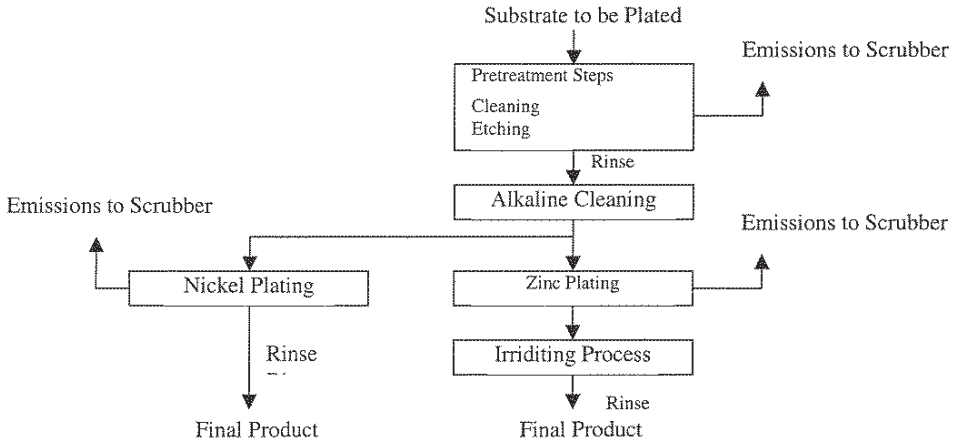
PAPER PULP OPERATION PROCESS FLOW DIAGRAM



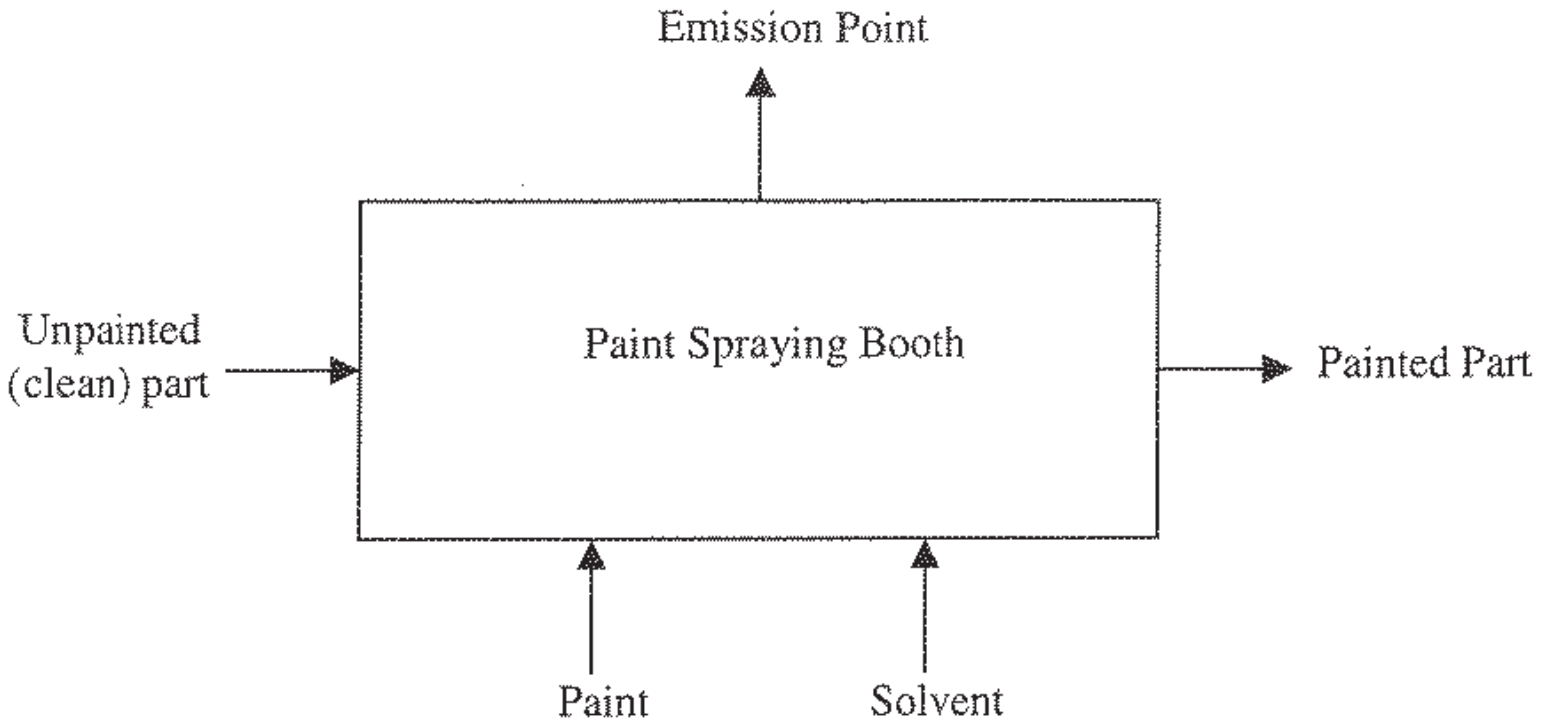
SPC ALUMINUM PLATING OPERATION PROCESS FLOW DIAGRAM



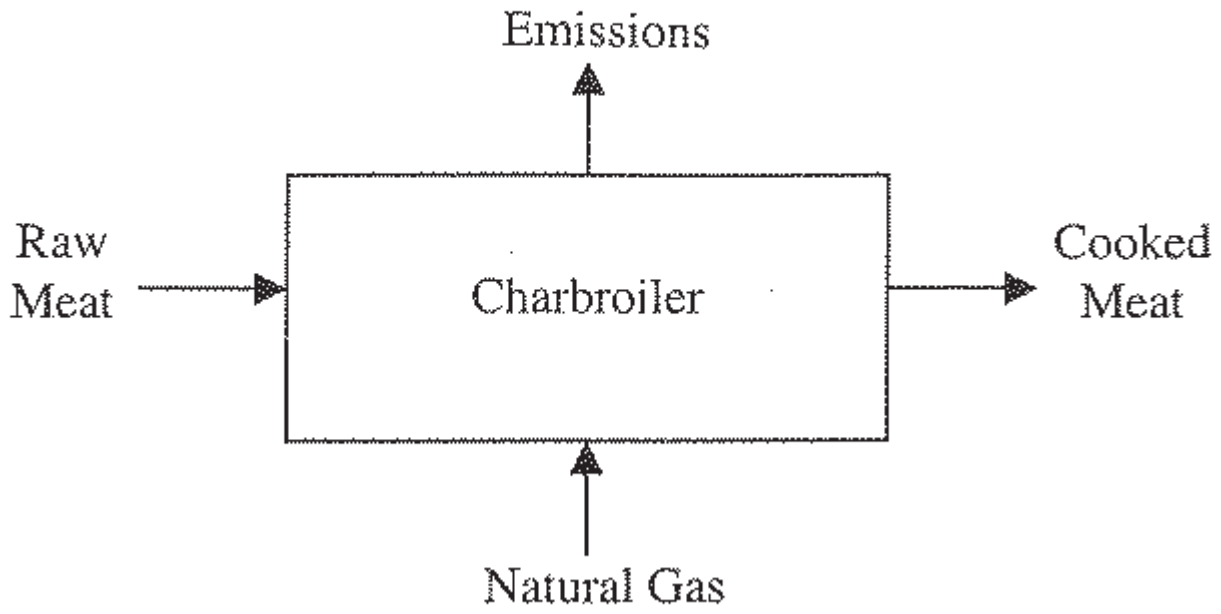
SPC STEEL PLATING OPERATION PROCESS FLOW DIAGRAM



PAINT BOOTH OPERATIONS PROCESS FLOW DIAGRAM



CHARBROILER PROCESS FLOW DIAGRAM



Appendix B

Emissions Certification Report

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 Facility Name **National Security Agency**	**Do Not Write in This Space** Date Received Regional
Address **9800 Savage Road, Attention: ME6, Suite 6218**	Date Received State
City **Fort Meade** County **Anne Arundel** Zip Code **20755-6218**	AIRS Code
B. Briefly Describe the Major Function of the Faciilty	FINDS Code
Steam generation, emergency electric power generation and	SIC Code
declassification operations.	Facility Number:
	TEMPO ID:
C. SEASONAL PRODUCTION (%, if applicable) **Not Applicable**	Reviewed by:

Winter *(Dec-Feb)*	Spring *(Mar-May)*	Summer *(Jun-Aug)*	Fall *(Sept-Nov)*
_____	_____	_____	_____

Name Date

D. Explain any increases or decrease in emissions from the previous calendar year for each registration at this faciltiy.

Most changes are the result of new permitted sources and/or closed sources.

E. CONTROL DEVICE INFORMATION (for NOx and VOC sources only)

Control Device	Capture Efficiency	Removal Efficiency
Selective Catalytic Reduction units	**100%**	**90% - 95%**
Plating shop fume scrubbers	**100%**	**95%**

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 **172** pages (including attachments), and certify that the information is correct to the best of my knowledge.

Randy Westfall	**Chief, Installations & Logistics**	
Name (Print/Type)	Title	Date
		(301)-688-2970
Signature		Telephone

1/9/08

FORM 2:

CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: **2022**

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Oxides of Nitrogen (NOx)**

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)						TOSD	Operating Schedule			Emissions Method
				Tons/yr	Lbs/day	Hrs/dy	Start	End	Dys/wk	Wk/yr	Days/yr	Lbs/dy	Hrs/dy	Start	End	
9900 Boiler #1	1-03-006-03	Natural	S	0.03	1.17		variable	variable				1.06		variable	variable	C3
5-0644		Gas	F			24.0			7	52	365		24.0			
9900 Boiler #2	1-03-006-03	Natural	S	0.00	23.22		variable	variable				21.88		variable	variable	C3
5-0645		Gas	F			24.0			7	52	365		24.0			
9807 Boiler #1	1-03-006-02	Natural	S	1.88	20.51		variable	variable				30.21		variable	variable	C1
5-0502		Gas	F			24.0			7	26	183		24.0			
9807 Boiler #1	1-03-005-02	No. 2	S	0.02	15.79		variable	variable				0.00		variable	variable	C1
5-0502		Fuel Oil	F			24.0			7	0	2		0.0			
9807 Boiler #2	1-03-006-02	Natural	S	0.46	10.48		variable	variable				6.21		variable	variable	C1
5-0503		Gas	F			24.0			7	13	88		24.0			
9807 Boiler #2	1-03-005-02	No. 2	S	0.02	16.44		variable	variable				0.00		variable	variable	C1
5-0503		Fuel Oil	F			24.0			7	0	2		0.0			
9807 Boiler #3	1-03-006-02	Natural	S	3.43	49.70		variable	variable				44.12		variable	variable	C1
5-0504		Gas	F			24.0			7	20	138		24.0			
9807 Boiler #3	1-03-005-02	No. 2	S	0.02	19.79		variable	variable				0.00		variable	variable	C1
5-0504		Fuel Oil	F			24.0			7	0	2		0.0			
9807 Boiler #4	1-03-006-02	Natural	S	5.97	58.44		variable	variable				133.18		variable	variable	C1
5-0505		Gas	F			24.0			7	29	204		24.0			
9807 Boiler #4	1-03-005-02	No. 2	S	0.00	4.15		variable	variable				7.70		variable	variable	C1
5-0505		Fuel Oil	F			24.0			7	0	2		24.0			
Total				continued	continued							continued				

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 judgement

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: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Oxides of Nitrogen (NOx)**

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)						TOSD	Operating Schedule			Emissions Method
				Tons/yr	Lbs/day	Hrs/dy	Start	End	Dys/wk	Wk/yr	Days/yr	Lbs/dy	Hrs/dy	Start	End	
9960 Boiler #1	1-03-006-03	Natural	S	0.04	0.55		variable	variable				0.01		variable	variable	C3
5-0891		Gas	F			24.0			7	23	160		24.0			
9960 Boiler #2	1-03-006-03	Natural	S	0.04	0.51		variable	variable				0.01		variable	variable	C3
5-0900		Gas	F			24.0			7	23	159		24.0			
9960 Boiler #3	1-03-006-03	Natural	S	0.03	0.43		variable	variable				0.01		variable	variable	C3
5-0892		Gas	F			24.0			7	23	160		24.0			
9960 Boiler #4	1-03-006-03	Natural	S	0.05	0.57		variable	variable				0.01		variable	variable	C1
5-0900		Gas	F			24.0			7	23	160		24.0			
9817 Boiler	1-03-006-02	Natural	S	0.00	0.01		variable	variable				0.01		variable	variable	C3
5-0674		Gas	F			21.3			7	7	50		20.5			
9816 South Gen Plant	2-01-001-02	Diesel	S	0.67	405.60		variable	variable				387.60		variable	variable	C1
9-1035			F			36.0			1	3	3		36.0			
9950 North Gen Plant	2-01-001-02	Diesel	S	0.65	338.61		variable	variable				284.40		variable	variable	C1
9-1055			F			39.6			1	4	4		54.0			
9816B Engine #1	2-01-001-02	Diesel	S	0.08	80.72		variable	variable				82.69		variable	variable	C1
9-0818			F			2.0			1	2	2		2.1			
9816B Engine #2	2-01-001-02	Diesel	S	0.08	80.72		variable	variable				82.69		variable	variable	C1
9-0819			F			2.0			1	2	2		2.1			
Total				continued	continued							continued				

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 judgement

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: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Oxides of Nitrogen (NOx)**

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)						TOSD	Operating Schedule			Emissions Method
				Tons/yr	Lbs/day	Hrs/dy	Start	End	Dys/wk	Wk/yr	Days/yr	Lbs/dy	Hrs/dy	Start	End	
9816B Engine #3	2-01-001-02	Diesel	S	0.08	80.72		variable	variable				82.69		variable	variable	C1
9-0820			F			2.0			1	2	2		2.1			
9816B Engine #4	2-01-001-02	Diesel	S	0.08	80.72		variable	variable				82.69		variable	variable	C1
9-0821			F			2.0			1	2	2		2.1			
9816B Engine #5	2-01-001-02	Diesel	S	0.10	102.37		variable	variable				126.00		variable	variable	C1
9-0822			F			2.6			1	2	2		3.2			
9816B Engine #6	2-01-001-02	Diesel	S	0.04	78.75		variable	variable				0.00		variable	variable	C1
9-0823			F			2.0			0	1	1		0.0			
VCP Engine #1	2-01-001-02	Diesel	S	0.03	5.68		variable	variable				3.84		variable	variable	C3
9-0967			F			1.6			1	9	9		1.0			
Cooper Engine	2-01-001-02	Diesel	S	0.13	25.19		variable	variable				25.25		variable	variable	C3
9-0804			F			2.4			1	10	10		2.4			
9800C Engine	2-01-001-02	Diesel	S	0.21	52.91		variable	variable				42.83		variable	variable	C3
9-1090			F			1.2			1	3	3		1.2			
9960 Engine	2-01-001-02	Diesel	S	0.06	14.64		variable	variable				6.63		variable	variable	C3
9-0806			F			1.3			1	8	8		0.6			
9703 Engine	2-01-001-02	Diesel	S	0.55	84.14		variable	variable				16.59		variable	variable	C3
9-0807			F			5.7			1	13	13		1.1			
Total				continued	continued							continued				

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 judgement

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: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Oxides of Nitrogen (NOx)**

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)						TOSD	Operating Schedule			Emissions Method
				Tons/yr	Lbs/day	Hrs/dy	Start	End	Dys/wk	Wk/yr	Days/yr	Lbs/dy	Hrs/dy	Start	End	
9700 Engine	2-01-001-02	Diesel	S	0.27	53.31		variable	variable				38.23		variable	variable	C3
9-0442			F			3.0			1	10	10		2.2			
9840 Engine	2-01-001-02	Diesel	S	0.10	22.42		variable	variable				20.82		variable	variable	C1
9-0918			F			1.8			1	9	9		1.8			
9000 Gen Yard	2-01-001-02	Diesel	S	1.84	960.10		variable	variable				464.64		variable	variable	C1
9-1091			F			21.8			1	11	11		16.9			
9000 L/S Engine	2-01-001-02	Diesel	S	0.03	7.50		variable	variable				11.43		variable	variable	C1
9-1092			F			3.1			1	7	7		4.7			
9220-Boilers	1-03-006-03	Natural	S	0.10	0.14		variable	variable				0.09		variable	variable	C3
5-0809		Gas	F			24.0			7	209	1460		24.0			
9230-Boilers	1-03-006-03	Natural	S	0.19	0.27		variable	variable				0.20		variable	variable	C3
5-0810		Gas	F			24.0			7	209	1460		24.0			
9259-Boilers	1-03-006-03	Natural	S	0.02	0.06		variable	variable				0.02		variable	variable	C3
5-0811		Gas	F			24.0			7	104	730		24.0			
9225-Boilers	1-03-006-03	Natural	S	0.10	0.18		variable	variable				0.11		variable	variable	C3
5-0823		Gas	F			24.0			7	156	1095		24.0			
9250-Boilers	1-03-006-03	Natural	S	0.00	0.00		variable	variable						variable	variable	C3
5-0842		Gas	F			24.0			7	209	1460	0.11	24.0			
9700 Boiler	1-03-006-03	Natural	S	0.01	3.40		variable	variable						variable	variable	C3
5-0890		Gas	F			24.0			7	1	9	5.75	24.0			
Total				continued	continued							continued				

S-Stack Emissions F-Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

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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
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FORM 2:

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EMISSIONS CERTIFICATION REPORT

Calendar Year: **2022**

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Oxides of Nitrogen (NOx)**

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)						TOSD	Operating Schedule			Emissions Method
				Tons/yr	Lbs/day	Hrs/dy	Start	End	Dys/wk	Wk/yr	Days/yr	Lbs/dy	Hrs/dy	Start	End	
9230 L/S Engine	2-01-001-02	Diesel	S	0.12	41.01		variable	variable						variable	variable	C1
9-1117			F			4.5			1	2	12	50.39	2.0			
9225 L/S Engine	2-01-001-02	Diesel	S	0.09	24.68		variable	variable						variable	variable	C1
9-1137			F			4.1			1	1	7	37.47	2.0			
9210 L/S Engine	2-01-001-02	Diesel	S	0.03	8.57		variable	variable						variable	variable	C1
9-1146			F			1.2			1	1	7	8.34	2.0			
9250 East Gen Plant	2-01-001-02	Diesel	S	0.52	271.61		variable	variable						variable	variable	C1
9-1155			F			13.9			1	2	2	464.64	15.2			
9250 East Gen Plant (2)	2-01-001-02	Diesel	S	1.64	852.55		variable	variable						variable	variable	C1
9-1116			F			31.5			1	1	1	464.64	8.5			
East Gen Plant (#15)	2-01-001-02	Diesel	S	0.01	7.77		variable	variable						variable	variable	C1
9-1136			F			3.2			1	0	2	14.31	2.0			
9250 L/S Engine	2-01-001-02	Diesel	S	0.01	4.19		variable	variable						variable	variable	C1
9-1156			F			1.7			1	0	3	0.00	2.0			
Total				19.82	3910.29							3049.50				

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 judgement

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: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Volatile Organic Compounds (VOC)**

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)						TOSD	Operating Schedule			Estimation Method
				Tons/yr	Lbs/day	Hrs/dy	Start	End	Dys/wk	Wk/yr	Days/yr	Lbs/dy	Hrs/dy	Start	End	
9900 Boiler #1	1-03-006-03	Natural	S	0.00	0.06		variable	variable				0.06		variable	variable	C3
5-0644		Gas	F			24.0			7	52	365		24.0			
9900 Boiler #2	1-03-006-03	Natural	S	0.00	1.28		variable	variable				1.20		variable	variable	C3
5-0645		Gas	F			24.0			7	52	365		24.0			
9807 Boiler #1	1-03-006-02	Natural	S	0.09	1.01		variable	variable				2.70		variable	variable	C1
5-0502		Gas	F			24.0			7	26	183		24.0			
9807 Boiler #1	1-03-005-02	No. 2	S	0.00	0.22		variable	variable				0.00		variable	variable	C1
5-0502		Fuel Oil	F			24.0			7	0	2		0.0			
9807 Boiler #2	1-03-006-02	Natural	S	0.02	0.39		variable	variable				0.55		variable	variable	C1
5-0503		Gas	F			24.0			7	13	88		24.0			
9807 Boiler #2	1-03-005-02	No. 2	S	0.00	0.23		variable	variable				0.00		variable	variable	C3
5-0503		Fuel Oil	F			24.0			7	0	2		0.0			
9807 Boiler #3	1-03-006-02	Natural	S	0.19	2.72		variable	variable				3.94		variable	variable	C1
5-0504		Gas	F			24.0			7	20	138		24.0			
9807 Boiler #3	1-03-005-02	No. 2	S	0.00	0.28		variable	variable				0.00		variable	variable	C1
5-0504		Fuel Oil	F			24.0			7	0	2		0.0			
9807 Boiler #4	1-03-006-02	Natural	S	0.44	4.32		variable	variable				11.89		variable	variable	C1
5-0505		Gas	F			24.0			7	29	204		24.0			
9807 Boiler #4	1-03-005-02	No. 2	S	0.00	0.23		variable	variable				0.45		variable	variable	C1
5-0505		Fuel Oil	F			24.0			7	0	2		24.0			
Total				continued	continued							continued				

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 judgement

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: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Volatile Organic Compounds (VOC)**

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)						TOSD	Operating Schedule			Estimation Method
				Tons/yr	Lbs/day	Hrs/dy	Start	End	Dys/wk	Wk/yr	Days/yr	Lbs/dy	Hrs/dy	Start	End	
9960 Boiler #1	1-03-006-03	Natural	S	0.01	0.09		variable	variable				0.00		variable	variable	C3
5-0891		Gas	F			24.0			7	23	160		24.0			
9960 Boiler #2	1-03-006-03	Natural	S	0.01	0.09		variable	variable				0.00		variable	variable	C3
5-0900		Gas	F			24.0			7	23	159		24.0			
9960 Boiler #3	1-03-006-03	Natural	S	0.01	0.07		variable	variable				0.00		variable	variable	C3
5-0892		Gas	F			24.0			7	23	160		24.0			
9960 Boiler #4	1-03-006-03	Natural	S	0.01	0.10		variable	variable				0.00		variable	variable	C3
5-0900		Gas	F			24.0			7	23	160		24.0			
9817 Boiler	1-03-006-02	Natural	S	0.00	0.00		variable	variable				0.00		variable	variable	C3
5-0674		Gas	F			21.3			7	7	50		20.5			
9816 South Gen Plant	2-01-001-02	Diesel	S	0.15	94.01		variable	variable				94.01		variable	variable	C1
9-1035			F			36.0			7	0	3		36.0			
9950 North Gen Plant	2-01-001-02	Diesel	S	0.09	44.89		variable	variable				44.89		variable	variable	C1
9-1055			F			39.6			1	4	4		54.0			
9960 Engine	2-01-001-02	Diesel	S	0.00	1.18		variable	variable				0.53		variable	variable	C3
9-0806			F			1.3			1	8	8		0.6			
9703 Engine	2-01-001-02	Diesel	S	0.02	2.37		variable	variable				0.47		variable	variable	C3
9-0807			F			5.7			1	13	13		1.1			
Total				continued	continued							continued				

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 judgement

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: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Volatile Organic Compounds (VOC)**

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)						TOSD	Operating Schedule			Estimation Method
				Tons/yr	Lbs/day	Hrs/dy	Start	End	Dys/wk	Wk/yr	Days/yr	Lbs/dy	Hrs/dy	Start	End	
9816B Engine #1	2-01-001-02	Diesel	S	0.00	1.79		variable	variable				1.84		variable	variable	C1
9-0818			F			2.0			1	0	2		2.1			
9816B Engine #2	2-01-001-02	Diesel	S	0.00	1.79		variable	variable				1.84		variable	variable	C1
9-0819			F			2.0			1	2	2		2.1			
9816B Engine #3	2-01-001-02	Diesel	S	0.00	1.79		variable	variable				1.84		variable	variable	C1
9-0820			F			2.0			1	2	2		2.1			
9816B Engine #4	2-01-001-02	Diesel	S	0.00	1.79		variable	variable				1.84		variable	variable	C1
9-0821			F			2.0			1	2	2		2.1			
9816B Engine #5	2-01-001-02	Diesel	S	0.00	2.27		variable	variable				2.80		variable	variable	C1
9-0822			F			2.6			1	2	2		3.2			
9816B Engine #6	2-01-001-02	Diesel	S	0.00	1.75		variable	variable				0.00		variable	variable	C1
9-0823			F			2.0			0	1	1		0.0			
9800C Engine	2-01-001-02	Diesel	S	0.02	3.97		variable	variable				3.21		variable	variable	C3
9-1090			F			1.2			1	3	3		2.0			
VCP Engine #1	2-01-001-02	Diesel	S	0.00	0.00		variable	variable				0.00		variable	variable	C3
9-0967			F			1.6			1	9	9		2.0			
Total				continued	continued							continued				

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 judgement

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: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Volatile Organic Compounds (VOC)**

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)						TOSD	Operating Schedule			Estimation Method
				Tons/yr	Lbs/day	Hrs/dy	Start	End	Dys/wk	Wk/yr	Days/yr	Lbs/dy	Hrs/dy	Start	End	
9000 Gen Yard	2-01-001-02	Diesel	S	1.02	531.89		variable	variable				182.10		variable	variable	C1
9-1091			F			21.8			1	11	11		16.9			
9000 L/S Engine	2-01-001-02	Diesel	S	0.00	7.50		variable	variable				0.85		variable	variable	C1
9-1092			F			3.1			1	7	7		2.0			
9700 Engine	2-01-001-02	Diesel	S	0.01	1.50		variable	variable				1.08		variable	variable	C3
9-0442			F			3.0			1	10	10		2.0			
9840 Engine	2-01-001-02	Diesel	S	0.01	2.35		variable	variable				2.18		variable	variable	C1
9-0918			F			1.8			1	9	9		2.0			
Cooper Engine	2-01-001-02	Diesel	S	0.00	0.71		variable	variable				0.71		variable	variable	C3
9-0804			F			2.4			1	10	10		2.0			
Cooper Spray Booth	4-02-016-99		S	0.00	0.00		variable	variable				0.00		variable	variable	C2
6-1095			F			0.0			0	0	0		0.0			
9700 Spray Booth	4-02-003-10		S	0.00	0.03		variable	variable				0.03		variable	variable	C2
6-0717			F			1.0			2	52	104		1.0			
9700 PWB Assembly	3-12-999-99		S	0.00	0.00		variable	variable				0.00		variable	variable	C2
6-0720			F	0.00	0.00	1.0			1	8	8		1.0			
9706 Paint Booth	4-02-025-01		S	0.02	0.56		variable	variable				0.56		variable	variable	C2
6-1114			F			4.0			2	40	80		4.0			
Total				continued	continued							continued				

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 judgement

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: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Volatile Organic Compounds (VOC)**

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)						TOSD	Operating Schedule			Estimation Method
				Tons/yr	Lbs/day	Hrs/dy	Start	End	Dys/wk	Wk/yr	Days/yr	Lbs/dy	Hrs/dy	Start	End	
9220-Boiler	1-03-006-03	Natural	S	0.01	0.02		variable	variable				0.01		variable	variable	C3
5-0809		Gas	F			24.0			7	209	1460		24.0			
9230-Boiler	1-03-006-03	Natural	S	0.02	0.03		variable	variable				0.02		variable	variable	C3
5-0810		Gas	F			24.0			7	209	1460		24.0			
9259-Boiler	1-03-006-03	Natural	S	0.00	0.01		variable	variable				0.00		variable	variable	C3
5-0811		Gas	F			24.0			7	104	730		24.0			
9225-Boiler	1-03-006-03	Natural	S	0.01	0.02		variable	variable				0.01		variable	variable	C3
5-0823		Gas	F			24.0			7	156	1095		24.0			
9250-Boilers	1-03-006-03	Natural	S	0.00	0.00		variable	variable				0.01		variable	variable	C3
5-0842		Gas	F			24.0			7	209	1460		24.0			
9700 Boiler	1-03-006-03	Natural	S	0.00	0.59		variable	variable				0.99		variable	variable	C3
5-0890		Gas	F			24.0			7	1	9		24.0			
9230 L/S Engine	2-01-001-02	Diesel	S	0.00	0.09		variable	variable				0.11		variable	variable	C1
9-1117			F			4.5			1	2	12		2.0			
9225 L/S Engine	2-01-001-02	Diesel	S	0.00	0.04		variable	variable				0.06		variable	variable	C1
9-1137			F			4.1			1	1	7		2.0			
9210 L/S Engine	2-01-001-02	Diesel	S	0.00	0.26		variable	variable				0.25		variable	variable	C1
9-1146			F			1.2			1	1	7		2.0			
Total				continued	continued							continued				

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 judgement

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: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Volatile Organic Compounds (VOC)**

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)						TOSD	Operating Schedule			Estimation Method
				Tons/yr	Lbs/day	Hrs/dy	Start	End	Dys/wk	Wk/yr	Days/yr	Lbs/dy	Hrs/dy	Start	End	
9250 East Gen Plant	2-01-001-02	Diesel	S	0.20	105.67		variable	variable						variable	variable	C1
9-1155			F			13.9			1	2	2	182.10	15.2			
9250 East Gen Plant (2)	2-01-001-02	Diesel	S	0.78	403.70		variable	variable						variable	variable	C1
9-1116			F			15.5			1	9	9	182.10	14.0			
East Gen Plant (#15)	2-01-001-02	Diesel	S	0.00	0.58		variable	variable						variable	variable	C1
9-1136			F			3.2			1	0	2	1.06	2.0			
9250 L/S Engine	2-01-001-02	Diesel	S	0.00	0.31		variable	variable						variable	variable	C1
9-1156			F			1.7			1	0	3	0.00	2.0			
9800 Cafeteria	3-02-910-01	Natural Gas	S	0.15	5.00		variable	variable						variable	variable	C3
8-0363			F			2.0			5	12	60	5.00	2.0			
			S													
			F													
			S													
			F													
			S													
			F													
			S													
			F													
			S													
			F													
Total				3.30	1229.54							733.31				

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 judgement

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: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Carbon Monoxide (CO)**

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)						TOSD	Operating Schedule			Estimation Method
				Tons/yr	Lbs/day	Hrs/dy	Start	End	Dys/wk	Wk/yr	Days/yr	Lbs/dy	Hrs/dy	Start	End	
9900 Boiler #1	1-03-006-03	Natural	S	0.02	0.98		variable	variable				N/A	N/A	variable	variable	C3
5-0644		Gas	F			24.0			7	52	365					
9900 Boiler #2	1-03-006-03	Natural	S	0.00	19.50		variable	variable				N/A	N/A	variable	variable	C3
5-0645		Gas	F			24.0			7	52	365					
9807 Boiler #1	1-03-006-02	Natural	S	0.04	0.48		variable	variable				N/A	N/A	variable	variable	C1
5-0502		Gas	F			24.0			7	26	183					
9807 Boiler #1	1-03-005-02	No. 2	S	0.00	0.44		variable	variable				N/A	N/A	variable	variable	C1
5-0502		Fuel Oil	F			24.0			7	0	2					
9807 Boiler #2	1-03-006-02	Natural	S	0.01	0.26		variable	variable				N/A	N/A	variable	variable	C1
5-0503		Gas	F			24.0			7	13	88					
9807 Boiler #2	1-03-005-02	No. 2	S	0.00	0.46		variable	variable				N/A	N/A	variable	variable	C1
5-0503		Fuel Oil	F			24.0			7	0	2					
9807 Boiler #3	1-03-006-02	Natural	S	0.08	1.12		variable	variable				N/A	N/A	variable	variable	C1
5-0504		Gas	F			24.0			7	20	138					
9807 Boiler #3	1-03-005-02	No. 2	S	0.00	0.56		variable	variable				N/A	N/A	variable	variable	C1
5-0504		Fuel Oil	F			24.0			7	0	2					
9807 Boiler #4	1-03-006-02	Natural	S	0.12	1.17		variable	variable				N/A	N/A	variable	variable	C1
5-0505		Gas	F			24.0			7	29	204					
9807 Boiler #4	1-03-005-02	No. 2	S	0.00	0.23		variable	variable				N/A	N/A	variable	variable	C1
5-0505		Fuel Oil	F			24.0			7	0	2					
Total				continued	continued							continued				

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 judgement

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: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Carbon Monoxide (CO)**

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)						TOSD	Operating Schedule			Estimation Method
				Tons/yr	Lbs/day	Hrs/dy	Start	End	Dys/wk	Wk/yr	Days/yr	Lbs/dy	Hrs/dy	Start	End	
9960 Boiler #1	1-03-006-03	Natural	S	0.11	1.43		variable	variable				N/A	N/A	variable	variable	C3
5-0891		Gas	F			24.0			7	23	160					
9960 Boiler #2	1-03-006-03	Natural	S	0.11	1.34		variable	variable				N/A	N/A	variable	variable	C3
5-0900		Gas	F			24.0			7	23	159					
9960 Boiler #3	1-03-006-03	Natural	S	0.09	1.12		variable	variable				N/A	N/A	variable	variable	C3
5-0892		Gas	F			24.0			7	23	160					
9960 Boiler #4	1-03-006-03	Natural	S	0.12	1.50		variable	variable				N/A	N/A	variable	variable	C3
5-0900		Gas	F			24.0			7	23	160					
9817 Boiler	1-03-006-02	Natural	S	0.00	0.03		variable	variable				N/A	N/A	variable	variable	C3
5-0674		Gas	F			21.3			7	7	50					
9816 South Gen Plant	2-01-001-02	Diesel	S	0.22	134.60		variable	variable				N/A	N/A	variable	variable	C3
9-1035			F			36.0			7	0	3					
9950 North Gen Plant	2-01-001-02	Diesel	S	0.23	133.40		variable	variable				N/A	N/A	variable	variable	C1
9-1055			F			39.6			1	4	4					
9840 Engine	2-01-001-02	Diesel	S	0.06	12.27		variable	variable				N/A	N/A	variable	variable	C1
9-0918			F			1.8			1	9	9					
Cooper Engine	2-01-001-02	Diesel	S	0.03	6.69		variable	variable				N/A	N/A	variable	variable	C3
9-0804			F			2.4			1	10	10					
Total				continued	continued							continued				

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 judgement

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: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Carbon Monoxide (CO)**

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)						TOSD	Operating Schedule			Estimation Method
				Tons/yr	Lbs/day	Hrs/dy	Start	End	Dys/wk	Wk/yr	Days/yr	Lbs/dy	Hrs/dy	Start	End	
9816B Engine #1	2-01-001-02	Diesel	S	0.00	4.10		variable	variable				N/A	N/A	variable	variable	C1
9-0818			F			2.0			1	2	2					
9816B Engine #2	2-01-001-02	Diesel	S	0.00	4.10		variable	variable				N/A	N/A	variable	variable	C1
9-0819			F			2.0			1	2	2					
9816B Engine #3	2-01-001-02	Diesel	S	0.00	4.10		variable	variable				N/A	N/A	variable	variable	C1
9-0820			F			2.0			1	2	2					
9816B Engine #4	2-01-001-02	Diesel	S	0.00	4.10		variable	variable				N/A	N/A	variable	variable	C1
9-0821			F			2.0			1	2	2					
9816B Engine #5	2-01-001-02	Diesel	S	0.01	5.20		variable	variable				N/A	N/A	variable	variable	C1
9-0822			F			2.6			1	2	2					
9816B Engine #6	2-01-001-02	Diesel	S	0.00	4.00		variable	variable				N/A	N/A	variable	variable	C1
9-0823			F			2.0			1	1	1					
9800C Engine	2-01-001-02	Diesel	S	0.13	32.47		variable	variable				N/A	N/A	variable	variable	C3
9-1090			F			1.2			1	3	3					
9960 Engine	2-01-001-02	Diesel	S	0.01	3.11		variable	variable				N/A	N/A	variable	variable	C3
9-0806			F			1.3			1	8	8					
9703 Engine	2-01-001-02	Diesel	S	0.15	22.35		variable	variable				N/A	N/A	variable	variable	C3
9-0807			F			5.7			1	13	13					
9700 Engine	2-01-001-02	Diesel	S	0.07	14.16		variable	variable				N/A	N/A	variable	variable	C3
9-0442			F			3.0			1	10	10					
9000 Gen Yard	2-01-001-02	Diesel	S	5.27	389.64		variable	variable				N/A	N/A	variable	variable	C1
9-1091			F			21.8			1	11	11					
9000 L/S Engine	2-01-001-02	Diesel	S	0.02	4.62		variable	variable				N/A	N/A	variable	variable	C1
9-1092			F			3.1			1	7	7					
Total				continued	continued							continued				

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 judgement

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: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Carbon Monoxide (CO)**

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)						TOSD	Operating Schedule			Estimation Method
				Tons/yr	Lbs/day	Hrs/dy	Start	End	Dys/wk	Wk/yr	Days/yr	Lbs/dy	Hrs/dy	Start	End	
9220-Boiler	1-03-006-03	Natural	S	0.17	0.24		variable	variable				N/A	N/A	variable	variable	C3
5-0809		Gas	F			24.0			7	209	1460					
9230-Boiler	1-03-006-03	Natural	S	0.33	0.45		variable	variable				N/A	N/A	variable	variable	C3
5-0810		Gas	F			24.0			7	209	1460					
9259-Boiler	1-03-006-03	Natural	S	0.04	0.10		variable	variable				N/A	N/A	variable	variable	C3
5-0811		Gas	F			24.0			7	104	730					
9225-Boiler	1-03-006-03	Natural	S	0.16	0.30		variable	variable				N/A	N/A	variable	variable	C3
5-0823		Gas	F			24.0			7	156	1095					
VCP Engine #1	2-01-001-02	Diesel	S	0.02	4.97		variable	variable				N/A	N/A	variable	variable	C3
9-0967			F			1.6			1	1	9					
9250-Boilers	1-03-006-03	Natural	S	0.00	0.00		variable	variable				N/A	N/A	variable	variable	C3
5-0842		Gas	F			24.0			7	209	1460					
9700 Boiler	1-03-006-03	Natural	S	0.04	8.94		variable	variable				N/A	N/A	variable	variable	C3
5-0890		Gas	F			24.0			7	1	9					
			S													
			F													
Total				continued	continued							continued				

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 judgement

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: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Carbon Monoxide (CO)**

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)						TOSD	Operating Schedule			Estimation Method
				Tons/yr	Lbs/day	Hrs/dy	Start	End	Dys/wk	Wk/yr	Days/yr	Lbs/dy	Hrs/dy	Start	End	
9230 L/S Engine	2-01-001-02	Diesel	S	0.01	3.03		variable	variable				N/A	N/A	variable	variable	C1
9-1117			F			4.5			1	2	12					
9225 L/S Engine	2-01-001-02	Diesel	S	0.02	6.60		variable	variable				N/A	N/A	variable	variable	C1
9-1137			F			4.1			1	1	7					
9210 L/S Engine	2-01-001-02	Diesel	S	0.00	0.70		variable	variable				N/A	N/A	variable	variable	C1
9-1146			F			1.2			1	1	7					
9250 East Gen Plant	2-01-001-02	Diesel	S	1.05	77.41		variable	variable				N/A	N/A	variable	variable	C1
9-1155			F			13.9			1	2	2					
9250 East Gen Plant (2)	2-01-001-02	Diesel	S	4.00	295.74		variable	variable				N/A	N/A	variable	variable	C1
9-1116			F			15.5			1	9	9					
East Gen Plant (#15)	2-01-001-02	Diesel	S	0.01	4.78		variable	variable				N/A	N/A	variable	variable	C1
9-1136			F			3.2			1	0	2					
9250 L/S Engine	2-01-001-02	Diesel	S	0.00	2.58		variable	variable				N/A	N/A	variable	variable	C1
9-1156			F			1.7			1	0	3					
			S				variable	variable				N/A	N/A	variable	variable	
			F													
			S				variable	variable				N/A	N/A	variable	variable	
			F													
			S				variable	variable				N/A	N/A	variable	variable	
			F													
Total				12.78	1215.38							N/A				

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
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C3-User calculated based on AP-42
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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

FORM 2:

CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: **2022**

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Oxides of Sulfur (SOx)**

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)						TOSD	Operating Schedule			Estimation Method
				Tons/yr	Lbs/day	Hrs/dy	Start	End	Dys/wk	Wk/yr	Days/yr	Lbs/dy	Hrs/dy	Start	End	
9900 Boiler #1	1-03-006-03	Natural	S	0.00	0.01		variable	variable				N/A	N/A	variable	variable	C3
5-0644		Gas	F			24.0			7	52	365					
9900 Boiler #2	1-03-006-03	Natural	S	0.00	0.14		variable	variable				N/A	N/A	variable	variable	C3
5-0645		Gas	F			24.0			7	52	365					
9807 Boiler #1	1-03-006-02	Natural	S	0.11	1.24		variable	variable				N/A	N/A	variable	variable	C1
5-0502		Gas	F			24.0			7	26	183					
9807 Boiler #1	1-03-005-02	No. 2	S	0.02	20.24		variable	variable				N/A	N/A	variable	variable	C1
5-0502		Fuel Oil	F			24.0			7	0	2					
9807 Boiler #2	1-03-006-02	Natural	S	0.04	0.82		variable	variable				N/A	N/A	variable	variable	C1
5-0503		Gas	F			24.0			7	13	88					
9807 Boiler #2	1-03-005-02	No. 2	S	0.02	21.07		variable	variable				N/A	N/A	variable	variable	C1
5-0503		Fuel Oil	F			24.0			7	0	2					
9807 Boiler #3	1-03-006-02	Natural	S	0.18	2.58		variable	variable				N/A	N/A	variable	variable	C1
5-0504		Gas	F			24.0			7	20	138					
9807 Boiler #3	1-03-005-02	No. 2	S	0.03	25.36		variable	variable				N/A	N/A	variable	variable	C1
5-0504		Fuel Oil	F			24.0			7	0	2					
9807 Boiler #4	1-03-006-02	Natural	S	0.14	1.35		variable	variable				N/A	N/A	variable	variable	C1
5-0505		Gas	F			24.0			7	29	204					
9807 Boiler #4	1-03-005-02	No. 2	S	0.01	9.33		variable	variable				N/A	N/A	variable	variable	C1
5-0505		Fuel Oil	F			24.0			7	0	2					
Total				continued	continued							continued				

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

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C8-Computer calculated based on standard

FORM 2:

CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: **2022**

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Oxides of Sulfur (SOx)**

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)						TOSD	Operating Schedule			Estimation Method
				Tons/yr	Lbs/day	Hrs/dy	Start	End	Dys/wk	Wk/yr	Days/yr	Lbs/dy	Hrs/dy	Start	End	
9960 Boiler #1	1-03-006-03	Natural	S	0.00	0.01		variable	variable				N/A	N/A	variable	variable	C3
5-0891		Gas	F			24.0			7	23	160					
9960 Boiler #2	1-03-006-03	Natural	S	0.00	0.01		variable	variable				N/A	N/A	variable	variable	C3
5-0900		Gas	F			24.0			7	23	159					
9960 Boiler #3	1-03-006-03	Natural	S	0.00	0.01		variable	variable				N/A	N/A	variable	variable	C3
5-0892		Gas	F			24.0			7	23	160					
9960 Boiler #4	1-03-006-03	Natural	S	0.00	0.01		variable	variable				N/A	N/A	variable	variable	C3
5-0900		Gas	F			24.0			7	23	160					
9817 Boiler	1-03-006-02	Natural	S	0.00	0.00		variable	variable				N/A	N/A	variable	variable	C3
5-0674		Gas	F			21.3			7	7	50					
Cooper Engine	2-01-001-02	Diesel	S	0.00	0.40		variable	variable				N/A	N/A	variable	variable	C3
9-0804			F			2.4			1	10	10					
9700 Engine	2-01-001-02	Diesel	S	0.00	0.84		variable	variable				N/A	N/A	variable	variable	C3
9-0442			F			3.0			1	10	10					
9960 Engine	2-01-001-02	Diesel	S	0.00	0.17		variable	variable				N/A	N/A	variable	variable	C3
9-0806			F			1.3			1	8	8					
9703 Engine	2-01-001-02	Diesel	S	0.01	1.33		variable	variable				N/A	N/A	variable	variable	C3
9-0807			F			5.7			1	13	13					
Total				continued	continued							continued				

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
A5-Freezing Out Technique
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

FORM 2:

CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT

Calendar Year: **2022**

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Oxides of Sulfur (SOx)**

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)						TOSD	Operating Schedule			Estimation Method
				Tons/yr	Lbs/day	Hrs/dy	Start	End	Dys/wk	Wk/yr	Days/yr	Lbs/dy	Hrs/dy	Start	End	
9816B Engine #1	2-01-001-02	Diesel	S	0.00	1.41		variable	variable				N/A	N/A	variable	variable	C1
9-0818			F			2.0			1	2	2					
9816B Engine #2	2-01-001-02	Diesel	S	0.00	1.41		variable	variable				N/A	N/A	variable	variable	C1
9-0819			F			2.0			1	2	2					
9816B Engine #3	2-01-001-02	Diesel	S	0.00	1.41		variable	variable				N/A	N/A	variable	variable	C1
9-0820			F			2.0			1	2	2					
9816B Engine #4	2-01-001-02	Diesel	S	0.00	1.41		variable	variable				N/A	N/A	variable	variable	C1
9-0821			F			2.0			1	2	2					
9816B Engine #5	2-01-001-02	Diesel	S	0.00	1.79		variable	variable				N/A	N/A	variable	variable	C1
9-0822			F			2.6			1	2	2					
9816B Engine #6	2-01-001-02	Diesel	S	0.00	1.37		variable	variable				N/A	N/A	variable	variable	C1
9-0823			F			2.0			0	1	1					
9220-Boiler	1-03-006-03	Natural	S	0.00	0.00		variable	variable				N/A	N/A	variable	variable	C3
5-0809		Gas	F			24.0			7	209	1460					
9230-Boiler	1-03-006-03	Natural	S	0.00	0.00		variable	variable				N/A	N/A	variable	variable	C3
5-0810		Gas	F			24.0			7	209	1460					
9259-Boiler	1-03-006-03	Natural	S	0.00	0.00		variable	variable				N/A	N/A	variable	variable	C3
5-0811		Gas	F			24.0			7	104	730					
9225-Boiler	1-03-006-03	Natural	S	0.00	0.00		variable	variable				N/A	N/A	variable	variable	C3
5-0823		Gas	F			24.0			7	156	1095					
Total				continued	continued							continued				

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 judgement

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: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Oxides of Sulfur (SOx)**

Equipment Description/ Registration No.	SCC Number	Fuel		Actual Emissions		Operating Schedule (Actual)						TOSD	Operating Schedule			Estimation Method
				Tons/yr	Lbs/day	Hrs/dy	Start	End	Dys/wk	Wk/yr	Days/yr	Lbs/dy	Hrs/dy	Start	End	
9250-Boilers	1-03-006-03	Natural	S	0.00	0.00		variable	variable				N/A	N/A	variable	variable	C3
5-0842		Gas	F			24.0			7	209	1460					
9700 Boiler	1-03-006-03	Natural	S	0.00	0.06		variable	variable				N/A	N/A	variable	variable	C3
5-0890		Gas	F			24.0			7	1	9					
Total				0.57	93.76							N/A				

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 judgement

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 3: PM

EMISSIONS CERTIFICATION REPORT
Particulate Matter

Calendar Year: **2022**

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Particulate Matter**

Equipment Description/ Registration No.	SCC Number	Fuel		PM - Filterable (Filterable PM greater than 10 micron)		PM 10 - Filterable (Filterable PM between 10 and 2.5 micron)		PM 2.5 - Filterable (Filterable PM 2.5 micron or less)		PM Condensable		Operation	Estimation
				Tons/yr	Lbs/day	Tons/yr	Lbs/day	Tons/yr	Lbs/day	Tons/yr	Lbs/day	Days/yr	Method
9900 Boiler #1	1-03-006-03	Natural	S	-	-	0.00	0.02	-	-	0.00	0.07		C3
5-0644		Gas	F									365	
9900 Boiler #2	1-03-006-03	Natural	S	-	-	0.00	0.44	-	-	0.00	1.32		C3
5-0645		Gas	F									365	
9807 Boiler #1	1-03-006-02	Natural	S	0.09	0.96	-	-	-	-	-	-		C1
5-0502		Gas	F									183	
9807 Boiler #1	1-03-005-02	No. 2	S	0.00	1.56	-	-	-	-	-	-		C1
5-0502		Fuel Oil	F									2	
9807 Boiler #2	1-03-006-02	Natural	S	0.02	0.96	-	-	-	-	-	-		C1
5-0503		Gas	F									88	
9807 Boiler #2	1-03-005-02	No. 2	S	0.00	1.62	-	-	-	-	-	-		C1
5-0503		Fuel Oil	F									2	
9807 Boiler #3	1-03-006-02	Natural	S	0.15	2.25	-	-	-	-	-	-		C1
5-0504		Gas	F									138	
9807 Boiler #3	1-03-005-02	No. 2	S	0.00	1.95	-	-	-	-	-	-		C1
5-0504		Fuel Oil	F									2	
9807 Boiler #4	1-03-006-02	Natural	S	0.24	2.33	-	-	-	-	-	-		C1
5-0505		Gas	F									204	
9807 Boiler #4	1-03-005-02	No. 2	S	0.00	0.48	-	-	-	-	-	-		C1
5-0505		Fuel Oil	F									2	
Total				continued	continued	continued	continued	continued	continued	continued	continued		

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 judgement

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

2/19/08

FORM 3: PM

EMISSIONS CERTIFICATION REPORT
Particulate Matter

Calendar Year: **2022**

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Particulate Matter**

Equipment Description/ Registration No.	SCC Number	Fuel		PM - Filterable (Filterable PM greater than 10 micron)		PM 10 - Filterable (Filterable PM between 10 and 2.5 micron)		PM 2.5 - Filterable (Filterable PM 2.5 micron or less)		PM Condensable		Operation	Estimation
				Tons/yr	Lbs/day	Tons/yr	Lbs/day	Tons/yr	Lbs/day	Tons/yr	Lbs/day	Days/yr	Method
9960 Boiler #1	1-03-006-03	Natural	S	-	-	0.00	0.03	-	-	0.01	0.10		C3
5-0891		Gas	F									160	
9960 Boiler #2	1-03-006-03	Natural	S	-	-	0.00	0.03	-	-	0.01	0.09		C3
5-0900		Gas	F									159	
9960 Boiler #3	1-03-006-03	Natural	S	-	-	0.00	0.03	-	-	0.01	0.08		C3
5-0892		Gas	F									160	
9960 Boiler #4	1-03-006-03	Natural	S	-	-	0.00	0.03	-	-	0.01	0.10		C3
5-0900		Gas	F									160	
9817 Boiler	1-03-006-02	Natural	S	-	-	0.00	0.00	-	-	0.00	0.00		C3
5-0674		Gas	F									50	
9816 South Gen Plant	2-01-001-02	Diesel	S	0.08	51.28	-	-	-	-	-	-		C2
9-1035			F									3	
9950 North Gen Plant	2-01-001-02	Diesel	S	0.03	50.82	-	-	-	-	-	-		C2
9-1055			F									4	
9960 Engine	2-01-001-02	Diesel	S	0.00	0.04	0.00	0.01	0.00	0.16	0.00	0.03		C3
9-0806			F									8	
9703 Engine	2-01-001-02	Diesel	S	0.00	0.33	0.00	0.04	0.01	1.26	0.00	0.20		C3
9-0807			F									13	
Total				continued	continued	continued	continued	continued	continued	continued	continued		

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 judgement

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 3: PM

EMISSIONS CERTIFICATION REPORT
Particulate Matter

Calendar Year: **2022**

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Particulate Matter**

Equipment Description/ Registration No.	SCC Number	Fuel		PM - Filterable (Filterable PM greater than 10 micron)		PM 10 - Filterable (Filterable PM between 10 and 2.5 micron)		PM 2.5 - Filterable (Filterable PM 2.5 micron or less)		PM Condensable		Operation	Estimation
				Tons/yr	Lbs/day	Tons/yr	Lbs/day	Tons/yr	Lbs/day	Tons/yr	Lbs/day	Days/yr	Method
9816B Engine #1	2-01-001-02	Diesel	S	0.00	0.51	-	-	-	-	-	-		C1
9-0818			F									2	
9816B Engine #2	2-01-001-02	Diesel	S	0.00	0.51	-	-	-	-	-	-		C1
9-0819			F									2	
9816B Engine #3	2-01-001-02	Diesel	S	0.00	0.51	-	-	-	-	-	-		C1
9-0820			F									2	
9816B Engine #4	2-01-001-02	Diesel	S	0.00	0.51	-	-	-	-	-	-		C1
9-0821			F									2	
9816B Engine #5	2-01-001-02	Diesel	S	0.00	0.65	-	-	-	-	-	-		C1
9-0822			F									2	
9816B Engine #6	2-01-001-02	Diesel	S	0.00	0.50	-	-	-	-	-	-		C1
9-0823			F									1	
9800C Engine	2-01-001-02	Diesel	S	0.02	5.07	-	-	-	-	-	-		C3
9-1090			F									3	
9700 Engine	2-01-001-02	Diesel	S	0.00	0.21	0.00	0.03	0.00	0.80	0.00	0.13		C3
9-0442			F									10	
9840 Engine	2-01-001-02	Diesel	S	0.00	0.71	-	-	-	-	-	-		C3
9-0918			F									9	
Total				continued	continued	continued	continued	continued	continued	continued	continued		

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 judgement

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

2/19/08

FORM 3: PM

EMISSIONS CERTIFICATION REPORT
Particulate Matter

Calendar Year: **2022**

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Particulate Matter**

Equipment Description/ Registration No.	SCC Number	Fuel		PM - Filterable (Filterable PM greater than 10 micron)		PM 10 - Filterable (Filterable PM between 10 and 2.5 micron)		PM 2.5 - Filterable (Filterable PM 2.5 micron or less)		PM Condensable		Operation	Estimation
				Tons/yr	Lbs/day	Tons/yr	Lbs/day	Tons/yr	Lbs/day	Tons/yr	Lbs/day	Days/yr	Method
9000 Gen Yard	2-01-001-02	Diesel	S	-	-	0.36	148.43	-	-	-	-		C1
9-1091			F									11	
9000 L/S Engine	2-01-001-02	Diesel	S	-	-	0.00	0.28	-	-	-	-		C1
9-1092			F									7	
Cooper Engine	2-01-001-02	Diesel	S	0.00	0.10	0.00	0.01	0.00	0.38	0.00	0.06		C3
9-0804			F									10	
VCP Engine #1	2-01-001-02	Diesel	S	0.00	0.28	-	-	-	-	-	-		C1
9-0967			F									9	
9814A Baghouse #1	3-12-999-99		S	0.33	2.67	-	-	-	-	-	-		C1
9-0449			F									251	
9814A Baghouse #2	3-12-999-99		S	0.43	3.43	-	-	-	-	-	-		C1
9-0450			F									251	
9220-Boiler	1-03-006-03	Natural Gas	S	-	-	0.00	0.01	-	-	0.01	0.02		C3
5-0809			F									1460	
9230-Boiler	1-03-006-03	Natural Gas	S	-	-	0.01	0.01	-	-	0.02	0.03		C3
5-0810			F									1460	
9259-Boiler	1-03-006-03	Natural Gas	S	-	-	0.00	0.00	-	-	0.00	0.01		C3
5-0811			F									730	
9225-Boiler	1-03-006-03	Natural Gas	S	-	-	0.00	0.01	-	-	0.01	0.02		C3
5-0823			F									1095	
Total				continued	continued	continued	continued	continued	continued	continued	continued		

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 judgement

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

2/19/08

FORM 3: PM

EMISSIONS CERTIFICATION REPORT
Particulate Matter

Calendar Year: **2022**

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Particulate Matter**

Equipment Description/ Registration No.	SCC Number	Fuel		PM - Filterable (Filterable PM greater than 10 micron)		PM 10 - Filterable (Filterable PM between 10 and 2.5 micron)		PM 2.5 - Filterable (Filterable PM 2.5 micron or less)		PM Condensable		Operation	Estimation
				Tons/yr	Lbs/day	Tons/yr	Lbs/day	Tons/yr	Lbs/day	Tons/yr	Lbs/day	Days/yr	Method
9250-Boilers	1-03-006-03	Natural	S	-	-	0.00	0.00	-	-	0.00	0.00	1460	C3
5-0842		Gas	F										
9700 Boiler	1-03-006-03	Natural	S	-	-	0.00	0.20	-	-	0.00	0.61		C3
5-0890		Gas	F									9	
9230 L/S Engine	2-01-001-02	Diesel	S	0.00	0.18	-	-	-	-	-	-		C1
9-1117			F									12	
9225 L/S Engine	2-01-001-02	Diesel	S	0.00	0.29	-	-	-	-	-	-		C1
9-1137			F									7	
9210 L/S Engine	2-01-001-02	Diesel	S	0.00	0.27	-	-	-	-	-	-		C1
9-1146			F									7	
9250 East Gen Plant	2-01-001-02	Diesel	S	0.07	29.49	-	-	-	-	-	-		C1
9-1155			F									2	
9250 East Gen Plant (2)	2-01-001-02	Diesel	S	0.27	112.66	-	-	-	-	-	-		C1
9-1116			F									9	
East Gen Plant (#15)	2-01-001-02	Diesel	S	0.00	0.29								C1
9-1136			F									2	
9250 L/S Engine	2-01-001-02	Diesel	S	0.00	0.16								C1
9-1156			F									3	
9800 Cafeteria	3-02-910-01	Natural	S	-	-	0.15	5.00	-	-	-	-		C3
8-0363		Gas	F									60	
Total				1.77	273.56	0.53	154.62	0.01	2.59	0.08	2.85		

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 judgement

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

2/19/08

FORM 4:

TOXIC AIR POLLUTANTS

Calendar Year: **2022**

EMISSIONS CERTIFICATION REPORT

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Cadmium & compounds *

Equipment Description/ Registration Number[1]	Actual Emissions			Control Device**	% Efficiency
	Tons/yr	Lbs/day	Lbs/hr		
9960 Boiler #1 5-0891	0.0000	0.0000	0.0000		
9807 Boiler #1 5-0502	0.0000	0.0004	0.0003		
9807 Boiler #2 5-0503	0.0000	0.0003	0.0003		
9807 Boiler #3 5-0504	0.0000	0.0007	0.0003		
9807 Boiler #4 5-0505	0.0001	0.0006	0.0003		
9960 Boiler #2 5-0900	0.0000	0.0000	0.0000		
9900 Boiler #1 5-0644	0.0000	0.0000	0.0000		
9900 Boiler #2 5-0645	0.0000	0.0003	0.0000		
9220-Boiler 5-0809	0.0000	0.0000	0.0000		
9230-Boiler 5-0810	0.0000	0.0000	0.0000		
9259-Boiler 5-0811	0.0000	0.0000	0.0000		
TOTALS	continued	continued	continued		

* Please attach all calculations.

* See Attachment 1 for the minimum reporting values.

**Control Device
S = Scrubber
B = Baghouse
ESP = Electrostatic Precipitatior
A = Afterburner
C = Condenser
AD = Adsorbtion
O = Other

[1]Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

FORM 4:

TOXIC AIR POLLUTANTS

Calendar Year: **2022**

EMISSIONS CERTIFICATION REPORT

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Cadmium & compounds *

Equipment Description/ Registration Number[1]	Actual Emissions			Control Device**	% Efficiency
	Tons/yr	Lbs/day	Lbs/hr		
9250-Boilers 5-0842	0.0000	0.0000	0.0000		
9700 Boiler 5-0890	0.0000	0.0001	0.0000		
9817 Boiler 5-0674	0.0000	0.0000	0.0000		
9960 Boiler #3 5-0892	0.0000	0.0000	0.0000		
9960 Boiler #4 5-0900	0.0000	0.0000	0.0000		
TOTALS	0.0001	0.0024	0.0011		

* Please attach all calculations.

* See Attachment 1 for the minimum reporting values.

**Control Device
S = Scrubber
B = Baghouse
ESP = Electrostatic Precipitatior
A = Afterburner
C = Condenser
AD = Adsorbtion
O = Other

[1]Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

FORM 4:

TOXIC AIR POLLUTANTS

Calendar Year: **2022**

EMISSIONS CERTIFICATION REPORT

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Formaldehyde *

Equipment Description/ Registration Number[1]	Actual Emissions			Control Device**	% Efficiency
	Tons/yr	Lbs/day	Lbs/hr		
9807 Boiler #1 5-0502	0.00	0.029	0.025		
9807 Boiler #2 5-0503	0.00	0.024	0.025		
9807 Boiler #3 5-0504	0.00	0.051	0.026		
9807 Boiler #4 5-0505	0.00	0.046	0.026		
9900 Boiler #1 5-0644	0.00	0.001	0.000		
9900 Boiler #2 5-0645	0.00	0.017	0.001		
9817 Boiler 5-0674	0.00	0.000	0.000		
9800C Engine 9-1090	0.00	0.01	0.01		
SPL Engine 9-0442	0.00	0.012	0.004		
Cooper Ave Engine 9-0804	0.00	0.006	0.002		
9960 Engine 9-0806	0.00	0.003	0.002		
TOTALS	continued	continued	continued		

* Please attach all calculations.

* See Attachment 1 for the minimum reporting values.

**Control Device
S = Scrubber
B = Baghouse
ESP = Electrostatic Precipitatior
A = Afterburner
C = Condenser
AD = Adsorbtion
O = Other

[1]Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

FORM 4:

TOXIC AIR POLLUTANTS

Calendar Year: **2022**

EMISSIONS CERTIFICATION REPORT

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Formaldehyde *

Equipment Description/ Registration Number[1]	Actual Emissions			Control Device**	% Efficiency
	Tons/yr	Lbs/day	Lbs/hr		
9840 Engine 9-0918	0.00	0.006	0.004		
9225 L/S Engine 9-1337	0.00	0.007	0.002		
VCC Engine 9-0967	0.00	0.003	0.002		
9230 L/S Engine 9-1117	0.00	0.01	0.00		
9816B Engine #1 9-0818	0.00	0.017	0.009		
9816B Engine #2 9-0819	0.00	0.017	0.009		
9816B Engine #3 9-0820	0.00	0.017	0.009		
9816B Engine #4 9-0821	0.00	0.017	0.009		
9816B Engine #5 9-0822	0.00	0.022	0.009		
9816B Engine #6 9-0823	0.00	0.017	0.009		
9703 Engine 9-0807	0.00	0.011	0.002		
TOTALS	continued	continued	continued		

* Please attach all calculations.

* See Attachment 1 for the minimum reporting values.

**Control Device
S = Scrubber
B = Baghouse
ESP = Electrostatic Precipitatior
A = Afterburner
C = Condenser
AD = Adsorbtion
O = Other

[1]Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

FORM 4:

TOXIC AIR POLLUTANTS

Calendar Year: **2022**

EMISSIONS CERTIFICATION REPORT

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Formaldehyde *

Equipment Description/ Registration Number[1]	Actual Emissions			Control Device**	% Efficiency
	Tons/yr	Lbs/day	Lbs/hr		
9816 South Gen Plant 9-1035	0.01	4.783	0.199		
9950 North Gen Plant 9-1055	0.01	6.320	0.263		
9210 L/S Engine 9-1146	0.00	0.00	0.00		
9000 Gen Yard 9-1091	0.01	2.03	0.08		
9000 L/S Engine 9-1092	0.00	0.01	0.00		
9250 East Gen Plant 9-1155	0.00	2.03	0.08		
9250 East Gen Plant (2) 9-1116	0.01	2.03	0.08		
East Gen Plant (#15) 9-1136	0.00	0.01	0.00		
9250 L/S Engine 9-1156	0.00	0.00	0.00		
9960 Boiler #1 5-0891	0.00	0.00	0.00		
9960 Boiler #2 5-0900	0.00	0.00	0.00		
TOTALS	continued	continued	continued		

* Please attach all calculations.

* See Attachment 1 for the minimum reporting values.

**Control Device
S = Scrubber
B = Baghouse
ESP = Electrostatic Precipitatior
A = Afterburner
C = Condenser
AD = Adsorbtion
O = Other

[1]Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

FORM 4:

TOXIC AIR POLLUTANTS

Calendar Year: **2022**

EMISSIONS CERTIFICATION REPORT

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Formaldehyde *

Equipment Description/ Registration Number[1]	Actual Emissions			Control Device**	% Efficiency
	Tons/yr	Lbs/day	Lbs/hr		
9220-Boiler 5-0809	0.00	0.00	0.00		
9230-Boiler 5-0810	0.00	0.00	0.00		
9259-Boiler 5-0811	0.00	0.00	0.00		
9250-Boilers 5-0842	0.00	0.00	0.00		
9700 Boiler 5-0890	0.00	0.01	0.00		
9960 Boiler #3 5-0892	0.00	0.00	0.00		
9960 Boiler #4 5-0900	0.00	0.00	0.00		
TOTALS	0.05	17.58	0.91		

* Please attach all calculations.

* See Attachment 1 for the minimum reporting values.

**Control Device
S = Scrubber
B = Baghouse
ESP = Electrostatic Precipitatior
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

TOXIC AIR POLLUTANTS

MDE's Plant Level Thresholds

	MDE Threshold		Site Specific	
HAP	Lbs/hour	Tons/year	Actual tpy	Report?
1,3-Butadiene	0.01	0.001	0.000	no
Acenaphthene	0.001	0.01	0.00	no
Acenaphthylene	0.01	0.1	0.0	no
Acetaldehyde	0.1	0.1	0.0	no
Acrolein	0.001	0.01	0.00	no
Anthracene	0.001	0.01	0.00	no
Benz(a)anthracene	0.001	0.001	0.000	no
Benzene	0.01	0.1	0.0	no
Benzo(a)pyrene	0.001	0.0001	0.0000	no
Benzo(b)fluoranthene	0.1	0.001	0.000	no
Benzo(g,h,i)perylene	0.001	0.1	0.0	no
Benzo(k)fluoranthene	0.01	0.01	0.00	no
Chrysene	0.001	0.01	0.00	no
Dibenzo(a,h)anthracene	0.0001	0.0001	0.0000	no
Ethylbenzene	1	10	0	no
Fluoranthene	0.1	0.1	0.0	no
Fluorene	0.001	0.01	0.00	no
Formaldehyde	0.001	0.01	0.05	yes
Hexane	1	10	0	no
Indeno(1,2,3-c,d)pyrene	0.001	0.001	0.000	no
Naphthalene	0.1	1	0	no
Phenanathrene	0.01	0.01	0.00	no
Pyrene	0.001	0.01	0.00	no
Toulene	1	10	0	no
Xylene	1	10	0	no
Arsenic	0.0001	0.0001	0.0000	no
Beryllium	0.00001	0.0001	0.0000	no
Cadmium	0.0001	0.0001	0.0001	yes
Chromium	0.001	0.01	0.00	no
Cobalt	0.0001	0.001	0.000	no
Copper	0.001	0.01	0.00	no
Lead	0.0001	0.001	0.000	no
Manganese	0.001	0.01	0.00	no
Mercury	0.0001	0.001	0.000	no
Nickel	0.001	0.001	0.000	no
Selenium	0.001	0.01	0.00	no
Zinc	0.01	0.1	0.0	no

BILLABLE TOXIC AIR POLLUTANTS

Calendar Year: **2022**

EMISSIONS CERTIFICATION REPORT

Facility Name: **National Security Agency** Facility ID#: **003-00317**

Chemical Name	CAS Number		Actual Emissions Tons/year	Lbs/day	Lbs/hr		Estimation Method
carbon disulfide	75-15-0	S					
		F					
carbonyl sulfide	463-58-1	S					
		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			0.00	0.00	0.00		

S-Stack Emissions F-Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

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 of 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 judgement
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 standard

This form to include only the eleven chemicals identified.

PLEASE NOTE: Be sure to attach all data and calculations necessary to support the emissions figures shown above.

See Attachment 1 for minimum reporting values.

1/09/08

FORM 6: Greenhouse Gases

GREENHOUSE GAS AIR POLLUTANTS

Calendar Year: **2022**

EMISSIONS CERTIFICATION REPORT

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Carbon Dioxide ***

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
9900 Boiler #1 5-0644	31.09	1405.95	58.58
9900 Boiler #2 5-0645	1.51	27858.46	1160.77
9807 Boiler #1 5-0502	1853.01	20009.98	7184.35
9807 Boiler #2 5-0503	469.90	10481.11	7184.35
9807 Boiler #3 5-0504	3364.78	48111.18	7184.35
9807 Boiler #4 5-0505	5815.86	56362.07	7184.35
9960 Boiler #1 5-0891	163.98	2048.72	85.36
9960 Boiler #2 5-0900	152.82	1916.90	79.87
9960 Boiler #3 5-0892	127.80	1595.52	66.48
9960 Boiler #4 5-0900	171.42	2147.85	89.49
TOTALS	continued	continued	continued

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)

FORM 6: Greenhouse Gases

GREENHOUSE GAS AIR POLLUTANTS

Calendar Year: **2022**

EMISSIONS CERTIFICATION REPORT

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Carbon Dioxide ***

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
9817 Boiler 5-0674	1.12	44.63	2.10
9816 South Gen Plant 9-1035	36.89	33683.53	934.36
9950 North Gen Plant 9-1055	55.43	48140.62	1214.14
9816B Engine #1 9-0818	7.30	7295.53	3558.80
9816B Engine #2 9-0819	7.00	6998.50	3413.91
9816B Engine #3 9-0820	6.96	6959.85	3395.05
9816B Engine #4 9-0821	7.01	7011.16	3420.08
9816B Engine #5 9-0822	7.54	7536.50	2898.66
9816B Engine #6 9-0823	3.45	6897.68	3448.84
Cooper Engine 9-0804	6.49	1298.79	542.52
9800C Engine 9-1090	37.78	9445.05	6371.03
TOTALS	continued	continued	continued

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)

FORM 6: Greenhouse Gases

GREENHOUSE GAS AIR POLLUTANTS

Calendar Year: **2022**

EMISSIONS CERTIFICATION REPORT

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Carbon Dioxide ***

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
9960 Engine 9-0806	2.16	539.69	431.76
9703 Engine 9-0807	28.20	4338.39	755.01
9700 Engine 9-0442	13.74	2748.77	904.20
9840 Engine 9-0918	11.72	2603.79	1473.85
9000 Gen Yard 9-1091	577.65	300728.07	26800.84
9000 L/S Engine 9-1092	2.96	846.30	2623.53
9220-Boiler 5-0809	246.05	337.05	14.04
9230-Boiler 5-0810	464.81	636.72	26.53
9259-Boiler 5-0811	51.61	141.39	5.89
9225-Boiler 5-0823	232.06	423.86	17.66
TOTALS	continued	continued	continued

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)

FORM 6: Greenhouse Gases

GREENHOUSE GAS AIR POLLUTANTS

Calendar Year: **2022**

EMISSIONS CERTIFICATION REPORT

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Carbon Dioxide ***

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
VCP Engine #1 9-0967	6.66	1479.95	61.66
9250-Boilers 5-0842	0.00	0.00	0.00
9700 Boiler 5-0890	54.78	12764.83	531.87
9230 L/S Engine 9-1117	6.59	2195.10	91.46
9225 L/S Engine 9-1137	8.58	2451.80	102.16
9210 L/S Engine 9-1146	1.75	501.37	20.89
9250 East Gen Plant 9-1155	114.76	59743.60	26800.75
9250 E Gen Plant JOC 9-1116	438.44	228254.06	26800.84
ECB MC 9-1136	0.96	876.61	36.53
ECB2 LS 9-1156	0.71	473.20	19.72
TOTALS	14,593.31	929,334.15	146,996.59

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: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Methane *

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
9900 Boiler #1 5-0644	0.00	0.03	0.00
9900 Boiler #2 5-0645	0.00	0.53	0.02
9807 Boiler #1 5-0502	0.09	1.01	0.04
9807 Boiler #2 5-0503	0.02	0.39	0.02
9807 Boiler #3 5-0504	0.19	2.72	0.11
9807 Boiler #4 5-0505	0.44	4.32	0.18
9960 Boiler #1 5-0891	0.00	0.04	0.00
9960 Boiler #2 5-0900	0.00	0.04	0.00
9960 Boiler #3 5-0892	0.00	0.03	0.00
9960 Boiler #4 5-0900	0.00	0.04	0.00
TOTALS	continued	continued	continued

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)

FORM 6: Greenhouse Gases

GREENHOUSE GAS AIR POLLUTANTS

Calendar Year: **2022**

EMISSIONS CERTIFICATION REPORT

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Methane ***

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
9817 Boiler 5-0674	0.00	0.00	0.00
9816 South Gen Plant 9-1035	0.01	0.00	0.00
9950 North Gen Plant 9-1055	0.01	0.00	0.00
9816B Engine #1 9-0818	0.00	3.98	1.94
9816B Engine #2 9-0819	0.00	3.82	1.86
9816B Engine #3 9-0820	0.00	3.80	1.85
9816B Engine #4 9-0821	0.00	3.82	1.87
9816B Engine #5 9-0822	0.00	4.11	1.58
9816B Engine #6 9-0823	0.00	3.76	1.88
Cooper Engine 9-0804	0.00	0.06	0.03
9840 Engine 9-0918	0.00	2.35	1.33
TOTALS	continued	continued	continued

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)

FORM 6: Greenhouse Gases

GREENHOUSE GAS AIR POLLUTANTS

Calendar Year: **2022**

EMISSIONS CERTIFICATION REPORT

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Methane *

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
9800C Engine 9-1090	0.00	0.21	0.14
9960 Engine 9-0806	0.00	0.03	0.02
9703 Engine 9-0807	0.00	0.21	0.04
9700 Engine 9-0442	0.00	0.13	0.04
9000 Gen Yard 9-1091	1.02	0.27	0.01
9000 L/S Engine 9-1092	0.00	0.56	0.18
9220-Boiler 5-0809	0.00	0.01	0.00
9230-Boiler 5-0810	0.01	0.01	0.00
9259-Boiler 5-0811	0.00	0.00	0.00
9225-Boiler 5-0823	0.00	0.01	0.00
TOTALS	continued	continued	continued

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)

FORM 6: Greenhouse Gases

GREENHOUSE GAS AIR POLLUTANTS

Calendar Year: **2022**

EMISSIONS CERTIFICATION REPORT

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Methane *

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
VCP Engine #1 9-0967	0.00	0.00	0.00
9250-Boilers 5-0842	0.00	0.00	0.00
9700 Boiler 5-0890	0.00	0.24	0.01
9230 L/S Engine 9-1117	0.00	0.09	0.00
9225 L/S Engine 9-1137	0.00	0.04	0.00
9210 L/S Engine 9-1146	0.00	0.26	0.01
9250 East Gen Plant 9-1155	0.20	0.05	0.00
9250 E Gen Plant JOC 9-1116	0.78	0.20	0.01
ECB MC 9-1136	0.00	0.58	0.02
ECB2 LS 9-1156	0.00	0.31	0.01
TOTALS	2.82	38.07	13.24

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)

FORM 6: Greenhouse Gases

GREENHOUSE GAS AIR POLLUTANTS

Calendar Year: **2022**

EMISSIONS CERTIFICATION REPORT

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Nitrous Oxide ***

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
9900 Boiler #1 5-0644	0.03	1.17	0.05
9900 Boiler #2 5-0645	0.00	23.22	0.97
9807 Boiler #1 5-0502	1.89	20.51	0.85
9807 Boiler #2 5-0503	0.48	10.48	0.44
9807 Boiler #3 5-0504	3.45	49.70	2.07
9807 Boiler #4 5-0505	5.98	58.44	2.43
9960 Boiler #1 5-0891	0.00	0.01	0.00
9960 Boiler #2 5-0900	0.00	0.01	0.00
9960 Boiler #3 5-0892	0.00	0.01	0.00
9960 Boiler #4 5-0900	0.00	0.01	0.00
TOTALS	continued	continued	continued

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)

FORM 6: Greenhouse Gases

GREENHOUSE GAS AIR POLLUTANTS

Calendar Year: **2022**

EMISSIONS CERTIFICATION REPORT

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Nitrous Oxide ***

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
9817 Boiler 5-0674	0.00	0.00	0.00
9816 South Gen Plant 9-1035	0.00	0.96	0.03
9950 North Gen Plant 9-1055	0.00	0.83	0.02
9816B Engine #1 9-0818	0.08	80.72	39.37
9816B Engine #2 9-0819	0.08	80.72	39.37
9816B Engine #3 9-0820	0.08	80.72	39.37
9816B Engine #4 9-0821	0.08	80.72	39.37
9816B Engine #5 9-0822	0.10	102.37	39.37
9816B Engine #6 9-0823	0.04	78.75	39.37
Cooper Engine 9-0804	0.13	25.19	10.52
9840 Engine 9-0918	0.10	22.42	12.69
TOTALS	continued	continued	continued

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)

FORM 6: Greenhouse Gases

GREENHOUSE GAS AIR POLLUTANTS

Calendar Year: **2022**

EMISSIONS CERTIFICATION REPORT

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Nitrous Oxide ***

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
9800C Engine 9-1090	0.32	81.12	54.72
9960 Engine 9-0806	0.06	14.64	11.71
9703 Engine 9-0807	0.55	84.14	14.64
9700 Engine 9-0442	0.27	53.31	17.54
9000 Gen Yard 9-1091	1.02	0.27	0.01
9000 L/S Engine 9-1092	0.00	0.56	0.18
9220-Boiler 5-0809	0.00	0.01	0.00
9230-Boiler 5-0810	0.01	0.01	0.00
9259-Boiler 5-0811	0.00	0.00	0.00
9225-Boiler 5-0823	0.00	0.01	0.00
TOTALS	continued	continued	continued

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)

FORM 6: Greenhouse Gases

GREENHOUSE GAS AIR POLLUTANTS

Calendar Year: **2022**

EMISSIONS CERTIFICATION REPORT

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Nitrous Oxide ***

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
VCP Engine #1 9-0967	0.03	5.68	0.24
9250-Boilers 5-0842	0.00	0.00	0.00
9700 Boiler 5-0890	0.00	0.07	0.00
9220 & 9230 L/S Engines 9-1117	0.12	41.01	1.71
9225 L/S Engine 9-1137	0.09	24.68	1.03
9210 L/S Engine 9-1146	0.03	8.57	0.36
9250 East Gen Plant 9-1155	0.20	0.05	0.00
9250 E Gen Plant JOC 9-1116	0.78	0.20	0.01
ECB MC 9-1136	0.01	7.77	0.32
ECB2 LS 9-1156	0.01	4.19	0.17
TOTALS	16.01	1,043.27	368.98

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)

FORM 6: Greenhouse Gases

GREENHOUSE GAS AIR POLLUTANTS

Calendar Year: **2022**

EMISSIONS CERTIFICATION REPORT

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Hydrofluorocarbons** *

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
n/a			
TOTALS	0	0	0

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)

FORM 6: Greenhouse Gases

GREENHOUSE GAS AIR POLLUTANTS

Calendar Year: **2022**

EMISSIONS CERTIFICATION REPORT

Facility Name: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Perfluorocarbons ***

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
n/a			
TOTALS	0	0	0

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: **National Security Agency** Facility ID#: **003-00317** Pollutant: **Sulfur Hexafluoride ***

Equipment Description/ Registration Number[1]	Actual Emissions		
	Tons/yr	Lbs/day	Lbs/hr
n/a			
TOTALS	0	0	0

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)

Emission Calculations - Main Boiler Plant

Boiler #1 (Registration #5-0502)

NOx Emissions

NOS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (NOx Emission Factor) / (2,000 pounds per ton)

14,148,400 cf(NOS) / 49953 cf(NOS)/hr * 7.1 lb NOx/hr / 2000 lb/ton = 1.01 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (NOx Emission Factor) / (2,000 pounds per ton)

1,027 gal(NOS) / 231 gal(NOS)/hr * 7.1 lb NOx/hr / 2000 lb/ton = 0.02 tons per year

OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (NOx Emission Factor) / (2,000 pounds per ton)

15,587,000 cf(OS) / 49953 cf(OS)/hr * 5.6 lb NOx/hr / 2000 lb/ton = 0.87 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (NOx Emission Factor) / (2,000 pounds per ton)

0 gal(OS) / 231 gal(OS)/hr * 3.4 lb NOx/hr / 2000 lb/ton = 0.00 tons per year

Total NOx: 1.89 tpy

NOSD: (Tons of NOS NG NOx per Year) * (2,000 pounds per ton) / (Days per year)

1.01 tpy * 2000 lbs/ton / 125 day/year = 16.04 pounds per day

(Tons of NOS Diesel NOx per Year) * (2,000 pounds per ton) / (Days per year)

0.02 tpy * 2000 lbs/ton / 2 day/year = 15.79 pounds per day

OSD: (Tons of OS NG NOx per Year) * (2,000 pounds per ton) / (Days per year)

0.87 tpy * 2000 lbs/ton / 58 day/year = 30.21 pounds per day

(Tons of OS Diesel NOx per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 0 day/year = 0.00 pounds per day

Total Diesel NOx: 15.79 ppd (average)

Total NG NOx: 20.51 ppd (average)

Note: Emission Factors are derived from stack test results.

Emission Calculations - Main Boiler Plant

Boiler #1 (Registration #5-0502)

VOC Emissions

Non-OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (VOC Emission Factor) / (2,000 pounds per ton)

14,148,400 cf(NOS) / 49953 cf(NOS)/hr * 0.1 lb VOC/hr / 2000 lb/ton = 0.01 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (VOC Emission Factor) / (2,000 pounds per ton)

1,027 gal(NOS) / 231 gal(NOS)/hr * 0.1 lb VOC/hr / 2000 lb/ton = 0.00 tons per year

OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (VOC Emission Factor) / (2,000 pounds per ton)

15,587,000 cf(OS) / 49953 cf(OS)/hr * 0.5 lb VOC/hr / 2000 lb/ton = 0.08 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (VOC Emission Factor) / (2,000 pounds per ton)

0 gal(OS) / 231 gal(OS)/hr * 0.2 lb VOC/hr / 2000 lb/ton = 0.00 tons per year

Total VOC: 0.09 tpy

NOSD: (Tons of NOS NG VOC per Year) * (2,000 pounds per ton) / (Days per year)

0.01 tpy * 2000 lbs/ton / 125 day/year = 0.23 pounds per day

(Tons of NOS Diesel VOC per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 2 day/year = 0.22 pounds per day

OSD: (Tons of OS NG VOC per Year) * (2,000 pounds per ton) / (Days per year)

0.08 tpy * 2000 lbs/ton / 58 day/year = 2.70 pounds per day

(Tons of OS Diesel VOC per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 0 day/year = 0.00 pounds per day

Total Diesel VOC: 0.22 ppd (average)

Total NG VOC: 1.01 ppd (average)

Note: Emission Factors are derived from stack test results.

Emission Calculations - Main Boiler Plant

Boiler #1 (Registration #5-0502)

CO Emissions

Non-OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (CO Emission Factor) / (2,000 pounds per ton)

14,148,400 cf(NOS) / 49953 cf(NOS)/hr * 0.2 lb CO/hr / 2000 lb/ton = 0.03 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (CO Emission Factor) / (2,000 pounds per ton)

1,027 gal(NOS) / 231 gal(NOS)/hr * 0.2 lb CO/hr / 2000 lb/ton = 0.00 tons per year

OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (CO Emission Factor) / (2,000 pounds per ton)

15,587,000 cf(OS) / 49953 cf(OS)/hr * 0.1 lb CO/hr / 2000 lb/ton = 0.02 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (CO Emission Factor) / (2,000 pounds per ton)

0 gal(OS) / 231 gal(OS)/hr * 0.2 lb CO/hr / 2000 lb/ton = 0.00 tons per year

Total CO: 0.04 tpy

NOSD: (Tons of NOS NG CO per Year) * (2,000 pounds per ton) / (Days per year)

0.03 tpy * 2000 lbs/ton / 125 day/year = 0.45 pounds per day

(Tons of NOS Diesel CO per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 2 day/year = 0.44 pounds per day

OSD: (Tons of OS NG CO per Year) * (2,000 pounds per ton) / (Days per year)

0.02 tpy * 2000 lbs/ton / 58 day/year = 0.54 pounds per day

(Tons of OS Diesel CO per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 0 day/year = 0.00 pounds per day

Total Diesel CO: 0.44 ppd (average)

Total NG CO: 0.48 ppd (average)

Note: Emission Factors are derived from stack test results.

Emission Calculations - Main Boiler Plant

Boiler #1 (Registration #5-0502)

SOx Emissions

Non-OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (SOx Emission Factor) / (2,000 pounds per ton)

14,148,400 cf(NOS) / 49953 cf(NOS)/hr * 0.8 lb SOx/hr / 2000 lb/ton = 0.11 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (SOx Emission Factor) / (2,000 pounds per ton)

1,027 gal(NOS) / 231 gal(NOS)/hr * 9.1 lb SOx/hr / 2000 lb/ton = 0.02 tons per year

OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (SOx Emission Factor) / (2,000 pounds per ton)

15,587,000 cf(OS) / 49953 cf(OS)/hr * 0 lb SOx/hr / 2000 lb/ton = 0.00 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (SOx Emission Factor) / (2,000 pounds per ton)

0 gal(OS) / 231 gal(OS)/hr * 7.9 lb SOx/hr / 2000 lb/ton = 0.00 tons per year

Total SOx: 0.13 tpy

NOSD: (Tons of NOS NG SOx per Year) * (2,000 pounds per ton) / (Days per year)

0.11 tpy * 2000 lbs/ton / 125 day/year = 1.81 pounds per day

(Tons of NOS Diesel SOx per Year) * (2,000 pounds per ton) / (Days per year)

0.02 tpy * 2000 lbs/ton / 2 day/year = 20.24 pounds per day

OSD: (Tons of OS NG SOx per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 58 day/year = 0.00 pounds per day

(Tons of OS Diesel SOx per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 0 day/year = 0.00 pounds per day

Total Diesel SOx: 20.24 ppd (average)

Total NG SOx: 1.24 ppd (average)

Note: Emission Factors are derived from stack test results.

Emission Calculations - Main Boiler Plant

Boiler #1 (Registration #5-0502)

PM Emissions

Non-OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (PM Emission Factor) / (2,000 pounds per ton)

14,148,400 cf(NOS) / 49953 cf(NOS)/hr * 0.4 lb PM/hr / 2000 lb/ton = 0.06 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (PM Emission Factor) / (2,000 pounds per ton)

1,027 gal(NOS) / 231 gal(NOS)/hr * 0.7 lb PM/hr / 2000 lb/ton = 0.00 tons per year

OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (PM Emission Factor) / (2,000 pounds per ton)

15,587,000 cf(OS) / 49953 cf(OS)/hr * 0.2 lb PM/hr / 2000 lb/ton = 0.03 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (PM Emission Factor) / (2,000 pounds per ton)

0 gal(OS) / 231 gal(OS)/hr * 0.4 lb PM/hr / 2000 lb/ton = 0.00 tons per year

Total PM: 0.09 tpy

NOSD: (Tons of NOS NG PM per Year) * (2,000 pounds per ton) / (Days per year)

0.06 tpy * 2000 lbs/ton / 125 day/year = 0.90 pounds per day

(Tons of NOS Diesel PM per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 2 day/year = 1.56 pounds per day

OSD: (Tons of OS NG PM per Year) * (2,000 pounds per ton) / (Days per year)

0.03 tpy * 2000 lbs/ton / 58 day/year = 1.08 pounds per day

(Tons of OS Diesel PM per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 0 day/year = 0.00 pounds per day

Total Diesel PM: 1.56 ppd (average)

Total NG PM: 0.96 ppd (average)

Note: Emission Factors are derived from stack test results.

Emission Calculations - Main Boiler Plant

Boiler #1 (Registration #5-0502)

CO2 Emissions

Non-OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (CO2 Emission Factor) / (2,000 pounds per ton)

14,148,400 cf(NOS) / 49953 cf(NOS)/hr * 6952 lb CO2/hr / 2000 lb/ton = 984.56 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (CO2 Emission Factor) / (2,000 pounds per ton)

1,027 gal(NOS) / 231 gal(NOS)/hr * 9139 lb CO2/hr / 2000 lb/ton = 20.32 tons per year

OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (CO2 Emission Factor) / (2,000 pounds per ton)

15,587,000 cf(OS) / 49953 cf(OS)/hr * 5436 lb CO2/hr / 2000 lb/ton = 848.13 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (CO2 Emission Factor) / (2,000 pounds per ton)

0 gal(OS) / 231 gal(OS)/hr * 7210 lb CO2/hr / 2000 lb/ton = 0.00 tons per year

Total CO2: 1853.01 tpy

NOSD: (Tons of NOS NG CO2 per Year) * (2,000 pounds per ton) / (Days per year)

984.56 tpy * 2000 lbs/ton / 125 day/year = 15705.79 pounds per day

(Tons of NOS Diesel CO2 per Year) * (2,000 pounds per ton) / (Days per year)

20.32 tpy * 2000 lbs/ton / 2 day/year = 20323.91 pounds per day

OSD: (Tons of OS NG CO2 per Year) * (2,000 pounds per ton) / (Days per year)

848.13 tpy * 2000 lbs/ton / 58 day/year = 29330.03 pounds per day

(Tons of OS Diesel CO2 per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 0 day/year = 0.00 pounds per day

Total CO2: 20009.98 ppd (average)

Total CO2: 7184.35 pph (average)

Note: Emission Factors are derived from stack test results.

Emission Calculations - Main Boiler Plant

Boiler #2 (Registration #5-0503)

NOx Emissions

NOS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (NOx Emission Factor) / (2,000 pounds per ton)

4,489,127 cf(NOS) / 49953 cf(NOS)/hr * 7.1 lb NOx/hr / 2000 lb/ton = 0.32 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (NOx Emission Factor) / (2,000 pounds per ton)

1,070 gal(NOS) / 231 gal(NOS)/hr * 7.1 lb NOx/hr / 2000 lb/ton = 0.02 tons per year

OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (NOx Emission Factor) / (2,000 pounds per ton)

2,506,000 cf(OS) / 49953 cf(OS)/hr * 5.6 lb NOx/hr / 2000 lb/ton = 0.14 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (NOx Emission Factor) / (2,000 pounds per ton)

0 gal(OS) / 231 gal(OS)/hr * 3.4 lb NOx/hr / 2000 lb/ton = 0.00 tons per year

Total NOx: 0.48 tpy

NOSD: (Tons of NOS NG NOx per Year) * (2,000 pounds per ton) / (Days per year)

0.32 tpy * 2000 lbs/ton / 42 day/year = 15.04 pounds per day

(Tons of NOS Diesel NOx per Year) * (2,000 pounds per ton) / (Days per year)

0.02 tpy * 2000 lbs/ton / 2 day/year = 16.44 pounds per day

OSD: (Tons of OS NG NOx per Year) * (2,000 pounds per ton) / (Days per year)

0.14 tpy * 2000 lbs/ton / 45 day/year = 6.21 pounds per day

(Tons of OS Diesel NOx per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 0 day/year = 0.00 pounds per day

Total Diesel NOx: 16.44 ppd (average)

Total NG NOx: 10.48 ppd (average)

Note: Emission Factors are derived from stack test results.

Emission Calculations - Main Boiler Plant

Boiler #2 (Registration #5-0503)

VOC Emissions

Non-OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (VOC Emission Factor) / (2,000 pounds per ton)

4,489,127 cf(NOS) / 49953 cf(NOS)/hr * 0.1 lb VOC/hr / 2000 lb/ton = 0.00 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (VOC Emission Factor) / (2,000 pounds per ton)

1,070 gal(NOS) / 231 gal(NOS)/hr * 0.1 lb VOC/hr / 2000 lb/ton = 0.00 tons per year

OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (VOC Emission Factor) / (2,000 pounds per ton)

2,506,000 cf(OS) / 49953 cf(OS)/hr * 0.5 lb VOC/hr / 2000 lb/ton = 0.01 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (VOC Emission Factor) / (2,000 pounds per ton)

0 gal(OS) / 231 gal(OS)/hr * 0.2 lb VOC/hr / 2000 lb/ton = 0.00 tons per year

Total VOC: 0.02 tpy

NOSD: (Tons of NOS NG VOC per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 42 day/year = 0.21 pounds per day

(Tons of NOS Diesel VOC per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 2 day/year = 0.23 pounds per day

OSD: (Tons of OS NG VOC per Year) * (2,000 pounds per ton) / (Days per year)

0.01 tpy * 2000 lbs/ton / 45 day/year = 0.55 pounds per day

(Tons of OS Diesel VOC per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 0 day/year = 0.00 pounds per day

Total Diesel VOC: 0.23 ppd (average)

Total NG VOC: 0.39 ppd (average)

Note: Emission Factors are derived from stack test results.

Emission Calculations - Main Boiler Plant

Boiler #2 (Registration #5-0503)

CO Emissions

Non-OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (CO Emission Factor) / (2,000 pounds per ton)

4,489,127 cf(NOS) / 49953 cf(NOS)/hr * 0.2 lb CO/hr / 2000 lb/ton = 0.01 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (CO Emission Factor) / (2,000 pounds per ton)

1,070 gal(NOS) / 231 gal(NOS)/hr * 0.2 lb CO/hr / 2000 lb/ton = 0.00 tons per year

OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (CO Emission Factor) / (2,000 pounds per ton)

2,506,000 cf(OS) / 49953 cf(OS)/hr * 0.1 lb CO/hr / 2000 lb/ton = 0.00 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (CO Emission Factor) / (2,000 pounds per ton)

0 gal(OS) / 231 gal(OS)/hr * 0.2 lb CO/hr / 2000 lb/ton = 0.00 tons per year

Total CO: 0.01 tpy

NOSD: (Tons of NOS NG CO per Year) * (2,000 pounds per ton) / (Days per year)

0.01 tpy * 2000 lbs/ton / 42 day/year = 0.42 pounds per day

(Tons of NOS Diesel CO per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 2 day/year = 0.46 pounds per day

OSD: (Tons of OS NG CO per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 45 day/year = 0.11 pounds per day

(Tons of OS Diesel CO per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 0 day/year = 0.00 pounds per day

Total Diesel CO: 0.46 ppd (average)

Total NG CO: 0.26 ppd (average)

Note: Emission Factors are derived from stack test results.

Emission Calculations - Main Boiler Plant

Boiler #2 (Registration #5-0503)

SOx Emissions

Non-OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (SOx Emission Factor) / (2,000 pounds per ton)

4,489,127 cf(NOS) / 49953 cf(NOS)/hr * 0.8 lb SOx/hr / 2000 lb/ton = 0.04 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (SOx Emission Factor) / (2,000 pounds per ton)

1,070 gal(NOS) / 231 gal(NOS)/hr * 9.1 lb SOx/hr / 2000 lb/ton = 0.02 tons per year

OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (SOx Emission Factor) / (2,000 pounds per ton)

2,506,000 cf(OS) / 49953 cf(OS)/hr * 0 lb SOx/hr / 2000 lb/ton = 0.00 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (SOx Emission Factor) / (2,000 pounds per ton)

0 gal(OS) / 231 gal(OS)/hr * 7.9 lb SOx/hr / 2000 lb/ton = 0.00 tons per year

Total SOx: 0.06 tpy

NOSD: (Tons of NOS NG SOx per Year) * (2,000 pounds per ton) / (Days per year)

0.04 tpy * 2000 lbs/ton / 42 day/year = 1.69 pounds per day

(Tons of NOS Diesel SOx per Year) * (2,000 pounds per ton) / (Days per year)

0.02 tpy * 2000 lbs/ton / 2 day/year = 21.07 pounds per day

OSD: (Tons of OS NG SOx per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 45 day/year = 0.00 pounds per day

(Tons of OS Diesel SOx per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 0 day/year = 0.00 pounds per day

Total Diesel SOx: 21.07 ppd (average)

Total NG SOx: 0.82 ppd (average)

Note: Emission Factors are derived from stack test results.

Emission Calculations - Main Boiler Plant

Boiler #2 (Registration #5-0503)

PM Emissions

Non-OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (PM Emission Factor) / (2,000 pounds per ton)

4,489,127 cf(NOS) / 49953 cf(NOS)/hr * 0.4 lb PM/hr / 2000 lb/ton = 0.02 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (PM Emission Factor) / (2,000 pounds per ton)

1,070 gal(NOS) / 231 gal(NOS)/hr * 0.7 lb PM/hr / 2000 lb/ton = 0.00 tons per year

OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (PM Emission Factor) / (2,000 pounds per ton)

2,506,000 cf(OS) / 49953 cf(OS)/hr * 0.2 lb PM/hr / 2000 lb/ton = 0.01 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (PM Emission Factor) / (2,000 pounds per ton)

0 gal(OS) / 231 gal(OS)/hr * 0.4 lb PM/hr / 2000 lb/ton = 0.00 tons per year

Total PM: 0.02 tpy

NOSD: (Tons of NOS NG PM per Year) * (2,000 pounds per ton) / (Days per year)

0.02 tpy * 2000 lbs/ton / 42 day/year = 0.85 pounds per day

(Tons of NOS Diesel PM per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 2 day/year = 1.62 pounds per day

OSD: (Tons of OS NG PM per Year) * (2,000 pounds per ton) / (Days per year)

0.01 tpy * 2000 lbs/ton / 45 day/year = 0.22 pounds per day

(Tons of OS Diesel PM per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 0 day/year = 0.00 pounds per day

Total Diesel PM: 1.62 ppd (average)

Total NG PM: 0.52 ppd (average)

Note: Emission Factors are derived from stack test results.

Emission Calculations - Main Boiler Plant

Boiler #2 (Registration #5-0503)

CO2 Emissions

Non-OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (CO2 Emission Factor) / (2,000 pounds per ton)

4,489,127 cf(NOS) / 49953 cf(NOS)/hr * 6952 lb CO2/hr / 2000 lb/ton = 312.39 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (CO2 Emission Factor) / (2,000 pounds per ton)

1,070 gal(NOS) / 231 gal(NOS)/hr * 9139 lb CO2/hr / 2000 lb/ton = 21.16 tons per year

OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (CO2 Emission Factor) / (2,000 pounds per ton)

2,506,000 cf(OS) / 49953 cf(OS)/hr * 5436 lb CO2/hr / 2000 lb/ton = 136.36 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (CO2 Emission Factor) / (2,000 pounds per ton)

0 gal(OS) / 231 gal(OS)/hr * 7210 lb CO2/hr / 2000 lb/ton = 0.00 tons per year

Total CO2: 469.90 tpy

NOSD: (Tons of NOS NG CO2 per Year) * (2,000 pounds per ton) / (Days per year)

312.39 tpy * 2000 lbs/ton / 42 day/year = 14729.53 pounds per day

(Tons of NOS Diesel CO2 per Year) * (2,000 pounds per ton) / (Days per year)

21.16 tpy * 2000 lbs/ton / 2 day/year = 21156.72 pounds per day

OSD: (Tons of OS NG CO2 per Year) * (2,000 pounds per ton) / (Days per year)

136.36 tpy * 2000 lbs/ton / 45 day/year = 6026.85 pounds per day

(Tons of OS Diesel CO2 per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 0 day/year = 0.00 pounds per day

Total CO2: 10481.11 ppd (average)

Total CO2: 7184.35 pph (average)

Note: Emission Factors are derived from stack test results.

Emission Calculations - Main Boiler Plant

Boiler #3 (Registration #5-0504)

NOx Emissions

NOS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (NOx Emission Factor) / (2,000 pounds per ton)

22,187,300 cf(NOS) / 49953 cf(NOS)/hr * 7.1 lb NOx/hr / 2000 lb/ton = 1.58 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (NOx Emission Factor) / (2,000 pounds per ton)

1,288 gal(NOS) / 231 gal(NOS)/hr * 7.1 lb NOx/hr / 2000 lb/ton = 0.02 tons per year

OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (NOx Emission Factor) / (2,000 pounds per ton)

32,995,000 cf(OS) / 49953 cf(OS)/hr * 5.6 lb NOx/hr / 2000 lb/ton = 1.85 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (NOx Emission Factor) / (2,000 pounds per ton)

0 gal(OS) / 231 gal(OS)/hr * 3.4 lb NOx/hr / 2000 lb/ton = 0.00 tons per year

Total NOx: 3.45 tpy

NOSD: (Tons of NOS NG NOx per Year) * (2,000 pounds per ton) / (Days per year)

1.58 tpy * 2000 lbs/ton / 54 day/year = 58.35 pounds per day

(Tons of NOS Diesel NOx per Year) * (2,000 pounds per ton) / (Days per year)

0.02 tpy * 2000 lbs/ton / 2 day/year = 19.79 pounds per day

OSD: (Tons of OS NG NOx per Year) * (2,000 pounds per ton) / (Days per year)

1.85 tpy * 2000 lbs/ton / 84 day/year = 44.12 pounds per day

(Tons of OS Diesel NOx per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 0 day/year = 0.00 pounds per day

Total Diesel NOx: 19.79 ppd (average)

Total NG NOx: 49.70 ppd (average)

Note: Emission Factors are derived from stack test results.

Emission Calculations - Main Boiler Plant

Boiler #3 (Registration #5-0504)

VOC Emissions

Non-OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (VOC Emission Factor) / (2,000 pounds per ton)

22,187,300 cf(NOS) / 49953 cf(NOS)/hr * 0.1 lb VOC/hr / 2000 lb/ton = 0.02 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (VOC Emission Factor) / (2,000 pounds per ton)

1,288 gal(NOS) / 231 gal(NOS)/hr * 0.1 lb VOC/hr / 2000 lb/ton = 0.00 tons per year

OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (VOC Emission Factor) / (2,000 pounds per ton)

32,995,000 cf(OS) / 49953 cf(OS)/hr * 0.5 lb VOC/hr / 2000 lb/ton = 0.17 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (VOC Emission Factor) / (2,000 pounds per ton)

0 gal(OS) / 231 gal(OS)/hr * 0.2 lb VOC/hr / 2000 lb/ton = 0.00 tons per year

Total VOC: 0.19 tpy

NOSD: (Tons of NOS NG VOC per Year) * (2,000 pounds per ton) / (Days per year)

0.02 tpy * 2000 lbs/ton / 54 day/year = 0.82 pounds per day

(Tons of NOS Diesel VOC per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 2 day/year = 0.28 pounds per day

OSD: (Tons of OS NG VOC per Year) * (2,000 pounds per ton) / (Days per year)

0.17 tpy * 2000 lbs/ton / 84 day/year = 3.94 pounds per day

(Tons of OS Diesel VOC per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 0 day/year = 0.00 pounds per day

Total Diesel VOC: 0.28 ppd (average)

Total NG VOC: 2.72 ppd (average)

Note: Emission Factors are derived from stack test results.

Emission Calculations - Main Boiler Plant

Boiler #3 (Registration #5-0504)

CO Emissions

Non-OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (CO Emission Factor) / (2,000 pounds per ton)

22,187,300 cf(NOS) / 49953 cf(NOS)/hr * 0.2 lb CO/hr / 2000 lb/ton = 0.04 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (CO Emission Factor) / (2,000 pounds per ton)

1,288 gal(NOS) / 231 gal(NOS)/hr * 0.2 lb CO/hr / 2000 lb/ton = 0.00 tons per year

OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (CO Emission Factor) / (2,000 pounds per ton)

32,995,000 cf(OS) / 49953 cf(OS)/hr * 0.1 lb CO/hr / 2000 lb/ton = 0.03 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (CO Emission Factor) / (2,000 pounds per ton)

0 gal(OS) / 231 gal(OS)/hr * 0.2 lb CO/hr / 2000 lb/ton = 0.00 tons per year

Total CO: 0.08 tpy

NOSD: (Tons of NOS NG CO per Year) * (2,000 pounds per ton) / (Days per year)

0.04 tpy * 2000 lbs/ton / 54 day/year = 1.64 pounds per day

(Tons of NOS Diesel CO per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 2 day/year = 0.56 pounds per day

OSD: (Tons of OS NG CO per Year) * (2,000 pounds per ton) / (Days per year)

0.03 tpy * 2000 lbs/ton / 84 day/year = 0.79 pounds per day

(Tons of OS Diesel CO per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 0 day/year = 0.00 pounds per day

Total Diesel CO: 0.56 ppd (average)

Total NG CO: 1.12 ppd (average)

Note: Emission Factors are derived from stack test results.

Emission Calculations - Main Boiler Plant

Boiler #3 (Registration #5-0504)

SOx Emissions

Non-OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (SOx Emission Factor) / (2,000 pounds per ton)

22,187,300 cf(NOS) / 49953 cf(NOS)/hr * 0.8 lb SOx/hr / 2000 lb/ton = 0.18 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (SOx Emission Factor) / (2,000 pounds per ton)

1,288 gal(NOS) / 231 gal(NOS)/hr * 9.1 lb SOx/hr / 2000 lb/ton = 0.03 tons per year

OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (SOx Emission Factor) / (2,000 pounds per ton)

32,995,000 cf(OS) / 49953 cf(OS)/hr * 0 lb SOx/hr / 2000 lb/ton = 0.00 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (SOx Emission Factor) / (2,000 pounds per ton)

0 gal(OS) / 231 gal(OS)/hr * 7.9 lb SOx/hr / 2000 lb/ton = 0.00 tons per year

Total SOx: 0.20 tpy

NOSD: (Tons of NOS NG SOx per Year) * (2,000 pounds per ton) / (Days per year)

0.18 tpy * 2000 lbs/ton / 54 day/year = 6.58 pounds per day

(Tons of NOS Diesel SOx per Year) * (2,000 pounds per ton) / (Days per year)

0.03 tpy * 2000 lbs/ton / 2 day/year = 25.36 pounds per day

OSD: (Tons of OS NG SOx per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 84 day/year = 0.00 pounds per day

(Tons of OS Diesel SOx per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 0 day/year = 0.00 pounds per day

Total Diesel SOx: 25.36 ppd (average)

Total NG SOx: 2.58 ppd (average)

Note: Emission Factors are derived from stack test results.

Emission Calculations - Main Boiler Plant

Boiler #3 (Registration #5-0504)

PM Emissions

Non-OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (PM Emission Factor) / (2,000 pounds per ton)

22,187,300 cf(NOS) / 49953 cf(NOS)/hr * 0.4 lb PM/hr / 2000 lb/ton = 0.09 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (PM Emission Factor) / (2,000 pounds per ton)

1,288 gal(NOS) / 231 gal(NOS)/hr * 0.7 lb PM/hr / 2000 lb/ton = 0.00 tons per year

OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (PM Emission Factor) / (2,000 pounds per ton)

32,995,000 cf(OS) / 49953 cf(OS)/hr * 0.2 lb PM/hr / 2000 lb/ton = 0.07 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (PM Emission Factor) / (2,000 pounds per ton)

0 gal(OS) / 231 gal(OS)/hr * 0.4 lb PM/hr / 2000 lb/ton = 0.00 tons per year

Total PM: 0.16 tpy

NOSD: (Tons of NOS NG PM per Year) * (2,000 pounds per ton) / (Days per year)

0.09 tpy * 2000 lbs/ton / 54 day/year = 3.29 pounds per day

(Tons of NOS Diesel PM per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 2 day/year = 1.95 pounds per day

OSD: (Tons of OS NG PM per Year) * (2,000 pounds per ton) / (Days per year)

0.07 tpy * 2000 lbs/ton / 84 day/year = 1.58 pounds per day

(Tons of OS Diesel PM per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 0 day/year = 0.00 pounds per day

Total Diesel PM: 1.95 ppd (average)

Total NG PM: 2.25 ppd (average)

Note: Emission Factors are derived from stack test results.

Emission Calculations - Main Boiler Plant

Boiler #3 (Registration #5-0504)

CO2 Emissions

Non-OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (CO2 Emission Factor) / (2,000 pounds per ton)

22,187,300 cf(NOS) / 49953 cf(NOS)/hr * 6952 lb CO2/hr / 2000 lb/ton = 1543.97 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (CO2 Emission Factor) / (2,000 pounds per ton)

1,288 gal(NOS) / 231 gal(NOS)/hr * 9139 lb CO2/hr / 2000 lb/ton = 25.47 tons per year

OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (CO2 Emission Factor) / (2,000 pounds per ton)

32,995,000 cf(OS) / 49953 cf(OS)/hr * 5436 lb CO2/hr / 2000 lb/ton = 1795.34 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (CO2 Emission Factor) / (2,000 pounds per ton)

0 gal(OS) / 231 gal(OS)/hr * 7210 lb CO2/hr / 2000 lb/ton = 0.00 tons per year

Total CO2: 3364.78 tpy

NOSD: (Tons of NOS NG CO2 per Year) * (2,000 pounds per ton) / (Days per year)

1,543.97 tpy * 2000 lbs/ton / 54 day/year = 57139.87 pounds per day

(Tons of NOS Diesel CO2 per Year) * (2,000 pounds per ton) / (Days per year)

25.47 tpy * 2000 lbs/ton / 2 day/year = 25471.02 pounds per day

OSD: (Tons of OS NG CO2 per Year) * (2,000 pounds per ton) / (Days per year)

1,795.34 tpy * 2000 lbs/ton / 84 day/year = 42831.13 pounds per day

(Tons of OS Diesel CO2 per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 0 day/year = 0.00 pounds per day

Total CO2: 48111.18 ppd (average)

Total CO2: 7184.35 pph (average)

Note: Emission Factors are derived from stack test results.

Emission Calculations - Main Boiler Plant

Boiler #4 (Registration #5-0505)

NOx Emissions

NOS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (NOx Emission Factor) / (2,000 pounds per ton)

17,227,900 cf(NOS) / 49953 cf(NOS)/hr * 7.1 lb NOx/hr / 2000 lb/ton = 1.22 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (NOx Emission Factor) / (2,000 pounds per ton)

20 gal(NOS) / 231 gal(NOS)/hr * 7.1 lb NOx/hr / 2000 lb/ton = 0.00 tons per year

OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (NOx Emission Factor) / (2,000 pounds per ton)

84,695,000 cf(OS) / 49953 cf(OS)/hr * 5.6 lb NOx/hr / 2000 lb/ton = 4.75 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (NOx Emission Factor) / (2,000 pounds per ton)

523 gal(OS) / 231 gal(OS)/hr * 3.4 lb NOx/hr / 2000 lb/ton = 0.00 tons per year

Total NOx: 5.98 tpy

NOSD: (Tons of NOS NG NOx per Year) * (2,000 pounds per ton) / (Days per year)

1.22 tpy * 2000 lbs/ton / 133 day/year = 18.40 pounds per day

(Tons of NOS Diesel NOx per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 1 day/year = 0.60 pounds per day

OSD: (Tons of OS NG NOx per Year) * (2,000 pounds per ton) / (Days per year)

4.75 tpy * 2000 lbs/ton / 71 day/year = 133.18 pounds per day

(Tons of OS Diesel NOx per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 1 day/year = 7.70 pounds per day

Total Diesel NOx: 4.15 ppd (average)

Total NG NOx: 58.44 ppd (average)

Note: Emission Factors are derived from stack test results.

Emission Calculations - Main Boiler Plant

Boiler #4 (Registration #5-0505)

VOC Emissions

Non-OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (VOC Emission Factor) / (2,000 pounds per ton)

17,227,900 cf(NOS) / 49953 cf(NOS)/hr * 0.1 lb VOC/hr / 2000 lb/ton = 0.02 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (VOC Emission Factor) / (2,000 pounds per ton)

20 gal(NOS) / 231 gal(NOS)/hr * 0.1 lb VOC/hr / 2000 lb/ton = 0.00 tons per year

OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (VOC Emission Factor) / (2,000 pounds per ton)

84,695,000 cf(OS) / 49953 cf(OS)/hr * 0.5 lb VOC/hr / 2000 lb/ton = 0.42 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (VOC Emission Factor) / (2,000 pounds per ton)

523 gal(OS) / 231 gal(OS)/hr * 0.2 lb VOC/hr / 2000 lb/ton = 0.00 tons per year

Total VOC: 0.44 tpy

NOSD: (Tons of NOS NG VOC per Year) * (2,000 pounds per ton) / (Days per year)

0.02 tpy * 2000 lbs/ton / 133 day/year = 0.26 pounds per day

(Tons of NOS Diesel VOC per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 1 day/year = 0.01 pounds per day

OSD: (Tons of OS NG VOC per Year) * (2,000 pounds per ton) / (Days per year)

0.42 tpy * 2000 lbs/ton / 71 day/year = 11.89 pounds per day

(Tons of OS Diesel VOC per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 1 day/year = 0.45 pounds per day

Total Diesel VOC: 0.23 ppd (average)

Total NG VOC: 4.32 ppd (average)

Note: Emission Factors are derived from stack test results.

Emission Calculations - Main Boiler Plant

Boiler #4 (Registration #5-0505)

CO Emissions

Non-OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (CO Emission Factor) / (2,000 pounds per ton)

17,227,900 cf(NOS) / 49953 cf(NOS)/hr * 0.2 lb CO/hr / 2000 lb/ton = 0.03 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (CO Emission Factor) / (2,000 pounds per ton)

20 gal(NOS) / 231 gal(NOS)/hr * 0.2 lb CO/hr / 2000 lb/ton = 0.00 tons per year

OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (CO Emission Factor) / (2,000 pounds per ton)

84,695,000 cf(OS) / 49953 cf(OS)/hr * 0.1 lb CO/hr / 2000 lb/ton = 0.08 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (CO Emission Factor) / (2,000 pounds per ton)

523 gal(OS) / 231 gal(OS)/hr * 0.2 lb CO/hr / 2000 lb/ton = 0.00 tons per year

Total CO: 0.12 tpy

NOSD: (Tons of NOS NG CO per Year) * (2,000 pounds per ton) / (Days per year)

0.03 tpy * 2000 lbs/ton / 133 day/year = 0.52 pounds per day

(Tons of NOS Diesel CO per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 1 day/year = 0.02 pounds per day

OSD: (Tons of OS NG CO per Year) * (2,000 pounds per ton) / (Days per year)

0.08 tpy * 2000 lbs/ton / 71 day/year = 2.38 pounds per day

(Tons of OS Diesel CO per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 1 day/year = 0.45 pounds per day

Total Diesel CO: 0.23 ppd (average)

Total NG CO: 1.17 ppd (average)

Note: Emission Factors are derived from stack test results.

Emission Calculations - Main Boiler Plant

Boiler #4 (Registration #5-0505)

SOx Emissions

Non-OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (SOx Emission Factor) / (2,000 pounds per ton)

17,227,900 cf(NOS) / 49953 cf(NOS)/hr * 0.8 lb SOx/hr / 2000 lb/ton = 0.14 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (SOx Emission Factor) / (2,000 pounds per ton)

20 gal(NOS) / 231 gal(NOS)/hr * 9.1 lb SOx/hr / 2000 lb/ton = 0.00 tons per year

OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (SOx Emission Factor) / (2,000 pounds per ton)

84,695,000 cf(OS) / 49953 cf(OS)/hr * 0 lb SOx/hr / 2000 lb/ton = 0.00 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (SOx Emission Factor) / (2,000 pounds per ton)

523 gal(OS) / 231 gal(OS)/hr * 7.9 lb SOx/hr / 2000 lb/ton = 0.01 tons per year

Total SOx: 0.15 tpy

NOSD: (Tons of NOS NG SOx per Year) * (2,000 pounds per ton) / (Days per year)

0.14 tpy * 2000 lbs/ton / 133 day/year = 2.07 pounds per day

(Tons of NOS Diesel SOx per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 1 day/year = 0.77 pounds per day

OSD: (Tons of OS NG SOx per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 71 day/year = 0.00 pounds per day

(Tons of OS Diesel SOx per Year) * (2,000 pounds per ton) / (Days per year)

0.01 tpy * 2000 lbs/ton / 1 day/year = 17.89 pounds per day

Total Diesel SOx: 9.33 ppd (average)

Total NG SOx: 1.35 ppd (average)

Note: Emission Factors are derived from stack test results.

Emission Calculations - Main Boiler Plant

Boiler #4 (Registration #5-0505)

PM Emissions

Non-OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (PM Emission Factor) / (2,000 pounds per ton)

17,227,900 cf(NOS) / 49953 cf(NOS)/hr * 0.4 lb PM/hr / 2000 lb/ton = 0.07 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (PM Emission Factor) / (2,000 pounds per ton)

20 gal(NOS) / 231 gal(NOS)/hr * 0.7 lb PM/hr / 2000 lb/ton = 0.00 tons per year

OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (PM Emission Factor) / (2,000 pounds per ton)

84,695,000 cf(OS) / 49953 cf(OS)/hr * 0.2 lb PM/hr / 2000 lb/ton = 0.17 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (PM Emission Factor) / (2,000 pounds per ton)

523 gal(OS) / 231 gal(OS)/hr * 0.4 lb PM/hr / 2000 lb/ton = 0.00 tons per year

Total PM: 0.24 tpy

NOSD: (Tons of NOS NG PM per Year) * (2,000 pounds per ton) / (Days per year)

0.07 tpy * 2000 lbs/ton / 133 day/year = 1.04 pounds per day

(Tons of NOS Diesel PM per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 1 day/year = 0.06 pounds per day

OSD: (Tons of OS NG PM per Year) * (2,000 pounds per ton) / (Days per year)

0.17 tpy * 2000 lbs/ton / 71 day/year = 4.76 pounds per day

(Tons of OS Diesel PM per Year) * (2,000 pounds per ton) / (Days per year)

0.00 tpy * 2000 lbs/ton / 1 day/year = 0.91 pounds per day

Total Diesel PM: 0.48 ppd (average)

Total NG PM: 2.33 ppd (average)

Note: Emission Factors are derived from stack test results.

Emission Calculations - Main Boiler Plant

Boiler #4 (Registration #5-0505)

CO2 Emissions

Non-OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (CO2 Emission Factor) / (2,000 pounds per ton)

17,227,900 cf(NOS) / 49953 cf(NOS)/hr * 6952 lb CO2/hr / 2000 lb/ton = 1198.85 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (CO2 Emission Factor) / (2,000 pounds per ton)

20 gal(NOS) / 231 gal(NOS)/hr * 9139 lb CO2/hr / 2000 lb/ton = 0.39 tons per year

OS: (Cubic Feet of Natural Gas consumed) / (Fuel Usage Rate) * (CO2 Emission Factor) / (2,000 pounds per ton)

84,695,000 cf(OS) / 49953 cf(OS)/hr * 5436 lb CO2/hr / 2000 lb/ton = 4608.46 tons per year

(Gallons of #2 Oil consumed) / (Fuel Usage Rate) * (CO2 Emission Factor) / (2,000 pounds per ton)

523 gal(OS) / 231 gal(OS)/hr * 7210 lb CO2/hr / 2000 lb/ton = 8.16 tons per year

Total CO2: 5815.86 tpy

NOSD: (Tons of NOS NG CO2 per Year) * (2,000 pounds per ton) / (Days per year)

1,198.85 tpy * 2000 lbs/ton / 133 day/year = 18016.57 pounds per day

(Tons of NOS Diesel CO2 per Year) * (2,000 pounds per ton) / (Days per year)

0.39 tpy * 2000 lbs/ton / 1 day/year = 771.49 pounds per day

OSD: (Tons of OS NG CO2 per Year) * (2,000 pounds per ton) / (Days per year)

4,608.46 tpy * 2000 lbs/ton / 71 day/year = 129284.70 pounds per day

(Tons of OS Diesel CO2 per Year) * (2,000 pounds per ton) / (Days per year)

8.16 tpy * 2000 lbs/ton / 1 day/year = 16323.27 pounds per day

Total CO2: 56362.07 ppd (average)

Total CO2: 7184.35 pph (average)

Note: Emission Factors are derived from stack test results.

Emission Data - Main Boiler Plant

Equipment: Boiler #1
Union Iron Works
Heat Input Rating - 85 MMBTU/hr

MONTH 2022	Oil (gal)	Oil (days)	Gas (cu. ft)	Gas (days)
Jan	995	1	763,400	30
Feb	0	0	37,000	26
March	0	0	5,278,000	24
April	0	0	6,266,000	26
May	0	0	2,784,000	20
June	0	0	34,000	5
July	0	0	31,000	4
Aug	0	0	5,207,000	2
Sept	0	0	1,265,000	2
Oct	32	1	6,193,000	7
Nov	0	0	1,133,000	24
Dec	0	0	744,000	14
Total(yr)	1,027	2	29,735,400	183
Total(OS)	0	0	15,587,000	58

Equipment: Boiler #2
Union Iron Works
Heat Input Rating - 85 MMBTU/hr

MONTH 2022	Oil (gal)	Oil (days)	Gas (cu. ft)	Gas (days)
Jan	743	1	196,900	0
Feb	0	0	859,000	3
March	0	0	3,420,000	11
April	0	0	1,020,000	17
May	0	0	1,448,000	4
June	0	0	11,000	18
July	0	0	12,000	3
Aug	0	0	1,000	2
Sept	0	0	14,000	1
Oct	327	1	13,200	0
Nov	0	0	8	7
Dec	0	0	19	21
Total(yr)	1,070	2	6,995,127	88
Total(OS)	0	0	2,506,000	45

Equipment: Boiler #3
Union Iron Works
Heat Input Rating - 85 MMBTU/hr

MONTH 2022	Oil (gal)	Oil (days)	Gas (cu. ft)	Gas (days)
Jan	1,240	1	210,300	8
Feb	0	0	201,000	6
March	0	0	12,456,000	13
April	0	0	10,056,000	4
May	0	0	168,000	11
June	0	0	150,000	7
July	0	0	17,649,000	30
Aug	0	0	4,790,000	20
Sept	0	0	182,000	12
Oct	48	1	8,494,000	21
Nov	0	0	787,000	3
Dec	0	0	39,000	3
Total(yr)	1,288	2	55,182,300	138
Total(OS)	0	0	32,995,000	84

Equipment: Boiler #4
Keeler
Heat Input Rating - 90 MMBTU/hr

MONTH 2022	Oil (gal)	Oil (days)	Gas (cu. ft)	Gas (days)
Jan	0	0	14,900	24
Feb	0	0	0	27
March	0	0	218,000	17
April	523	1	12,279,000	15
May	0	0	21,393,000	22
June	0	0	21,479,000	12
July	0	0	4,820,000	5
Aug	0	0	4,076,000	2
Sept	0	0	20,648,000	17
Oct	20	1	13,001,000	8
Nov	0	0	3,030,000	30
Dec	0	0	964,000	27
Total(yr)	543	2	101,922,900	204
Total(OS)	523	1	84,695,000	71

Note: Emission Factors are from stack testing or EPA emission factors, as noted.

	Ozone Season		Non-Ozone Season		
	oil	gas	oil	gas	
lb NOx/hr	3.4	5.6	7.1	7.1	same for NO2
lb VOC/hr	0.2	0.5	0.1	0.1	same for CH4
lb SOx/hr	7.9	0	9.1	0.8	
lb CO/hr	0.2	0.1	0.2	0.2	
lb PM/hr	0.4	0.2	0.7	0.4	
lb CO2/hr	7210	5436	9139	6952	

Emission Calculations - Building 9960
Boiler #1 (Registration #5-0891)

NOx Emissions

NOx (tpy):	(Cubic Feet of Natural Gas consumed) * (NOx Emission Factor) / (2,000 pounds per ton)				
	2,733,000 cf NG/yr *	0.000032	lb NOx/cf / 2000 lb/ton =	0.04	tons per year
NOx (ppd):	(Cubic Feet of Natural Gas consumed) * (NOx Emission Factor)				
	17,073 cf NG/day *	0.000032	lb NOx/cf =	0.55	pounds per day
NOx (TOSD):	(Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) * (NOx Emission Factor)				
	13,918 cf NG/OS / OS days *	0.000032	lb NOx/cf =	0.01	pounds per day

VOC Emissions

VOC (tpy):	(Cubic Feet of Natural Gas consumed) * (VOC Emission Factor) / (2,000 pounds per ton)				
	2,733,000 cf NG/yr *	0.0000055	lb VOC/cf / 2000 lb/ton =	0.01	tons per year
VOC (ppd):	(Cubic Feet of Natural Gas consumed) * (VOC Emission Factor)				
	17,073 cf NG/day *	0.0000055	lb VOC/cf =	0.09	pounds per day
VOC (TOSD):	(Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) * (VOC Emission Factor)				
	13,918 cf NG/OS / OS days *	0.0000055	lb VOC/cf =	0.00	pounds per day

CO Emissions

CO (tpy):	(Cubic Feet of Natural Gas consumed) * (CO Emission Factor) / (2,000 pounds per ton)				
	2,733,000 cf NG/yr *	0.000084	lb CO/cf / 2000 lb/ton =	0.11	tons per year
CO (ppd):	(Cubic Feet of Natural Gas consumed) * (CO Emission Factor)				
	17,073 cf NG/day *	0.000084	lb CO/cf =	1.43	pounds per day

SOx Emissions

SOx (tpy):	(Cubic Feet of Natural Gas consumed) * (SOx Emission Factor) / (2,000 pounds per ton)				
	2,733,000 cf NG/yr *	0.0000006	lb SOx/cf / 2000 lb/ton =	0.00	tons per year
SOx (ppd):	(Cubic Feet of Natural Gas consumed) * (SOx Emission Factor)				
	17,073 cf NG/day *	0.0000006	lb SOx/cf =	0.01	pounds per day

PM10 Emissions

PM10 (tpy):	(Cubic Feet of Natural Gas consumed) * (PM10 Emission Factor) / (2,000 pounds per ton)				
	2,733,000 cf NG/yr *	0.0000019	lb PM10/cf/2000 lb/ton =	0.00	tons per year
PM10 (ppd):	(Cubic Feet of Natural Gas consumed) * (PM10 Emission Factor)				
	17,073 cf NG/day *	0.0000019	lb PM10/cf =	0.03	pounds per day

Note: Emission Factors are from AP-42 for natural gas-fired boilers with a heat input rating of less than 100 MMBTU/hr with Low NOx burners and Flue gas recirculation.

Emission Calculations - Building 9960
Boiler #1 (Registration #5-0891)

PM (Condensable) Emissions

PM(C) (tpy):	(Cubic Feet of Natural Gas consumed) * (PM(C) Emission Factor) / (2,000 pounds per ton)			
	2,733,000 cf NG/yr *	0.0000057 lb PM(C)/cf/2000 lb/ton =	0.01	tons per year
PM(C) (ppd):	(Cubic Feet of Natural Gas consumed) * (PM(C) Emission Factor)			
	17,073 cf NG/day *	0.0000057 lb PM(C)/cf =	0.10	pounds per day

CO2 Emissions

CO2 (tpy):	(Cubic Feet of Natural Gas consumed) * (CO2 Emission Factor) / (2,000 pounds per ton)			
	2,733,000 cf NG/yr *	0.12 lb CO2/cf / 2000 lb/ton =	163.98	tons per year
CO2 (ppd):	(Cubic Feet of Natural Gas consumed) * (CO2 Emission Factor)			
	17,073 cf NG/day *	0.12 lb CO2/cf =	2048.72	pounds per day

CH4 Emissions

CH4 (tpy):	(Cubic Feet of Natural Gas consumed) * (CH4 Emission Factor) / (2,000 pounds per ton)			
	2,733,000 cf NG/yr *	0.0000023 lb CH4/cf / 2000 lb/ton =	0.00	tons per year
CH4 (ppd):	(Cubic Feet of Natural Gas consumed) * (CH4 Emission Factor)			
	17,073 cf NG/day *	0.0000023 lb CH4/cf =	0.04	pounds per day

N2O Emissions

N2O (tpy):	(Cubic Feet of Natural Gas consumed) * (N2O Emission Factor) / (2,000 pounds per ton)			
	2,733,000 cf NG/yr *	0.00000064 lb N2O/cf / 2000 lb/ton =	0.00	tons per year
N2O (ppd):	(Cubic Feet of Natural Gas consumed) * (N2O Emission Factor)			
	17,073 cf NG/day *	0.00000064 lb N2O/cf =	0.01	pounds per day

Note: Emission Factors are from AP-42 for natural gas-fired boilers with a heat input rating of less than 100 MMBTU/hr with Low NOx burners and Flue gas recirculation.

Emission Calculations - Building 9960
Boiler #2 (Registration #5-0726/5-0900)

NOx Emissions

NOx (tpy):	(Cubic Feet of Natural Gas consumed) * (NOx Emission Factor) / (2,000 pounds per ton)			
	2,547,000 cf NG/yr *	0.000032 lb NOx/cf / 2000 lb/ton =	0.04	tons per year
NOx (ppd):	(Cubic Feet of Natural Gas consumed) * (NOx Emission Factor)			
	15,974 cf NG/day *	0.000032 lb NOx/cf =	0.51	pounds per day
NOx (TOSD):	(Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) * (NOx Emission Factor)			
	12,024 cf NG/OS / OS days *	0.000032 lb NOx/cf =	0.01	pounds per day

VOC Emissions

VOC (tpy):	(Cubic Feet of Natural Gas consumed) * (VOC Emission Factor) / (2,000 pounds per ton)			
	2,547,000 cf NG/yr *	0.0000055 lb VOC/cf / 2000 lb/ton =	0.01	tons per year
VOC (ppd):	(Cubic Feet of Natural Gas consumed) * (VOC Emission Factor)			
	15,974 cf NG/day *	0.0000055 lb VOC/cf =	0.09	pounds per day
VOC (TOSD):	(Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) * (VOC Emission Factor)			
	12,024 cf NG/OS / OS days *	0.0000055 lb VOC/cf =	0.00	pounds per day

CO Emissions

CO (tpy):	(Cubic Feet of Natural Gas consumed) * (CO Emission Factor) / (2,000 pounds per ton)			
	2,547,000 cf NG/yr *	0.000084 lb CO/cf / 2000 lb/ton =	0.11	tons per year
CO (ppd):	(Cubic Feet of Natural Gas consumed) * (CO Emission Factor)			
	15,974 cf NG/day *	0.000084 lb CO/cf =	1.34	pounds per day

SOx Emissions

SOx (tpy):	(Cubic Feet of Natural Gas consumed) * (SOx Emission Factor) / (2,000 pounds per ton)			
	2,547,000 cf NG/yr *	0.0000006 lb SOx/cf / 2000 lb/ton =	0.00	tons per year
SOx (ppd):	(Cubic Feet of Natural Gas consumed) * (SOx Emission Factor)			
	15,974 cf NG/day *	0.0000006 lb SOx/cf =	0.01	pounds per day

PM10 Emissions

PM10 (tpy):	(Cubic Feet of Natural Gas consumed) * (PM10 Emission Factor) / (2,000 pounds per ton)			
	2,547,000 cf NG/yr *	0.0000019 lb PM10/cf/2000 lb/ton =	0.00	tons per year
PM10 (ppd):	(Cubic Feet of Natural Gas consumed) * (PM10 Emission Factor)			
	15,974 cf NG/day *	0.0000019 lb PM10/cf =	0.03	pounds per day

Note: Emission Factors are from AP-42 for natural gas-fired boilers with a heat input rating of less than 100 MMBTU/hr with Low NOx burners and Flue gas recirculation.

Emission Calculations - Building 9960
Boiler #2 (Registration #5-0726/5-0900)

PM (Condensable) Emissions

PM(C) (tpy):	(Cubic Feet of Natural Gas consumed) * (PM(C) Emission Factor) / (2,000 pounds per ton)			
	2,547,000 cf NG/yr *	0.0000057 lb PM(C)/cf/2000 lb/ton =	0.01	tons per year
PM(C) (ppd):	(Cubic Feet of Natural Gas consumed) * (PM(C) Emission Factor)			
	15,974 cf NG/day *	0.0000057 lb PM(C)/cf =	0.09	pounds per day

CO2 Emissions

CO2 (tpy):	(Cubic Feet of Natural Gas consumed) * (CO2 Emission Factor) / (2,000 pounds per ton)			
	2,547,000 cf NG/yr *	0.12 lb CO2/cf / 2000 lb/ton =	152.82	tons per year
CO2 (ppd):	(Cubic Feet of Natural Gas consumed) * (CO2 Emission Factor)			
	15,974 cf NG/day *	0.12 lb CO2/cf =	1916.90	pounds per day

CH4 Emissions

CH4 (tpy):	(Cubic Feet of Natural Gas consumed) * (CH4 Emission Factor) / (2,000 pounds per ton)			
	2,547,000 cf NG/yr *	0.0000023 lb CH4/cf / 2000 lb/ton =	0.00	tons per year
CH4 (ppd):	(Cubic Feet of Natural Gas consumed) * (CH4 Emission Factor)			
	15,974 cf NG/day *	0.0000023 lb CH4/cf =	0.04	pounds per day

N2O Emissions

N2O (tpy):	(Cubic Feet of Natural Gas consumed) * (N2O Emission Factor) / (2,000 pounds per ton)			
	2,547,000 cf NG/yr *	0.00000064 lb N2O/cf / 2000 lb/ton =	0.00	tons per year
N2O (ppd):	(Cubic Feet of Natural Gas consumed) * (N2O Emission Factor)			
	15,974 cf NG/day *	0.00000064 lb N2O/cf =	0.01	pounds per day

Note: Emission Factors are from AP-42 for natural gas-fired boilers with a heat input rating of less than 100 MMBTU/hr with Low NOx burners and Flue gas recirculation.

Emission Calculations - Building 9960
Boiler #3 (Registration #5-0892)

NOx Emissions

NOx (tpy):	(Cubic Feet of Natural Gas consumed) * (NOx Emission Factor) / (2,000 pounds per ton)			
	2,130,000 cf NG/yr *	0.000032 lb NOx/cf / 2000 lb/ton =	0.03	tons per year
NOx (ppd):	(Cubic Feet of Natural Gas consumed) * (NOx Emission Factor)			
	13,296 cf NG/day *	0.000032 lb NOx/cf =	0.43	pounds per day
NOx (TOSD):	(Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) * (NOx Emission Factor)			
	11,211 cf NG/OS / OS days *	0.000032 lb NOx/cf =	0.01	pounds per day

VOC Emissions

VOC (tpy):	(Cubic Feet of Natural Gas consumed) * (VOC Emission Factor) / (2,000 pounds per ton)			
	2,130,000 cf NG/yr *	0.0000055 lb VOC/cf / 2000 lb/ton =	0.01	tons per year
VOC (ppd):	(Cubic Feet of Natural Gas consumed) * (VOC Emission Factor)			
	13,296 cf NG/day *	0.0000055 lb VOC/cf =	0.07	pounds per day
VOC (TOSD):	(Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) * (VOC Emission Factor)			
	11,211 cf NG/OS / OS days *	0.0000055 lb VOC/cf =	0.00	pounds per day

CO Emissions

CO (tpy):	(Cubic Feet of Natural Gas consumed) * (CO Emission Factor) / (2,000 pounds per ton)			
	2,130,000 cf NG/yr *	0.000084 lb CO/cf / 2000 lb/ton =	0.09	tons per year
CO (ppd):	(Cubic Feet of Natural Gas consumed) * (CO Emission Factor)			
	13,296 cf NG/day *	0.000084 lb CO/cf =	1.12	pounds per day

SOx Emissions

SOx (tpy):	(Cubic Feet of Natural Gas consumed) * (SOx Emission Factor) / (2,000 pounds per ton)			
	2,130,000 cf NG/yr *	0.0000006 lb SOx/cf / 2000 lb/ton =	0.00	tons per year
SOx (ppd):	(Cubic Feet of Natural Gas consumed) * (SOx Emission Factor)			
	13,296 cf NG/day *	0.0000006 lb SOx/cf =	0.01	pounds per day

PM10 Emissions

PM10 (tpy):	(Cubic Feet of Natural Gas consumed) * (PM10 Emission Factor) / (2,000 pounds per ton)			
	2,130,000 cf NG/yr *	0.0000019 lb PM10/cf/2000 lb/ton =	0.00	tons per year
PM10 (ppd):	(Cubic Feet of Natural Gas consumed) * (PM10 Emission Factor)			
	13,296 cf NG/day *	0.0000019 lb PM10/cf =	0.03	pounds per day

PM (Condensable) Emissions

PM(C) (tpy):	(Cubic Feet of Natural Gas consumed) * (PM(C) Emission Factor) / (2,000 pounds per ton)			
	2,130,000 cf NG/yr *	0.0000057 lb PM(C)/cf/2000 lb/ton =	0.01	tons per year
PM(C) (ppd):	(Cubic Feet of Natural Gas consumed) * (PM(C) Emission Factor)			
	13,296 cf NG/day *	0.0000057 lb PM(C)/cf =	0.08	pounds per day

Note: Emission Factors are from AP-42 for natural gas-fired boilers with a heat input rating of less than 100 MMBTU/hr with Low NOx burners and Flue gas recirculation.

Emission Calculations - Building 9960
Boiler #3 (Registration #5-0892)

CO2 Emissions

CO2 (tpy):	(Cubic Feet of Natural Gas consumed) * (CO2 Emission Factor) / (2,000 pounds per ton)			
	2,130,000 cf NG/yr *	0.12 lb CO2/cf / 2000 lb/ton =	127.80	tons per year
CO2 (ppd):	(Cubic Feet of Natural Gas consumed) * (CO2 Emission Factor)			
	13,296 cf NG/day *	0.12 lb CO2/cf =	1595.52	pounds per day

CH4 Emissions

CH4 (tpy):	(Cubic Feet of Natural Gas consumed) * (CH4 Emission Factor) / (2,000 pounds per ton)			
	2,130,000 cf NG/yr *	0.0000023 lb CH4/cf / 2000 lb/ton =	0.00	tons per year
CH4 (ppd):	(Cubic Feet of Natural Gas consumed) * (CH4 Emission Factor)			
	13,296 cf NG/day *	0.0000023 lb CH4/cf =	0.03	pounds per day

N2O Emissions

N2O (tpy):	(Cubic Feet of Natural Gas consumed) * (N2O Emission Factor) / (2,000 pounds per ton)			
	2,130,000 cf NG/yr *	0.00000064 lb N2O/cf / 2000 lb/ton =	0.00	tons per year
N2O (ppd):	(Cubic Feet of Natural Gas consumed) * (N2O Emission Factor)			
	13,296 cf NG/day *	0.00000064 lb N2O/cf =	0.01	pounds per day

Note: Emission Factors are from AP-42 for natural gas-fired boilers with a heat input rating of less than 100 MMBTU/hr with Low NOx burners and Flue gas recirculation.

Emission Calculations - Building 9960
Boiler #4 (Registration #5-0728/5-0900)

NOx Emissions

NOx (tpy):	(Cubic Feet of Natural Gas consumed) *	(NOx Emission Factor) / (2,000 pounds per ton)		
	2,857,000 cf NG/yr *	0.000032 lb NOx/cf / 2000 lb/ton =	0.05	tons per year
NOx (ppd):	(Cubic Feet of Natural Gas consumed) *	(NOx Emission Factor)		
	17,899 cf NG/day *	0.000032 lb NOx/cf =	0.57	pounds per day
NOx (TOSD):	(Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) *	(NOx Emission Factor)		
	12,811 cf NG/OS / OS days *	0.000032 lb NOx/cf =	0.01	pounds per day

VOC Emissions

VOC (tpy):	(Cubic Feet of Natural Gas consumed) *	(VOC Emission Factor) / (2,000 pounds per ton)		
	2,857,000 cf NG/yr *	0.0000055 lb VOC/cf / 2000 lb/ton =	0.01	tons per year
VOC (ppd):	(Cubic Feet of Natural Gas consumed) *	(VOC Emission Factor)		
	17,899 cf NG/day *	0.0000055 lb VOC/cf =	0.10	pounds per day
VOC (TOSD):	(Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) *	(VOC Emission Factor)		
	12,811 cf NG/OS / OS days *	0.0000055 lb VOC/cf =	0.00	pounds per day

CO Emissions

CO (tpy):	(Cubic Feet of Natural Gas consumed) *	(CO Emission Factor) / (2,000 pounds per ton)		
	2,857,000 cf NG/yr *	0.000084 lb CO/cf / 2000 lb/ton =	0.12	tons per year
CO (ppd):	(Cubic Feet of Natural Gas consumed) *	(CO Emission Factor)		
	17,899 cf NG/day *	0.000084 lb CO/cf =	1.50	pounds per day

SOx Emissions

SOx (tpy):	(Cubic Feet of Natural Gas consumed) *	(SOx Emission Factor) / (2,000 pounds per ton)		
	2,857,000 cf NG/yr *	0.0000006 lb SOx/cf / 2000 lb/ton =	0.00	tons per year
SOx (ppd):	(Cubic Feet of Natural Gas consumed) *	(SOx Emission Factor)		
	17,899 cf NG/day *	0.0000006 lb SOx/cf =	0.01	pounds per day

PM10 Emissions

PM10 (tpy):	(Cubic Feet of Natural Gas consumed) *	(PM10 Emission Factor) / (2,000 pounds per ton)		
	2,857,000 cf NG/yr *	0.0000019 lb PM10/cf/2000 lb/ton =	0.00	tons per year
PM10 (ppd):	(Cubic Feet of Natural Gas consumed) *	(PM10 Emission Factor)		
	17,899 cf NG/day *	0.0000019 lb PM10/cf =	0.03	pounds per day

PM (Condensable) Emissions

PM(C) (tpy):	(Cubic Feet of Natural Gas consumed) *	(PM(C) Emission Factor) / (2,000 pounds per ton)		
	2,857,000 cf NG/yr *	0.0000057 lb PM(C)/cf/2000 lb/ton =	0.01	tons per year
PM(C) (ppd):	(Cubic Feet of Natural Gas consumed) *	(PM(C) Emission Factor)		
	17,899 cf NG/day *	0.0000057 lb PM(C)/cf =	0.10	pounds per day

Note: Emission Factors are from AP-42 for natural gas-fired boilers with a heat input rating of less than 100 MMBTU/hr with Low NOx burners and Flue gas recirculation.

Emission Calculations - Building 9960
Boiler #4 (Registration #5-0728/5-0900)

CO2 Emissions

CO2 (tpy):	(Cubic Feet of Natural Gas consumed) *	(CO2 Emission Factor) / (2,000 pounds per ton)		
	2,857,000 cf NG/yr *	0.12 lb CO2/cf / 2000 lb/ton =	171.42	tons per year
CO2 (ppd):	(Cubic Feet of Natural Gas consumed) *	(CO2 Emission Factor)		
	17,899 cf NG/day *	0.12 lb CO2/cf =	2147.85	pounds per day

CH4 Emissions

CH4 (tpy):	(Cubic Feet of Natural Gas consumed) *	(CH4 Emission Factor) / (2,000 pounds per ton)		
	2,857,000 cf NG/yr *	0.0000023 lb CH4/cf / 2000 lb/ton =	0.00	tons per year
CH4 (ppd):	(Cubic Feet of Natural Gas consumed) *	(CH4 Emission Factor)		
	17,899 cf NG/day *	0.0000023 lb CH4/cf =	0.04	pounds per day

N2O Emissions

N2O (tpy):	(Cubic Feet of Natural Gas consumed) *	(N2O Emission Factor) / (2,000 pounds per ton)		
	2,857,000 cf NG/yr *	0.00000064 lb N2O/cf / 2000 lb/ton =	0.00	tons per year
N2O (ppd):	(Cubic Feet of Natural Gas consumed) *	(N2O Emission Factor)		
	17,899 cf NG/day *	0.00000064 lb N2O/cf =	0.01	pounds per day

Note: Emission Factors are from AP-42 for natural gas-fired boilers with a heat input rating of less than 100 MMBTU/hr with Low NOx burners and Flue gas recirculation.

Emission Data - Building 9960 Boilers

Boiler:	#1		#2		#3		#4	
Reg.#:	5-0891		5-0900		5-0892		5-0900	
MONTH 2022	Gas (cu. ft)	Gas (hours)	Gas (cu. ft)	Gas (hours)	Gas (cu. ft)	Gas (hours)	Gas (cu. ft)	Gas (hours)
Jan	399,000	369.93	678,000	362.67	289,000	371.77	524,000	383.89
Feb	313,000	339.24	190,000	333.04	206,000	335.59	327,000	310.51
March	254,000	337.26	197,000	343.33	245,000	413.74	275,000	355.01
April	247,000	369.50	212,000	358.63	167,000	290.67	230,000	362.48
May	165,000	289.00	135,000	281.00	128,000	283.00	143,000	281.00
June	153,000	278.00	137,000	291.00	122,000	279.00	141,000	280.00
July	120,000	222.00	104,000	225.00	102,000	233.00	114,000	229.00
Aug	142,000	259.00	120,000	254.00	110,000	253.00	128,000	254.00
Sept	147,000	262.00	130,000	263.00	143,000	314.00	133,000	259.00
Oct	218,000	336.00	178,000	338.00	166,000	318.00	225,000	360.00
Nov	231,000	349.00	220,000	369.00	263,000	356.00	269,000	354.00
Dec	344,000	431.00	246,000	408.00	189,000	397.00	348,000	402.00
Total(yr)	2,733,000	3842	2,547,000	3827	2,130,000	3845	2,857,000	3831
Total(OS)	974,000	1680	838,000	1673	772,000	1653	889,000	1665

Gas usage based on Meter Readings

Emission Calculations - Building 9900
Boiler #1 (Registration #5-0644)

NOx Emissions

NOx (tpy): (Cubic Feet of Natural Gas consumed) * (NOx Emission Factor) / (2,000 pounds per ton)
518,200 cf NG/yr * 0.0001 lb NOx/cf / 2000 lb/ton = 0.03 tons per year
NOx (ppd): (Cubic Feet of Natural Gas consumed) * (NOx Emission Factor)
11,716 cf NG/day * 0.0001 lb NOx/cf = 1.17 pounds per day
NOx (TOSD): (Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) * (NOx Emission Factor)
72,200 cf NG/OS / OS days * 0.0001 lb NOx/cf = 1.06 pounds per day

VOC Emissions

VOC (tpy): (Cubic Feet of Natural Gas consumed) * (VOC Emission Factor) / (2,000 pounds per ton)
518,200 cf NG/yr * 0.0000055 lb VOC/cf / 2000 lb/ton = 0.00 tons per year
VOC (ppd): (Cubic Feet of Natural Gas consumed) * (VOC Emission Factor)
11,716 cf NG/day * 0.0000055 lb VOC/cf = 0.06 pounds per day
VOC (TOSD): (Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) * (VOC Emission Factor)
72,200 cf NG/OS / OS days * 0.0000055 lb VOC/cf = 0.06 pounds per day

CO Emissions

CO (tpy): (Cubic Feet of Natural Gas consumed) * (CO Emission Factor) / (2,000 pounds per ton)
518,200 cf NG/yr * 0.000084 lb CO/cf / 2000 lb/ton = 0.02 tons per year
CO (ppd): (Cubic Feet of Natural Gas consumed) * (CO Emission Factor)
11,716 cf NG/day * 0.000084 lb CO/cf = 0.98 pounds per day

SOx Emissions

SOx (tpy): (Cubic Feet of Natural Gas consumed) * (SOx Emission Factor) / (2,000 pounds per ton)
518,200 cf NG/yr * 0.0000006 lb SOx/cf / 2000 lb/ton = 0.00 tons per year
SOx (ppd): (Cubic Feet of Natural Gas consumed) * (SOx Emission Factor)
11,716 cf NG/day * 0.0000006 lb SOx/cf = 0.01 pounds per day

PM10 Emissions

PM10 (tpy): (Cubic Feet of Natural Gas consumed) * (PM10 Emission Factor) / (2,000 pounds per ton)
518,200 cf NG/yr * 0.0000019 lb PM10/cf/2000 lb/ton = 0.00 tons per year
PM10 (ppd): (Cubic Feet of Natural Gas consumed) * (PM10 Emission Factor)
11,716 cf NG/day * 0.0000019 lb PM10/cf = 0.02 pounds per day

PM (Condensable) Emissions

PM(C) (tpy): (Cubic Feet of Natural Gas consumed) * (PM(C) Emission Factor) / (2,000 pounds per ton)
518,200 cf NG/yr * 0.0000057 lb PM(C)/cf/2000 lb/ton = 0.00 tons per year
PM(C) (ppd): (Cubic Feet of Natural Gas consumed) * (PM(C) Emission Factor)
11,716 cf NG/day * 0.0000057 lb PM(C)/cf = 0.07 pounds per day

 Note: Emission Factors are from AP-42 for natural gas-fired boilers with a heat input rating of less than 10 MMBTU/hr.

Emission Calculations - Building 9900
Boiler #1 (Registration #5-0644)

CO2 Emissions

CO2 (tpy): (Cubic Feet of Natural Gas consumed) * (CO2 Emission Factor) / (2,000 pounds per ton)

518,200	cf NG/yr *	0.12	lb CO2/cf / 2000 lb/ton =	31.09	tons per year

CO2 (ppd): (Cubic Feet of Natural Gas consumed) * (CO2 Emission Factor)

11,716	cf NG/day *	0.12	lb CO2/cf =	1405.95	pounds per day

CH4 Emissions

CH4 (tpy): (Cubic Feet of Natural Gas consumed) * (CH4 Emission Factor) / (2,000 pounds per ton)

518,200	cf NG/yr *	0.0000023	lb CH4/cf / 2000 lb/ton =	0.00	tons per year

CH4 (ppd): (Cubic Feet of Natural Gas consumed) * (CH4 Emission Factor)

11,716	cf NG/day *	0.0000023	lb CH4/cf =	0.03	pounds per day

N2O Emissions

N2O (tpy): (Cubic Feet of Natural Gas consumed) * (N2O Emission Factor) / (2,000 pounds per ton)

518,200	cf NG/yr *	0.00000064	lb N2O/cf / 2000 lb/ton =	0.00	tons per year

N2O (ppd): (Cubic Feet of Natural Gas consumed) * (N2O Emission Factor)

11,716	cf NG/day *	0.00000064	lb N2O/cf =	0.01	pounds per day

 Note: Emission Factors are from AP-42 for natural gas-fired boilers with a heat input rating of less than 10 MMBTU/hr.

Emission Calculations - Building 9900
Boiler #2 (Registration #5-0645)

NOx Emissions

NOx (tpy):	(Cubic Feet of Natural Gas consumed) * (NOx Emission Factor) / (2,000 pounds per ton)					
	25,150	cf NG/yr *	0.0001	lb NOx/cf / 2000 lb/ton =	0.00	tons per year
NOx (ppd):	(Cubic Feet of Natural Gas consumed) * (NOx Emission Factor)					
	232,154	cf NG/day *	0.0001	lb NOx/cf =	23.22	pounds per day
NOx (TOSD):	(Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) * (NOx Emission Factor)					
	14,590	cf NG/OS / OS days *	0.0001	lb NOx/cf =	21.88	pounds per day

VOC Emissions

VOC (tpy):	(Cubic Feet of Natural Gas consumed) * (VOC Emission Factor) / (2,000 pounds per ton)					
	25,150	cf NG/yr *	0.0000055	lb VOC/cf / 2000 lb/ton =	0.00	tons per year
VOC (ppd):	(Cubic Feet of Natural Gas consumed) * (VOC Emission Factor)					
	232,154	cf NG/day *	0.0000055	lb VOC/cf =	1.28	pounds per day
VOC (TOSD):	(Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) * (VOC Emission Factor)					
	14,590	cf NG/OS / OS days *	0.0000055	lb VOC/cf =	1.20	pounds per day

CO Emissions

CO (tpy):	(Cubic Feet of Natural Gas consumed) * (CO Emission Factor) / (2,000 pounds per ton)					
	25,150	cf NG/yr *	0.000084	lb CO/cf / 2000 lb/ton =	0.00	tons per year
CO (ppd):	(Cubic Feet of Natural Gas consumed) * (CO Emission Factor)					
	232,154	cf NG/day *	0.000084	lb CO/cf =	19.50	pounds per day

SOx Emissions

SOx (tpy):	(Cubic Feet of Natural Gas consumed) * (SOx Emission Factor) / (2,000 pounds per ton)					
	25,150	cf NG/yr *	0.0000006	lb SOx/cf / 2000 lb/ton =	0.00	tons per year
SOx (ppd):	(Cubic Feet of Natural Gas consumed) * (SOx Emission Factor)					
	232,154	cf NG/day *	0.0000006	lb SOx/cf =	0.14	pounds per day

PM10 Emissions

PM10 (tpy):	(Cubic Feet of Natural Gas consumed) * (PM10 Emission Factor) / (2,000 pounds per ton)					
	25,150	cf NG/yr *	0.0000019	lb PM10/cf/2000 lb/ton =	0.00	tons per year
PM10 (ppd):	(Cubic Feet of Natural Gas consumed) * (PM10 Emission Factor)					
	232,154	cf NG/day *	0.0000019	lb PM10/cf =	0.44	pounds per day

PM (Condensable) Emissions

PM(C) (tpy):	(Cubic Feet of Natural Gas consumed) * (PM(C) Emission Factor) / (2,000 pounds per ton)					
	25,150	cf NG/yr *	0.0000057	lb PM(C)/cf/2000 lb/ton =	0.00	tons per year
PM(C) (ppd):	(Cubic Feet of Natural Gas consumed) * (PM(C) Emission Factor)					
	232,154	cf NG/day *	0.0000057	lb PM(C)/cf =	1.32	pounds per day

Note: Emission Factors are from AP-42 for natural gas-fired boilers with a heat input rating of less than 10 MMBTU/hr.

Emission Calculations - Building 9900
Boiler #2 (Registration #5-0645)

CO2 Emissions

CO2 (tpy):	(Cubic Feet of Natural Gas consumed) *	(CO2 Emission Factor) /	(2,000 pounds per ton)		
	25,150 cf NG/yr *	0.12 lb CO2/cf /	2000 lb/ton =	1.51	tons per year
CO2 (ppd):	(Cubic Feet of Natural Gas consumed) *	(CO2 Emission Factor)			
	232,154 cf NG/day *	0.12 lb CO2/cf =		27858.46	pounds per day

CH4 Emissions

CH4 (tpy):	(Cubic Feet of Natural Gas consumed) *	(CH4 Emission Factor) /	(2,000 pounds per ton)		
	25,150 cf NG/yr *	0.0000023 lb CH4/cf /	2000 lb/ton =	0.00	tons per year
CH4 (ppd):	(Cubic Feet of Natural Gas consumed) *	(CH4 Emission Factor)			
	232,154 cf NG/day *	0.0000023 lb CH4/cf =		0.53	pounds per day

N2O Emissions

N2O (tpy):	(Cubic Feet of Natural Gas consumed) *	(N2O Emission Factor) /	(2,000 pounds per ton)		
	25,150 cf NG/yr *	0.00000064 lb N2O/cf /	2000 lb/ton =	0.00	tons per year
N2O (ppd):	(Cubic Feet of Natural Gas consumed) *	(N2O Emission Factor)			
	232,154 cf NG/day *	0.00000064 lb N2O/cf =		0.15	pounds per day

 Note: Emission Factors are from AP-42 for natural gas-fired boilers with a heat input rating of less than 10 MMBTU/hr.

Emission Data - Building 9900 Boilers

Boiler:	#1		#2	
Reg.#:	5-0644		5-0645	
MONTH 2022	Gas (cu. ft)	Gas days	Gas (cu. ft)	Gas (days)
Jan	103,000	12	6,000	0.00
Feb	78,000	9	3,000	0.04
March	68,000	8	1,000	0.00
April	50,000	6	900	0.00
May	13,000	1	3,000	0.00
June	200	0	5,500	0.07
July	-	0	5,000	0.00
Aug	-	0	100	0.00
Sept	9,000	0	90	0.00
Oct	40,000	0	100	0.00
Nov	72,000	1	60	0.00
Dec	85,000	8	400	0.00
Total(yr)	518,200	44	25,150	0
Total(OS)	72,200	7	14,590	0

Note: Basis is 1050 BTU/cf.
*Some data estimated due to inoperable meters

Space Heater Analysis	
2021	
Oct	76000
Nov	119000
Dec	233000
2022	
Jan	109000
Feb	81000
Mar	69000
Apr	50900
May	16000
Jun	5700
Jul	5000
Aug	100
Sep	9090
Total	773790
"Winter"	611000
SH?	Yes

Emission Calculations - Building 9700

York Shipley Boiler (Registration #5-0450)

NOx Emissions

NOx (tpy):	(Cubic Feet of Natural Gas consumed) * (NOx Emission Factor) / (2,000 pounds per ton)				
	913,040 cf NG/yr *	0.000032 lb NOx/cf / 2000 lb/ton =		0.01	tons per year
NOx (ppd):	(Cubic Feet of Natural Gas consumed) * (NOx Emission Factor)				
	106,374 cf NG/day *	0.000032 lb NOx/cf =		3.40	pounds per day
NOx (TOSD):	(Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) * (NOx Emission Factor)				
	913,040 cf NG/OS / OS days *	0.000032 lb NOx/cf =		5.75	pounds per day

VOC Emissions

VOC (tpy):	(Cubic Feet of Natural Gas consumed) * (VOC Emission Factor) / (2,000 pounds per ton)				
	913,040 cf NG/yr *	0.0000055 lb VOC/cf / 2000 lb/ton =		0.00	tons per year
VOC (ppd):	(Cubic Feet of Natural Gas consumed) * (VOC Emission Factor)				
	106,374 cf NG/day *	0.0000055 lb VOC/cf =		0.59	pounds per day
VOC (TOSD):	(Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) * (VOC Emission Factor)				
	913,040 cf NG/OS / OS days *	0.0000055 lb VOC/cf =		0.99	pounds per day

CO Emissions

CO (tpy):	(Cubic Feet of Natural Gas consumed) * (CO Emission Factor) / (2,000 pounds per ton)				
	913,040 cf NG/yr *	0.000084 lb CO/cf / 2000 lb/ton =		0.04	tons per year
CO (ppd):	(Cubic Feet of Natural Gas consumed) * (CO Emission Factor)				
	106,374 cf NG/day *	0.000084 lb CO/cf =		8.94	pounds per day

SOx Emissions

SOx (tpy):	(Cubic Feet of Natural Gas consumed) * (SOx Emission Factor) / (2,000 pounds per ton)				
	913,040 cf NG/yr *	0.0000006 lb SOx/cf / 2000 lb/ton =		0.00	tons per year
SOx (ppd):	(Cubic Feet of Natural Gas consumed) * (SOx Emission Factor)				
	106,374 cf NG/day *	0.0000006 lb SOx/cf =		0.06	pounds per day

PM10 Emissions

PM10 (tpy):	(Cubic Feet of Natural Gas consumed) * (PM10 Emission Factor) / (2,000 pounds per ton)				
	913,040 cf NG/yr *	0.0000019 lb PM10/cf/2000 lb/ton =		0.00	tons per year
PM10 (ppd):	(Cubic Feet of Natural Gas consumed) * (PM10 Emission Factor)				
	106,374 cf NG/day *	0.0000019 lb PM10/cf =		0.20	pounds per day

Note: Emission Factors are from AP-42 for natural gas-fired boilers with a heat input rating of less than 100 MMBTU/hr with Low NOx burners and Flue gas recirculation.

Emission Calculations - Building 9700

York Shipley Boiler (Registration #5-0450)

PM (Condensable) Emissions

PM(C) (tpy): (Cubic Feet of Natural Gas consumed) * (PM(C) Emission Factor) / (2,000 pounds per ton)

913,040 cf NG/yr * 0.0000057 lb PM(C)/cf/2000 lb/ton = 0.00 tons per year

PM(C) (ppd): (Cubic Feet of Natural Gas consumed) * (PM(C) Emission Factor)

106,374 cf NG/day * 0.0000057 lb PM(C)/cf = 0.61 pounds per day

CO2 Emissions

CO2 (tpy): (Cubic Feet of Natural Gas consumed) * (CO2 Emission Factor) / (2,000 pounds per ton)

913,040 cf NG/yr * 0.12 lb CO2/cf / 2000 lb/ton = 54.78 tons per year

CO2 (ppd): (Cubic Feet of Natural Gas consumed) * (CO2 Emission Factor)

106,374 cf NG/day * 0.12 lb CO2/cf = 12764.83 pounds per day

CH4 Emissions

CH4 (tpy): (Cubic Feet of Natural Gas consumed) * (CH4 Emission Factor) / (2,000 pounds per ton)

913,040 cf NG/yr * 0.0000023 lb CH4/cf / 2000 lb/ton = 0.00 tons per year

CH4 (ppd): (Cubic Feet of Natural Gas consumed) * (CH4 Emission Factor)

106,374 cf NG/day * 0.0000023 lb CH4/cf = 0.24 pounds per day

N2O Emissions

N2O (tpy): (Cubic Feet of Natural Gas consumed) * (N2O Emission Factor) / (2,000 pounds per ton)

913,040 cf NG/yr * 0.00000064 lb N2O/cf / 2000 lb/ton = 0.00 tons per year

N2O (ppd): (Cubic Feet of Natural Gas consumed) * (N2O Emission Factor)

106,374 cf NG/day * 0.00000064 lb N2O/cf = 0.07 pounds per day

Note: Emission Factors are from AP-42 for natural gas-fired boilers with a heat input rating of less than 100 MMBTU/hr with Low NOx burners and Flue gas recirculation.

Emission Data - Building 9700 York Shipley Boiler

Equipment:	Unilux ZF 1400HS			
Reg.#:	5-0890			
Heat Input Rating:	14.46 MMBTU/hr			
MONTH 2014	On Call (days)	On Call (hr)	Steam Prod (lbs)	Total Gas (cu. ft)
Jan	-	-	-	-
Feb	-	-	-	-
March	-	-	-	-
April	1	6	2,629	3,040
May	-	-	-	-
June	-	-	22,491	26,000
July	1	8	865	1,000
Aug	8	192	758,557	883,000
Sept	-	-	-	-
Oct	-	-	-	-
Nov	-	-	-	-
Dec	-	-	-	-
Total(yr)	10	206	784,543	913,040
Total(OS)	10	206	784,543	913,040

Gas usage based on SPL Meter Readings

Emission Calculations - Building 9817
Fulton Boiler (Registration #5-0674)

NOx Emissions

NOx (tpy):	(Cubic Feet of Natural Gas consumed) * (NOx Emission Factor) / (2,000 pounds per ton)					
	18,597	cf NG/yr *	0.000032	lb NOx/cf / 2000 lb/ton =	0.00	tons per year
NOx (ppd):	(Cubic Feet of Natural Gas consumed) * (NOx Emission Factor)					
	372	cf NG/day *	0.000032	lb NOx/cf =	0.01	pounds per day
NOx (TOSD):	(Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) * (NOx Emission Factor)					
	9,000	cf NG/OS / OS days *	0.000032	lb NOx/cf =	0.01	pounds per day

VOC Emissions

VOC (tpy):	(Cubic Feet of Natural Gas consumed) * (VOC Emission Factor) / (2,000 pounds per ton)					
	18,597	cf NG/yr *	0.0000055	lb VOC/cf / 2000 lb/ton =	0.00	tons per year
VOC (ppd):	(Cubic Feet of Natural Gas consumed) * (VOC Emission Factor)					
	372	cf NG/day *	0.0000055	lb VOC/cf =	0.00	pounds per day
VOC (TOSD):	(Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) * (VOC Emission Factor)					
	9,000	cf NG/OS / OS days *	0.0000055	lb VOC/cf =	0.00	pounds per day

CO Emissions

CO (tpy):	(Cubic Feet of Natural Gas consumed) * (CO Emission Factor) / (2,000 pounds per ton)					
	18,597	cf NG/yr *	0.000084	lb CO/cf / 2000 lb/ton =	0.00	tons per year
CO (ppd):	(Cubic Feet of Natural Gas consumed) * (CO Emission Factor)					
	372	cf NG/day *	0.000084	lb CO/cf =	0.03	pounds per day

SOx Emissions

SOx (tpy):	(Cubic Feet of Natural Gas consumed) * (SOx Emission Factor) / (2,000 pounds per ton)					
	18,597	cf NG/yr *	0.0000006	lb SOx/cf / 2000 lb/ton =	0.00	tons per year
SOx (ppd):	(Cubic Feet of Natural Gas consumed) * (SOx Emission Factor)					
	372	cf NG/day *	0.0000006	lb SOx/cf =	0.00	pounds per day

PM10 Emissions

PM10 (tpy):	(Cubic Feet of Natural Gas consumed) * (PM10 Emission Factor) / (2,000 pounds per ton)					
	18,597	cf NG/yr *	0.0000019	lb PM10/cf/2000 lb/ton =	0.00	tons per year
PM10 (ppd):	(Cubic Feet of Natural Gas consumed) * (PM10 Emission Factor)					
	372	cf NG/day *	0.0000019	lb PM10/cf =	0.00	pounds per day

Note: Emission Factors are from AP-42 for natural gas-fired boilers with a heat input rating of less than 100 MMBTU/hr with Low NOx burners and Flue gas recirculation.

Emission Calculations - Building 9817
Fulton Boiler (Registration #5-0674)

PM (Condensable) Emissions

PM(C) (tpy): (Cubic Feet of Natural Gas consumed) * (PM(C) Emission Factor) / (2,000 pounds per ton)

18,597	cf NG/yr *	0.0000057	lb PM(C)/cf/2000 lb/ton =	0.00	tons per year

PM(C) (ppd): (Cubic Feet of Natural Gas consumed) * (PM(C) Emission Factor)

372	cf NG/day *	0.0000057	lb PM(C)/cf =	0.00	pounds per day

CO2 Emissions

CO2 (tpy): (Cubic Feet of Natural Gas consumed) * (CO2 Emission Factor) / (2,000 pounds per ton)

18,597	cf NG/yr *	0.12	lb CO2/cf / 2000 lb/ton =	1.12	tons per year

CO2 (ppd): (Cubic Feet of Natural Gas consumed) * (CO2 Emission Factor)

372	cf NG/day *	0.12	lb CO2/cf =	44.63	pounds per day

CH4 Emissions

CH4 (tpy): (Cubic Feet of Natural Gas consumed) * (CH4 Emission Factor) / (2,000 pounds per ton)

18,597	cf NG/yr *	0.0000023	lb CH4/cf / 2000 lb/ton =	0.00	tons per year

CH4 (ppd): (Cubic Feet of Natural Gas consumed) * (CH4 Emission Factor)

372	cf NG/day *	0.0000023	lb CH4/cf =	0.00	pounds per day

N2O Emissions

N2O (tpy): (Cubic Feet of Natural Gas consumed) * (N2O Emission Factor) / (2,000 pounds per ton)

18,597	cf NG/yr *	0.00000064	lb N2O/cf / 2000 lb/ton =	0.00	tons per year

N2O (ppd): (Cubic Feet of Natural Gas consumed) * (N2O Emission Factor)

372	cf NG/day *	0.00000064	lb N2O/cf =	0.00	pounds per day

Note: Emission Factors are from AP-42 for natural gas-fired boilers with a heat input rating of less than 100 MMBTU/hr with Low NOx burners and Flue gas recirculation.

Emission Data - Building 9817 Fulton Boiler

Equipment:	Fulton (Model VMP80LE)			
Reg.#:	5-0674			
Heat Input Rating:	3.5 MMBTU/hr			
MONTH 2022	On Call (days)	On Call (hr)	Steam Prod (lbs)	Total Gas (cu. ft)
Jan	8	192	83	97
Feb	0	0	0	0
March	0	0	0	0
April	3	52	173	200
May	5	99	250	290
June	8	170	6877	8000
July	3	59	190	220
Aug	7	154	249	290
Sept	0	0	0	0
Oct	10	217	7725	9000
Nov	0	0	0	0
Dec	6	122	431	500
Total(yr)	50	1,065	15,977	18,597
Total(OS)	26	534	7,739	9,000

Gas usage based on Meter Readings

Emission Calculations - Building 9220
Boilers (Registration #5-0809)

NOx Emissions

NOx (tpy):	(Cubic Feet of Natural Gas consumed) * (NOx Emission Factor) / (2,000 pounds per ton)			
	4,100,798 cf NG/yr *	0.000050 lb NOx/cf / 2000 lb/ton =	0.10	tons per year
NOx (ppd):	(Cubic Feet of Natural Gas consumed) * (NOx Emission Factor)			
	2808.7654 cf NG/day *	0.000050 lb NOx/cf =	0.14	pounds per day
NOx (TOSD):	(Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) * (NOx Emission Factor)			
	1,849 cf NG/OS / OS days *	0.000050 lb NOx/cf =	0.09	pounds per day

VOC Emissions

VOC (tpy):	(Cubic Feet of Natural Gas consumed) * (VOC Emission Factor) / (2,000 pounds per ton)			
	4,100,798 cf NG/yr *	0.0000055 lb VOC/cf / 2000 lb/ton =	0.01	tons per year
VOC (ppd):	(Cubic Feet of Natural Gas consumed) * (VOC Emission Factor)			
	2,809 cf NG/day *	0.0000055 lb VOC/cf =	0.02	pounds per day
VOC (TOSD):	(Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) * (VOC Emission Factor)			
	1,849 cf NG/OS / OS days *	0.0000055 lb VOC/cf =	0.01	pounds per day

CO Emissions

CO (tpy):	(Cubic Feet of Natural Gas consumed) * (CO Emission Factor) / (2,000 pounds per ton)			
	4,100,798 cf NG/yr *	0.000084 lb CO/cf / 2000 lb/ton =	0.17	tons per year
CO (ppd):	(Cubic Feet of Natural Gas consumed) * (CO Emission Factor)			
	2,809 cf NG/day *	0.000084 lb CO/cf =	0.24	pounds per day

SOx Emissions

SOx (tpy):	(Cubic Feet of Natural Gas consumed) * (SOx Emission Factor) / (2,000 pounds per ton)			
	4,100,798 cf NG/yr *	0.0000006 lb SOx/cf / 2000 lb/ton =	0.00	tons per year
SOx (ppd):	(Cubic Feet of Natural Gas consumed) * (SOx Emission Factor)			
	2,809 cf NG/day *	0.0000006 lb SOx/cf =	0.00	pounds per day

PM10 Emissions

PM10 (tpy):	(Cubic Feet of Natural Gas consumed) * (PM10 Emission Factor) / (2,000 pounds per ton)			
	4,100,798 cf NG/yr *	0.0000019 lb PM10/cf/2000 lb/ton =	0.00	tons per year
PM10 (ppd):	(Cubic Feet of Natural Gas consumed) * (PM10 Emission Factor)			
	2,809 cf NG/day *	0.0000019 lb PM10/cf =	0.01	pounds per day

PM (Condensable) Emissions

PM(C) (tpy):	(Cubic Feet of Natural Gas consumed) * (PM(C) Emission Factor) / (2,000 pounds per ton)			
	4,100,798 cf NG/yr *	0.0000057 lb PM(C)/cf/2000 lb/ton =	0.01	tons per year
PM(C) (ppd):	(Cubic Feet of Natural Gas consumed) * (PM(C) Emission Factor)			
	2,809 cf NG/day *	0.0000057 lb PM(C)/cf =	0.02	pounds per day

Emission Calculations - Building 9220
Boilers (Registration #5-0809)

CO2 Emissions

CO2 (tpy):	(Cubic Feet of Natural Gas consumed) * (CO2 Emission Factor) / (2,000 pounds per ton)			
	4,100,798 cf NG/yr *	0.12 lb CO2/cf / 2000 lb/ton =	246.05	tons per year
CO2 (ppd):	(Cubic Feet of Natural Gas consumed) * (CO2 Emission Factor)			
	2,809 cf NG/day *	0.12 lb CO2/cf =	337.05	pounds per day

CH4 Emissions

CH4 (tpy):	(Cubic Feet of Natural Gas consumed) * (CH4 Emission Factor) / (2,000 pounds per ton)			
	4,100,798 cf NG/yr *	0.0000023 lb CH4/cf / 2000 lb/ton =	0.00	tons per year
CH4 (ppd):	(Cubic Feet of Natural Gas consumed) * (CH4 Emission Factor)			
	2,809 cf NG/day *	0.0000023 lb CH4/cf =	0.01	pounds per day

N2O Emissions

N2O (tpy):	(Cubic Feet of Natural Gas consumed) * (N2O Emission Factor) / (2,000 pounds per ton)			
	4,100,798 cf NG/yr *	0.0000022 lb N2O/cf / 2000 lb/ton =	0.00	tons per year
N2O (ppd):	(Cubic Feet of Natural Gas consumed) * (N2O Emission Factor)			
	2,809 cf NG/day *	0.0000022 lb N2O/cf =	0.01	pounds per day

Emission Data - Building 9220 Boilers

Boiler:	#1		#2		#3		#4	
Reg.#:	5-0809		5-0809		5-0809		5-0809	
MONTH 2022	Gas (cu. ft)	Gas (hours)	Gas (cu. ft)	Gas (hours)	Gas (cu. ft)	Gas (hours)	Gas (cu. ft)	Gas (hours)
Jan	122663	744	122663	744	122663	744	122663	744
Feb	91104	672	91104	672	91104	672	91104	672
March	84294	744	84294	744	84294	744	84294	744
April	69641	720	69641	720	69641	720	69641	720
May	56049	744	56049	744	56049	744	56049	744
June	43618	720	43618	720	43618	720	43618	720
July	46903	744	46903	744	46903	744	46903	744
Aug	62357	744	62357	744	62357	744	62357	744
Sept	59745	720	59745	720	59745	720	59745	720
Oct	108883	744	108883	744	108883	744	108883	744
Nov	124607	720	124607	720	124607	720	124607	720
Dec	155334	744	155334	744	155334	744	155334	744
Total(yr)	1,025,199	8760	1,025,199	8760	1,025,199	8760	1,025,199	8760
Total(OS)	338,314	4392	338,314	4392	338,314	4392	338,314	4392

Gas usage based on single building meter reading. Project to install individual meters initated.

AP42 emission factors

Emission Calculations - Building 9230
Boiler (Registration #5-0810)

NOx Emissions

NOx (tpy):	(Cubic Feet of Natural Gas consumed) * (NOx Emission Factor)				
	7,746,750 cf NG/yr *	0.000050	lb NOx/hr / 2000 lb/ton =	0.19	tons per year
NOx (ppd):	(Cubic Feet of Natural Gas consumed) * (NOx Emission Factor)				
	5,306 cf NG/day *	0.000050	lb NOx/hr =	0.27	pounds per day
NOx (TOSD):	(Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) * (NOx Emission Factor)				
	3939.9684 cf NG/OS / OS days *	0.000050	lb NOx/cf =	0.20	pounds per day

VOC Emissions

VOC (tpy):	(Cubic Feet of Natural Gas consumed) * (VOC Emission Factor) / (2,000 pounds per ton)				
	7,746,750 cf NG/yr *	0.0000055	lb VOC/cf / 2000 lb/ton =	0.02	tons per year
VOC (ppd):	(Cubic Feet of Natural Gas consumed) * (VOC Emission Factor)				
	5,306 cf NG/day *	0.0000055	lb VOC/cf =	0.03	pounds per day
VOC (TOSD):	(Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) * (VOC Emission Factor)				
	3,940 cf NG/OS / OS days *	0.0000055	lb VOC/cf =	0.02	pounds per day

CO Emissions

CO (tpy):	(Cubic Feet of Natural Gas consumed) * (CO Emission Factor) / (2,000 pounds per ton)				
	7,746,750 cf NG/yr *	0.000084	lb CO/cf / 2000 lb/ton =	0.33	tons per year
CO (ppd):	(Cubic Feet of Natural Gas consumed) * (CO Emission Factor)				
	5,306 cf NG/day *	0.000084	lb CO/cf =	0.45	pounds per day

SOx Emissions

SOx (tpy):	(Cubic Feet of Natural Gas consumed) * (SOx Emission Factor) / (2,000 pounds per ton)				
	7,746,750 cf NG/yr *	0.0000006	lb SOx/cf / 2000 lb/ton =	0.00	tons per year
SOx (ppd):	(Cubic Feet of Natural Gas consumed) * (SOx Emission Factor)				
	5,306 cf NG/day *	0.0000006	lb SOx/cf =	0.00	pounds per day

PM10 Emissions

PM10 (tpy):	(Cubic Feet of Natural Gas consumed) * (PM10 Emission Factor) / (2,000 pounds per ton)				
	7,746,750 cf NG/yr *	0.0000019	lb PM10/cf/2000 lb/ton =	0.01	tons per year
PM10 (ppd):	(Cubic Feet of Natural Gas consumed) * (PM10 Emission Factor)				
	5,306 cf NG/day *	0.0000019	lb PM10/cf =	0.01	pounds per day

PM (Condensable) Emissions

PM(C) (tpy):	(Cubic Feet of Natural Gas consumed) * (PM(C) Emission Factor) / (2,000 pounds per ton)				
	7,746,750 cf NG/yr *	0.0000057	lb PM(C)/cf/2000 lb/ton =	0.02	tons per year
PM(C) (ppd):	(Cubic Feet of Natural Gas consumed) * (PM(C) Emission Factor)				
	5,306 cf NG/day *	0.0000057	lb PM(C)/cf =	0.03	pounds per day

Emission Calculations - Building 9230
Boiler (Registration #5-0810)

CO2 Emissions

CO2 (tpy):	(Cubic Feet of Natural Gas consumed) * (CO2 Emission Factor) / (2,000 pounds per ton)			
	7,746,750 cf NG/yr *	0.12 lb CO2/cf / 2000 lb/ton =	464.81	tons per year
CO2 (ppd):	(Cubic Feet of Natural Gas consumed) * (CO2 Emission Factor)			
	5,306 cf NG/day *	0.12 lb CO2/cf =	636.72	pounds per day

CH4 Emissions

CH4 (tpy):	(Cubic Feet of Natural Gas consumed) * (CH4 Emission Factor) / (2,000 pounds per ton)			
	7,746,750 cf NG/yr *	0.0000023 lb CH4/cf / 2000 lb/ton =	0.01	tons per year
CH4 (ppd):	(Cubic Feet of Natural Gas consumed) * (CH4 Emission Factor)			
	5,306 cf NG/day *	0.0000023 lb CH4/cf =	0.01	pounds per day

N2O Emissions

N2O (tpy):	(Cubic Feet of Natural Gas consumed) * (N2O Emission Factor) / (2,000 pounds per ton)			
	7,746,750 cf NG/yr *	0.0000022 lb N2O/cf / 2000 lb/ton =	0.01	tons per year
N2O (ppd):	(Cubic Feet of Natural Gas consumed) * (N2O Emission Factor)			
	5,306 cf NG/day *	0.0000022 lb N2O/cf =	0.01	pounds per day

Emission Data - Building 9230 Boilers

Boiler:	#1			#2			#3			#4		
Reg.#:	5-0810			5-0810			5-0810			5-0810		
MONTH 2022	On Call (days)	On Call (hr)	Total Gas (cu. ft)	On Call (days)	On Call (hr)	Total Gas (cu. ft)	On Call (days)	On Call (hr)	Total Gas (cu. ft)	On Call (days)	On Call (hr)	Total Gas (cu. ft)
Jan	31	744	268262	31	744	268262	31	744	268262	31	744	268262
Feb	28	672	190076	28	672	190076	28	672	190076	28	672	190076
March	31	744	174486	31	744	174486	31	744	174486	31	744	174486
April	30	720	156324	30	720	156324	30	720	156324	30	720	156324
May	31	744	128040	31	744	128040	31	744	128040	31	744	128040
June	30	720	101036	30	720	101036	30	720	101036	30	720	101036
July	31	744	109824	31	744	109824	31	744	109824	31	744	109824
Aug	31	744	113625	31	744	113625	31	744	113625	31	744	113625
Sept	30	720	112164	30	720	112164	30	720	112164	30	720	112164
Oct	31	744	153246	31	744	153246	31	744	153246	31	744	153246
Nov	30	720	183229	30	720	183229	30	720	183229	30	720	183229
Dec	31	744	246375	31	744	246375	31	744	246375	31	744	246375
Total(yr)	365	8,760	1,936,688	365	8,760	1,936,688	365	8,760	1,936,688	365	8,760	1,936,688
Total(OS)	183	4,392	721,014	183	4,392	721,014	183	4,392	721,014	183	4,392	721,014

Gas usage based on single building meter reading. Project to install individual meters initated.

AP42 emission factors

Emission Calculations - Building 9259 (Registration #5-0811)

NOx Emissions

NOx (tpy): (Cubic Feet of Natural Gas consumed) * (NOx Emission Factor) / (2,000 pounds per ton)

860,123 cf NG/yr * 0.00005 lb NOx/cf / 2000 lb/ton = 0.02 tons per year

NOx (ppd): (Cubic Feet of Natural Gas consumed) * (NOx Emission Factor)

1,178 cf NG/day * 0.000050 lb NOx/cf = 0.06 pounds per day

NOx (TOSD): (Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) * (NOx Emission Factor)

425 cf NG/OS / OS days * 0.000050 lb NOx/cf = 0.02 pounds per day

VOC Emissions

VOC (tpy): (Cubic Feet of Natural Gas consumed) * (VOC Emission Factor) / (2,000 pounds per ton)

860,123 cf NG/yr * 0.0000055 lb VOC/cf / 2000 lb/ton = 0.00 tons per year

VOC (ppd): (Cubic Feet of Natural Gas consumed) * (VOC Emission Factor)

1,178 cf NG/day * 0.0000055 lb VOC/cf = 0.01 pounds per day

VOC (TOSD): (Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) * (VOC Emission Factor)

425 cf NG/OS / OS days * 0.0000055 lb VOC/cf = 0.00 pounds per day

CO Emissions

CO (tpy): (Cubic Feet of Natural Gas consumed) * (CO Emission Factor) / (2,000 pounds per ton)

860,123 cf NG/yr * 0.000084 lb CO/cf / 2000 lb/ton = 0.04 tons per year

CO (ppd): (Cubic Feet of Natural Gas consumed) * (CO Emission Factor)

1,178 cf NG/day * 0.000084 lb CO/cf = 0.10 pounds per day

SOx Emissions

SOx (tpy): (Cubic Feet of Natural Gas consumed) * (SOx Emission Factor) / (2,000 pounds per ton)

860,123 cf NG/yr * 0.0000006 lb SOx/cf / 2000 lb/ton = 0.00 tons per year

SOx (ppd): (Cubic Feet of Natural Gas consumed) * (SOx Emission Factor)

1,178 cf NG/day * 0.0000006 lb SOx/cf = 0.00 pounds per day

PM10 Emissions

PM10 (tpy): (Cubic Feet of Natural Gas consumed) * (PM10 Emission Factor) / (2,000 pounds per ton)

860,123 cf NG/yr * 0.0000019 lb PM10/cf/2000 lb/ton = 0.00 tons per year

PM10 (ppd): (Cubic Feet of Natural Gas consumed) * (PM10 Emission Factor)

1,178 cf NG/day * 0.0000019 lb PM10/cf = 0.00 pounds per day

PM (Condensable) Emissions

PM(C) (tpy): (Cubic Feet of Natural Gas consumed) * (PM(C) Emission Factor) / (2,000 pounds per ton)

860,123 cf NG/yr * 0.0000057 lb PM(C)/cf/2000 lb/ton = 0.00 tons per year

PM(C) (ppd): (Cubic Feet of Natural Gas consumed) * (PM(C) Emission Factor)

1,178 cf NG/day * 0.0000057 lb PM(C)/cf = 0.01 pounds per day

CO2 Emissions

CO2 (tpy): (Cubic Feet of Natural Gas consumed) * (CO2 Emission Factor) / (2,000 pounds per ton)

860,123 cf NG/yr * 0.12 lb CO2/cf / 2000 lb/ton = 51.61 tons per year

CO2 (ppd): (Cubic Feet of Natural Gas consumed) * (CO2 Emission Factor)

1,178 cf NG/day * 0.12 lb CO2/cf = 141.39 pounds per day

CH4 Emissions

CH4 (tpy): (Cubic Feet of Natural Gas consumed) * (CH4 Emission Factor) / (2,000 pounds per ton)

860,123 cf NG/yr * 0.0000023 lb CH4/cf / 2000 lb/ton = 0.00 tons per year

CH4 (ppd): (Cubic Feet of Natural Gas consumed) * (CH4 Emission Factor)

1,178 cf NG/day * 0.0000023 lb CH4/cf = 0.00 pounds per day

N2O Emissions

N2O (tpy): (Cubic Feet of Natural Gas consumed) * (N2O Emission Factor) / (2,000 pounds per ton)

860,123 cf NG/yr * 0.0000022 lb N2O/cf / 2000 lb/ton = 0.00 tons per year

N2O (ppd): (Cubic Feet of Natural Gas consumed) * (N2O Emission Factor)

1,178 cf NG/day * 0.0000022 lb N2O/cf = 0.00 pounds per day

Emission Data - Building 9259 Boilers

Boiler:	#1			#2		
Reg.#:	5-0811			5-0811		
MONTH 2022	On Call (days)	On Call (hr)	Total Gas (cu. ft)	On Call (days)	On Call (hr)	Total Gas (cu. ft)
Jan	31	744	92704	31	744	92704
Feb	28	672	72060	28	672	72060
March	31	744	52178	31	744	52178
April	30	720	32179	30	720	32179
May	31	744	14201	31	744	14201
June	30	720	6833	30	720	6833
July	31	744	6611	31	744	6611
Aug	31	744	8228	31	744	8228
Sept	30	720	9690	30	720	9690
Oct	31	744	22309	31	744	22309
Nov	30	720	41704	30	720	41704
Dec	31	744	71366	31	744	71366
Total(yr)	365	8,760	430,061	365	8,760	430,061
Total(OS)	183	4,392	77,741	183	4,392	77,741

Gas usage based on single building meter reading. Project to install individual meters initated.

AP42 emission factors

Emission Calculations - Building 9225
Boilers (Registration #5-0823)

NOx Emissions

NOx (tpy):	(Cubic Feet of Natural Gas consumed) * (NOx Emission Factor) / (2,000 pounds per ton)				
	3,867,690 cf NG/yr *	0.00005	lb NOx/cf / 2000 lb/ton =	0.10	tons per year
NOx (ppd):	(Cubic Feet of Natural Gas consumed) * (NOx Emission Factor)				
	3,532 cf NG/day *	0.000050	lb NOx/cf =	0.18	pounds per day
NOx (TOSD):	(Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) * (NOx Emission Factor)				
	2,242 cf NG/OS / OS days *	0.000050	lb NOx/cf =	0.11	pounds per day

VOC Emissions

VOC (tpy):	(Cubic Feet of Natural Gas consumed) * (VOC Emission Factor) / (2,000 pounds per ton)				
	3,867,690 cf NG/yr *	0.0000055	lb VOC/cf / 2000 lb/ton =	0.01	tons per year
VOC (ppd):	(Cubic Feet of Natural Gas consumed) * (VOC Emission Factor)				
	3,532 cf NG/day *	0.0000055	lb VOC/cf =	0.02	pounds per day
VOC (TOSD):	(Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) * (VOC Emission Factor)				
	2,242 cf NG/OS / OS days *	0.0000055	lb VOC/cf =	0.01	pounds per day

CO Emissions

CO (tpy):	(Cubic Feet of Natural Gas consumed) * (CO Emission Factor) / (2,000 pounds per ton)				
	3,867,690 cf NG/yr *	0.000084	lb CO/cf / 2000 lb/ton =	0.16	tons per year
CO (ppd):	(Cubic Feet of Natural Gas consumed) * (CO Emission Factor)				
	3,532 cf NG/day *	0.000084	lb CO/cf =	0.30	pounds per day

SOx Emissions

SOx (tpy):	(Cubic Feet of Natural Gas consumed) * (SOx Emission Factor) / (2,000 pounds per ton)				
	3,867,690 cf NG/yr *	0.0000006	lb SOx/cf / 2000 lb/ton =	0.00	tons per year
SOx (ppd):	(Cubic Feet of Natural Gas consumed) * (SOx Emission Factor)				
	3,532 cf NG/day *	0.0000006	lb SOx/cf =	0.00	pounds per day

PM10 Emissions

PM10 (tpy):	(Cubic Feet of Natural Gas consumed) * (PM10 Emission Factor) / (2,000 pounds per ton)				
	3,867,690 cf NG/yr *	0.0000019	lb PM10/cf/2000 lb/ton =	0.00	tons per year
PM10 (ppd):	(Cubic Feet of Natural Gas consumed) * (PM10 Emission Factor)				
	3,532 cf NG/day *	0.0000019	lb PM10/cf =	0.01	pounds per day

PM (Condensable) Emissions

PM(C) (tpy):	(Cubic Feet of Natural Gas consumed) * (PM(C) Emission Factor) / (2,000 pounds per ton)				
	3,867,690 cf NG/yr *	0.0000057	lb PM(C)/cf/2000 lb/ton =	0.01	tons per year
PM(C) (ppd):	(Cubic Feet of Natural Gas consumed) * (PM(C) Emission Factor)				
	3,532 cf NG/day *	0.0000057	lb PM(C)/cf =	0.02	pounds per day

Emission Calculations - Building 9225
Boilers (Registration #5-0823)

CO2 Emissions

CO2 (tpy): (Cubic Feet of Natural Gas consumed) * (CO2 Emission Factor) / (2,000 pounds per ton)

3,867,690	cf NG/yr *	0.12	lb CO2/cf / 2000 lb/ton =	232.06	tons per year

CO2 (ppd): (Cubic Feet of Natural Gas consumed) * (CO2 Emission Factor)

3,532	cf NG/day *	0.12	lb CO2/cf =	423.86	pounds per day

CH4 Emissions

CH4 (tpy): (Cubic Feet of Natural Gas consumed) * (CH4 Emission Factor) / (2,000 pounds per ton)

3,867,690	cf NG/yr *	0.0000023	lb CH4/cf / 2000 lb/ton =	0.00	tons per year

CH4 (ppd): (Cubic Feet of Natural Gas consumed) * (CH4 Emission Factor)

3,532	cf NG/day *	0.0000023	lb CH4/cf =	0.01	pounds per day

N2O Emissions

N2O (tpy): (Cubic Feet of Natural Gas consumed) * (N2O Emission Factor) / (2,000 pounds per ton)

3,867,690	cf NG/yr *	0.0000022	lb N2O/cf / 2000 lb/ton =	0.00	tons per year

N2O (ppd): (Cubic Feet of Natural Gas consumed) * (N2O Emission Factor)

3,532	cf NG/day *	0.0000022	lb N2O/cf =	0.01	pounds per day

Emission Data - Building 9225 Boilers

Boiler:	#1		#2		#3	
Reg.#:	5-0823		5-0823		5-0823	
MONTH 2022	Gas (cu. ft)	(hours)	Gas (cu. ft)	(hours)	Gas (cu. ft)	(hours)
Jan	209900	744	209900	744	209900	744
Feb	141938	672	141938	672	141938	672
March	118220	744	118220	744	118220	744
April	84843	720	84843	720	84843	720
May	66645	744	66645	744	66645	744
June	58920	720	58920	720	58920	720
July	70218	744	70218	744	70218	744
Aug	67260	744	67260	744	67260	744
Sept	62435	720	62435	720	62435	720
Oct	83105	744	83105	744	83105	744
Nov	125785	720	125785	720	125785	720
Dec	199963	744	199963	744	199963	744
Total(yr)	1,289,230	8760	1,289,230	8760	1,289,230	8760
Total(OS)	410,320	4392	410,320	4392	410,320	4392

Gas usage based on single building meter reading. Project to install individual meters initated.

AP42 emission factors

Boilers in commissioning status for 2022

NOx Emissions

NOx (tpy): (Cubic Feet of Natural Gas consumed) * (NOx Emission Factor) / (2,000 pounds per ton)
0 cf NG/yr * 0.000050 lb NOx/cf / 2000 lb/ton = 0.00 tons per year

NOx (ppd): (Cubic Feet of Natural Gas consumed) * (NOx Emission Factor)
- cf NG/day * 0.000050 lb NOx/cf = 0.00 pounds per day

NOx (TOSD): (Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) * (NOx Emission Factor)
2,150 cf NG/OS / OS days * 0.000050 lb NOx/cf = 0.11 pounds per day

VOC Emissions

VOC (tpy): (Cubic Feet of Natural Gas consumed) * (VOC Emission Factor) / (2,000 pounds per ton)
0 cf NG/yr * 0.0000055 lb VOC/cf / 2000 lb/ton = 0.00 tons per year

VOC (ppd): (Cubic Feet of Natural Gas consumed) * (VOC Emission Factor)
0 cf NG/day * 0.0000055 lb VOC/cf = 0.00 pounds per day

VOC (TOSD): (Cubic Feet of Natural Gas consumed in OSD) / (# of OSD) * (VOC Emission Factor)
2,150 cf NG/OS / OS days * 0.0000055 lb VOC/cf = 0.01 pounds per day

CO Emissions

CO (tpy): (Cubic Feet of Natural Gas consumed) * (CO Emission Factor) / (2,000 pounds per ton)
0 cf NG/yr * 0.000084 lb CO/cf / 2000 lb/ton = 0.00 tons per year

CO (ppd): (Cubic Feet of Natural Gas consumed) * (CO Emission Factor)
0 cf NG/day * 0.000084 lb CO/cf = 0.00 pounds per day

SOx Emissions

SOx (tpy): (Cubic Feet of Natural Gas consumed) * (SOx Emission Factor) / (2,000 pounds per ton)
0 cf NG/yr * 0.0000006 lb SOx/cf / 2000 lb/ton = 0.00 tons per year

SOx (ppd): (Cubic Feet of Natural Gas consumed) * (SOx Emission Factor)
0 cf NG/day * 0.0000006 lb SOx/cf = 0.00 pounds per day

PM10 Emissions

PM10 (tpy): (Cubic Feet of Natural Gas consumed) * (PM10 Emission Factor) / (2,000 pounds per ton)
0 cf NG/yr * 0.0000019 lb PM10/cf/2000 lb/ton = 0.00 tons per year

PM10 (ppd): (Cubic Feet of Natural Gas consumed) * (PM10 Emission Factor)
0 cf NG/day * 0.0000019 lb PM10/cf = 0.00 pounds per day

PM (Condensable) Emissions

PM(C) (tpy): (Cubic Feet of Natural Gas consumed) * (PM(C) Emission Factor) / (2,000 pounds per ton)
0 cf NG/yr * 0.0000057 lb PM(C)/cf/2000 lb/ton = 0.00 tons per year

PM(C) (ppd): (Cubic Feet of Natural Gas consumed) * (PM(C) Emission Factor)
0 cf NG/day * 0.0000057 lb PM(C)/cf = 0.00 pounds per day

CO2 Emissions

CO2 (tpy): (Cubic Feet of Natural Gas consumed) * (CO2 Emission Factor) / (2,000 pounds per ton)
0 cf NG/yr * 0.12 lb CO2/cf / 2000 lb/ton = 0.00 tons per year

CO2 (ppd): (Cubic Feet of Natural Gas consumed) * (CO2 Emission Factor)
0 cf NG/day * 0.12 lb CO2/cf = 0.00 pounds per day

CH4 Emissions

CH4 (tpy): (Cubic Feet of Natural Gas consumed) * (CH4 Emission Factor) / (2,000 pounds per ton)
0 cf NG/yr * 0.0000023 lb CH4/cf / 2000 lb/ton = 0.00 tons per year

CH4 (ppd): (Cubic Feet of Natural Gas consumed) * (CH4 Emission Factor)
0 cf NG/day * 0.0000023 lb CH4/cf = 0.00 pounds per day

N2O Emissions

N2O (tpy): (Cubic Feet of Natural Gas consumed) * (N2O Emission Factor) / (2,000 pounds per ton)
0 cf NG/yr * 0.0000022 lb N2O/cf / 2000 lb/ton = 0.00 tons per year

N2O (ppd): (Cubic Feet of Natural Gas consumed) * (N2O Emission Factor)
0 cf NG/day * 0.0000022 lb N2O/cf = 0.00 pounds per day

Boiler:	#1		#2		#3		#4	
Reg.#:	5-0842		5-0842		5-0842		5-0842	
MONTH 2020	Gas (cu. ft)	Gas (hours)	Gas (cu. ft)	Gas (hours)	Gas (cu. ft)	Gas (hours)	Gas (cu. ft)	Gas (hours)
Jan		744		744		744		744
Feb		672		672		672		672
March		744		744		744		744
April		720		720		720		720
May		744		744		744		744
June		720		720		720		720
July		744		744		744		744
Aug		744		744		744		744
Sept		720		720		720		720
Oct		744		744		744		744
Nov		720		720		720		720
Dec		744		744		744		744
Total(yr)	0	8760	0	8760	0	8760	0	8760
Total(OS)	0	4392	0	4392	0	4392	0	4392

Source in commissing status for 2022

Emission Calculations - Building 9816 Annex Cummins Emergency Generators
Engine #1 (Registration #9-0818)

NOx Emissions

NOx (tpy):	(Hours of Engine Operation) * (NOx Emission Factor) / (2,000 pounds per ton)					
	4	hr/yr *	39.375	lb NOx/hr / 2000 lb/ton =	0.08	tons per year
NOx (ppd):	(Hours of Engine Operation) * (NOx Emission Factor)					
	2.0	hr/day *	39.375	lb NOx/hr =	80.72	pounds per day
NOx (TOSD):	(Hours of Engine Operation in OSDay) * (NOx Emission Factor)					
	2.10	hr/OSday *	39.375	lb NOx/hr =	82.69	pounds per day

VOC Emissions

VOC (tpy):	(Hours of Engine Operation) * (VOC Emission Factor) / (2,000 pounds per ton)					
	4	hr/yr *	0.875	lb VOC/hr / 2000 lb/ton =	0.00	tons per year
VOC (ppd):	(Hours of Engine Operation) * (VOC Emission Factor)					
	2.0	hr/day *	0.875	lb VOC/hr =	1.79	pounds per day
VOC (TOSD):	(Hours of Engine Operation in OSDay) * (VOC Emission Factor)					
	2.10	hr/OSday *	0.875	lb VOC/hr =	1.84	pounds per day

CO Emissions

CO (tpy):	(Hours of Engine Operation) * (CO Emission Factor) / (2,000 pounds per ton)					
	4	hr/yr *	2	lb CO/hr / 2000 lb/ton =	0.00	tons per year
CO (ppd):	(Hours of Engine Operation) * (CO Emission Factor)					
	2.0	hr/day *	2	lb CO/hr =	4.10	pounds per day

SOx Emissions

SOx (tpy):	(Hours of Engine Operation) * (SOx Emission Factor) / (2,000 pounds per ton)					
	4	hr/yr *	0.6875	lb SOx/hr / 2000 lb/ton =	0.00	tons per year
SOx (ppd):	(Hours of Engine Opeation) * (SOx Emission Factor)					
	2.0	hr/day *	0.6875	lb SOx/hr =	1.41	pounds per day

PM(Total) Emissions

PM (tpy):	(Hours of Engine Operation) * (PM Emission Factor) / (2,000 pounds per ton)					
	4	hr/yr *	0.25	lb PM/hr / 2000 lb/ton =	0.00	tons per year
PM (ppd):	(Hours of Engine Operation) * (PM Emission Factor)					
	2.0	hr/day *	0.25	lb PM/hr =	0.51	pounds per day

CO2 Emissions

CO2 (tpy):	(Gallons of Diesel Consumed) * (CO2 Emission Factor) / (2,000 pounds per ton)					
	645	gal/yr *	22.605	lb CO2/gal / 2000 lb/ton =	7.30	tons per year
CO2 (ppd):	(Gallons of Diesel Consumed) * (CO2 Emission Factor)					
	322.7	gal/day *	22.605	lb CO2/gal =	7295.53	pounds per day

CH4 Emissions

CH4 (tpy):	(Gallons of Diesel Consumed) * (CH4 Emission Factor) / (2,000 pounds per ton)					
	645	gal/yr *	0.01233	lb CH4/gal / 2000 lb/ton =	0.00	tons per year
CH4 (ppd):	(Gallons of Diesel Consumed) * (CH4 Emission Factor)					
	322.7	gal/day *	0.01233	lb CH4/gal =	3.98	pounds per day

Note: Emission Factors are from manufacturer's testing data and AP-42.

Emission Calculations - Building 9816 Annex Cummins Emergency Generators
Engine #2 (Registration #9-0819)

NOx Emissions

NOx (tpy):	(Hours of Engine Operation) * (NOx Emission Factor) / (2,000 pounds per ton)					
	4	hr/yr *	39.375	lb NOx/hr / 2000 lb/ton =	0.08	tons per year
NOx (ppd):	(Hours of Engine Operation) * (NOx Emission Factor)					
	2.0	hr/day *	39.375	lb NOx/hr =	80.72	pounds per day
NOx (TOSD):	(Hours of Engine Operation in OSDay) * (NOx Emission Factor)					
	2.10	hr/OSday *	39.375	lb NOx/hr =	82.69	pounds per day

VOC Emissions

VOC (tpy):	(Hours of Engine Operation) * (VOC Emission Factor) / (2,000 pounds per ton)					
	4	hr/yr *	0.875	lb VOC/hr / 2000 lb/ton =	0.00	tons per year
VOC (ppd):	(Hours of Engine Operation) * (VOC Emission Factor)					
	2.0	hr/day *	0.875	lb VOC/hr =	1.79	pounds per day
VOC (TOSD):	(Hours of Engine Operation in OSDay) * (VOC Emission Factor)					
	2.10	hr/OSday *	0.875	lb VOC/hr =	1.84	pounds per day

CO Emissions

CO (tpy):	(Hours of Engine Operation) * (CO Emission Factor) / (2,000 pounds per ton)					
	4	hr/yr *	2	lb CO/hr / 2000 lb/ton =	0.00	tons per year
CO (ppd):	(Hours of Engine Operation) * (CO Emission Factor)					
	2.0	hr/day *	2	lb CO/hr =	4.10	pounds per day

SOx Emissions

SOx (tpy):	(Hours of Engine Operation) * (SOx Emission Factor) / (2,000 pounds per ton)					
	4	hr/yr *	0.6875	lb SOx/hr / 2000 lb/ton =	0.00	tons per year
SOx (ppd):	(Hours of Engine Opeation) * (SOx Emission Factor)					
	2.0	hr/day *	0.6875	lb SOx/hr =	1.41	pounds per day

PM(Total) Emissions

PM (tpy):	(Hours of Engine Operation) * (PM Emission Factor) / (2,000 pounds per ton)					
	4	hr/yr *	0.25	lb PM/hr / 2000 lb/ton =	0.00	tons per year
PM (ppd):	(Hours of Engine Operation) * (PM Emission Factor)					
	2.0	hr/day *	0.25	lb PM/hr =	0.51	pounds per day

CO2 Emissions

CO2 (tpy):	(Gallons of Diesel Consumed) * (CO2 Emission Factor) / (2,000 pounds per ton)					
	619	gal/yr *	22.605	lb CO2/gal / 2000 lb/ton =	7.00	tons per year
CO2 (ppd):	(Gallons of Diesel Consumed) * (CO2 Emission Factor)					
	309.6	gal/day *	22.605	lb CO2/gal =	6998.50	pounds per day

CH4 Emissions

CH4 (tpy):	(Gallons of Diesel Consumed) * (CH4 Emission Factor) / (2,000 pounds per ton)					
	619	gal/yr *	0.01233	lb CH4/gal / 2000 lb/ton =	0.00	tons per year
CH4 (ppd):	(Gallons of Diesel Consumed) * (CH4 Emission Factor)					
	309.6	gal/day *	0.01233	lb CH4/gal =	3.82	pounds per day

Note: Emission Factors are from manufacturer's testing data and AP-42.

Emission Calculations - Building 9816 Annex Cummins Emergency Generators
Engine #3 (Registration #9-0820)

NOx Emissions

NOx (tpy):	(Hours of Engine Operation) * (NOx Emission Factor) / (2,000 pounds per ton)					
	4	hr/yr *	39.375	lb NOx/hr / 2000 lb/ton =	0.08	tons per year
NOx (ppd):	(Hours of Engine Operation) * (NOx Emission Factor)					
	2.0	hr/day *	39.375	lb NOx/hr =	80.72	pounds per day
NOx (TOSD):	(Hours of Engine Operation in OSDay) * (NOx Emission Factor)					
	2.10	hr/OSday *	39.375	lb NOx/hr =	82.69	pounds per day

VOC Emissions

VOC (tpy):	(Hours of Engine Operation) * (VOC Emission Factor) / (2,000 pounds per ton)					
	4	hr/yr *	0.875	lb VOC/hr / 2000 lb/ton =	0.00	tons per year
VOC (ppd):	(Hours of Engine Operation) * (VOC Emission Factor)					
	2.0	hr/day *	0.875	lb VOC/hr =	1.79	pounds per day
VOC (TOSD):	(Hours of Engine Operation in OSDay) * (VOC Emission Factor)					
	2.10	hr/OSday *	0.875	lb VOC/hr =	1.84	pounds per day

CO Emissions

CO (tpy):	(Hours of Engine Operation) * (CO Emission Factor) / (2,000 pounds per ton)					
	4	hr/yr *	2	lb CO/hr / 2000 lb/ton =	0.00	tons per year
CO (ppd):	(Hours of Engine Operation) * (CO Emission Factor)					
	2.0	hr/day *	2	lb CO/hr =	4.10	pounds per day

SOx Emissions

SOx (tpy):	(Hours of Engine Operation) * (SOx Emission Factor) / (2,000 pounds per ton)					
	4	hr/yr *	0.6875	lb SOx/hr / 2000 lb/ton =	0.00	tons per year
SOx (ppd):	(Hours of Engine Opeation) * (SOx Emission Factor)					
	2.0	hr/day *	0.6875	lb SOx/hr =	1.41	pounds per day

PM(Total) Emissions

PM (tpy):	(Hours of Engine Operation) * (PM Emission Factor) / (2,000 pounds per ton)					
	4	hr/yr *	0.25	lb PM/hr / 2000 lb/ton =	0.00	tons per year
PM (ppd):	(Hours of Engine Operation) * (PM Emission Factor)					
	2.0	hr/day *	0.25	lb PM/hr =	0.51	pounds per day

CO2 Emissions

CO2 (tpy):	(Gallons of Diesel Consumed) * (CO2 Emission Factor) / (2,000 pounds per ton)					
	616	gal/yr *	22.605	lb CO2/gal / 2000 lb/ton =	6.96	tons per year
CO2 (ppd):	(Gallons of Diesel Consumed) * (CO2 Emission Factor)					
	307.9	gal/day *	22.605	lb CO2/gal =	6959.85	pounds per day

CH4 Emissions

CH4 (tpy):	(Gallons of Diesel Consumed) * (CH4 Emission Factor) / (2,000 pounds per ton)					
	616	gal/yr *	0.01233	lb CH4/gal / 2000 lb/ton =	0.00	tons per year
CH4 (ppd):	(Gallons of Diesel Consumed) * (CH4 Emission Factor)					
	307.9	gal/day *	0.01233	lb CH4/gal =	3.80	pounds per day

Note: Emission Factors are from manufacturer's testing data and AP-42.

Emission Calculations - Building 9816 Annex Cummins Emergency Generators
Engine #4 (Registration #9-0821)

NOx Emissions

NOx (tpy):	(Hours of Engine Operation) * (NOx Emission Factor) / (2,000 pounds per ton)					
	4	hr/yr *	39.375	lb NOx/hr / 2000 lb/ton =	0.08	tons per year
NOx (ppd):	(Hours of Engine Operation) * (NOx Emission Factor)					
	2.0	hr/day *	39.375	lb NOx/hr =	80.72	pounds per day
NOx (TOSD):	(Hours of Engine Operation in OSDay) * (NOx Emission Factor)					
	2.10	hr/OSday *	39.375	lb NOx/hr =	82.69	pounds per day

VOC Emissions

VOC (tpy):	(Hours of Engine Operation) * (VOC Emission Factor) / (2,000 pounds per ton)					
	4	hr/yr *	0.875	lb VOC/hr / 2000 lb/ton =	0.00	tons per year
VOC (ppd):	(Hours of Engine Operation) * (VOC Emission Factor)					
	2.0	hr/day *	0.875	lb VOC/hr =	1.79	pounds per day
VOC (TOSD):	(Hours of Engine Operation in OSDay) * (VOC Emission Factor)					
	2.10	hr/OSday *	0.875	lb VOC/hr =	1.84	pounds per day

CO Emissions

CO (tpy):	(Hours of Engine Operation) * (CO Emission Factor) / (2,000 pounds per ton)					
	4	hr/yr *	2	lb CO/hr / 2000 lb/ton =	0.00	tons per year
CO (ppd):	(Hours of Engine Operation) * (CO Emission Factor)					
	2.0	hr/day *	2	lb CO/hr =	4.10	pounds per day

SOx Emissions

SOx (tpy):	(Hours of Engine Operation) * (SOx Emission Factor) / (2,000 pounds per ton)					
	4	hr/yr *	0.6875	lb SOx/hr / 2000 lb/ton =	0.00	tons per year
SOx (ppd):	(Hours of Engine Opeation) * (SOx Emission Factor)					
	2.0	hr/day *	0.6875	lb SOx/hr =	1.41	pounds per day

PM(Total) Emissions

PM (tpy):	(Hours of Engine Operation) * (PM Emission Factor) / (2,000 pounds per ton)					
	4	hr/yr *	0.25	lb PM/hr / 2000 lb/ton =	0.00	tons per year
PM (ppd):	(Hours of Engine Operation) * (PM Emission Factor)					
	2.0	hr/day *	0.25	lb PM/hr =	0.51	pounds per day

CO2 Emissions

CO2 (tpy):	(Gallons of Diesel Consumed) * (CO2 Emission Factor) / (2,000 pounds per ton)					
	620	gal/yr *	22.605	lb CO2/gal / 2000 lb/ton =	7.01	tons per year
CO2 (ppd):	(Gallons of Diesel Consumed) * (CO2 Emission Factor)					
	310.2	gal/day *	22.605	lb CO2/gal =	7011.16	pounds per day

CH4 Emissions

CH4 (tpy):	(Gallons of Diesel Consumed) * (CH4 Emission Factor) / (2,000 pounds per ton)					
	620	gal/yr *	0.01233	lb CH4/gal / 2000 lb/ton =	0.00	tons per year
CH4 (ppd):	(Gallons of Diesel Consumed) * (CH4 Emission Factor)					
	310.2	gal/day *	0.01233	lb CH4/gal =	3.82	pounds per day

Note: Emission Factors are from manufacturer's testing data and AP-42.

Emission Calculations - Building 9816 Annex Cummins Emergency Generators
Engine #5 (Registration #9-0822)

NOx Emissions

NOx (tpy):	(Hours of Engine Operation) * (NOx Emission Factor) / (2,000 pounds per ton)					
	5	hr/yr *	39.375	lb NOx/hr / 2000 lb/ton =	0.10	tons per year
NOx (ppd):	(Hours of Engine Operation) * (NOx Emission Factor)					
	2.6	hr/day *	39.375	lb NOx/hr =	102.37	pounds per day
NOx (TOSD):	(Hours of Engine Operation in OSDay) * (NOx Emission Factor)					
	3.20	hr/OSday *	39.375	lb NOx/hr =	126.00	pounds per day

VOC Emissions

VOC (tpy):	(Hours of Engine Operation) * (VOC Emission Factor) / (2,000 pounds per ton)					
	5	hr/yr *	0.875	lb VOC/hr / 2000 lb/ton =	0.00	tons per year
VOC (ppd):	(Hours of Engine Operation) * (VOC Emission Factor)					
	2.6	hr/day *	0.875	lb VOC/hr =	2.27	pounds per day
VOC (TOSD):	(Hours of Engine Operation in OSDay) * (VOC Emission Factor)					
	3.20	hr/OSday *	0.875	lb VOC/hr =	2.80	pounds per day

CO Emissions

CO (tpy):	(Hours of Engine Operation) * (CO Emission Factor) / (2,000 pounds per ton)					
	5	hr/yr *	2	lb CO/hr / 2000 lb/ton =	0.01	tons per year
CO (ppd):	(Hours of Engine Operation) * (CO Emission Factor)					
	2.6	hr/day *	2	lb CO/hr =	5.20	pounds per day

SOx Emissions

SOx (tpy):	(Hours of Engine Operation) * (SOx Emission Factor) / (2,000 pounds per ton)					
	5	hr/yr *	0.6875	lb SOx/hr / 2000 lb/ton =	0.00	tons per year
SOx (ppd):	(Hours of Engine Opeation) * (SOx Emission Factor)					
	2.6	hr/day *	0.6875	lb SOx/hr =	1.79	pounds per day

PM(Total) Emissions

PM (tpy):	(Hours of Engine Operation) * (PM Emission Factor) / (2,000 pounds per ton)					
	5	hr/yr *	0.25	lb PM/hr / 2000 lb/ton =	0.00	tons per year
PM (ppd):	(Hours of Engine Operation) * (PM Emission Factor)					
	2.6	hr/day *	0.25	lb PM/hr =	0.65	pounds per day

CO2 Emissions

CO2 (tpy):	(Gallons of Diesel Consumed) * (CO2 Emission Factor) / (2,000 pounds per ton)					
	667	gal/yr *	22.605	lb CO2/gal / 2000 lb/ton =	7.54	tons per year
CO2 (ppd):	(Gallons of Diesel Consumed) * (CO2 Emission Factor)					
	333.4	gal/day *	22.605	lb CO2/gal =	7536.50	pounds per day

CH4 Emissions

CH4 (tpy):	(Gallons of Diesel Consumed) * (CH4 Emission Factor) / (2,000 pounds per ton)					
	667	gal/yr *	0.01233	lb CH4/gal / 2000 lb/ton =	0.00	tons per year
CH4 (ppd):	(Gallons of Diesel Consumed) * (CH4 Emission Factor)					
	333.4	gal/day *	0.01233	lb CH4/gal =	4.11	pounds per day

Note: Emission Factors are from manufacturer's testing data and AP-42.

Emission Calculations - Building 9816 Annex Cummins Emergency Generators
Engine #6 (Registration #9-0823)

NOx Emissions

NOx (tpy):	(Hours of Engine Operation) * (NOx Emission Factor) / (2,000 pounds per ton)					
	2	hr/yr *	39.375	lb NOx/hr / 2000 lb/ton =	0.04	tons per year
NOx (ppd):	(Hours of Engine Operation) * (NOx Emission Factor)					
	2.0	hr/day *	39.375	lb NOx/hr =	78.75	pounds per day
NOx (TOSD):	(Hours of Engine Operation in OSDay) * (NOx Emission Factor)					
	0.00	hr/OSday *	39.375	lb NOx/hr =	0.00	pounds per day

VOC Emissions

VOC (tpy):	(Hours of Engine Operation) * (VOC Emission Factor) / (2,000 pounds per ton)					
	2	hr/yr *	0.875	lb VOC/hr / 2000 lb/ton =	0.00	tons per year
VOC (ppd):	(Hours of Engine Operation) * (VOC Emission Factor)					
	2.0	hr/day *	0.875	lb VOC/hr =	1.75	pounds per day
VOC (TOSD):	(Hours of Engine Operation in OSDay) * (VOC Emission Factor)					
	0.00	hr/OSday *	0.875	lb VOC/hr =	0.00	pounds per day

CO Emissions

CO (tpy):	(Hours of Engine Operation) * (CO Emission Factor) / (2,000 pounds per ton)					
	2	hr/yr *	2	lb CO/hr / 2000 lb/ton =	0.00	tons per year
CO (ppd):	(Hours of Engine Operation) * (CO Emission Factor)					
	2.0	hr/day *	2	lb CO/hr =	4.00	pounds per day

SOx Emissions

SOx (tpy):	(Hours of Engine Operation) * (SOx Emission Factor) / (2,000 pounds per ton)					
	2	hr/yr *	0.6875	lb SOx/hr / 2000 lb/ton =	0.00	tons per year
SOx (ppd):	(Hours of Engine Opeation) * (SOx Emission Factor)					
	2.0	hr/day *	0.6875	lb SOx/hr =	1.37	pounds per day

PM(Total) Emissions

PM (tpy):	(Hours of Engine Operation) * (PM Emission Factor) / (2,000 pounds per ton)					
	2	hr/yr *	0.25	lb PM/hr / 2000 lb/ton =	0.00	tons per year
PM (ppd):	(Hours of Engine Operation) * (PM Emission Factor)					
	2.0	hr/day *	0.25	lb PM/hr =	0.50	pounds per day

CO2 Emissions

CO2 (tpy):	(Gallons of Diesel Consumed) * (CO2 Emission Factor) / (2,000 pounds per ton)					
	305	gal/yr *	22.605	lb CO2/gal / 2000 lb/ton =	3.45	tons per year
CO2 (ppd):	(Gallons of Diesel Consumed) * (CO2 Emission Factor)					
	305.1	gal/day *	22.605	lb CO2/gal =	6897.68	pounds per day

CH4 Emissions

CH4 (tpy):	(Gallons of Diesel Consumed) * (CH4 Emission Factor) / (2,000 pounds per ton)					
	305	gal/yr *	0.01233	lb CH4/gal / 2000 lb/ton =	0.00	tons per year
CH4 (ppd):	(Gallons of Diesel Consumed) * (CH4 Emission Factor)					
	305.1	gal/day *	0.01233	lb CH4/gal =	3.76	pounds per day

Note: Emission Factors are from manufacturer's testing data and AP-42.

Emission Data - Building 9816 Annex Cummins Emergency Generators

Engine:	#1 BHP:		2835	#2		2835	#3		2835
Reg.#:	9-0818 KW (Out):		2375	9-0819		2375	9-0820		2375
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Diesel Fuel (gallons)	Time (hours)	Runs (days)
Jan	316.9	2.0	1	309.2	2.0	1	303.2	2.0	1
Feb	-	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-
April	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	-
July	328.6	2.1	1	310.0	2.1	1	312.6	2.1	1
Aug	-	-	-	-	-	-	-	-	-
Sept	-	-	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-
Total(yr)	645	4	2	619	4	2	616	4	2
Total(OS)	329	2	1	310	2	1	313	2	1
	Emergency Hours		0	Emergency Hours		0	Emergency Hours		0
	Maint./Testing Hours		4	Maint./Testing Hours		4	Maint./Testing Hours		4

Engine:	#4 BHP:		2835	#5		2835	#6		2835
Reg.#:	9-0821 KW (Out):		2375	9-0822		2375	9-0823		2375
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Diesel Fuel (gallons)	Time (hours)	Runs (days)
Jan	303.8	2.0	1	304.6	2.0	1	305.1	2.0	1
Feb	-	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-
April	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	-
July	316.5	2.1	1	362.2	3.2	1	-	-	-
Aug	-	-	-	-	-	-	-	-	-
Sept	-	-	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-
Total(yr)	620	4	2	667	5	2	305	2	1
Total(OS)	317	2	1	362	3	1	0	0	0
	Emergency Hours		0	Emergency Hours		0	Emergency Hours		0
	Maint./Testing Hours		4	Maint./Testing Hours		5	Maint./Testing Hours		2

Note: Emissions based upon manufacturer's testing data.

39.375 lb NOx/hr same for N2O
0.875 lb VOC/hr
0.6875 lb SOx/hr
2 lb CO/hr
0.25 lb PM/hr
22.605 lb CO2/gal
0.01233 lb CH4/gal

Emission Calculations Building 9840 Emergency Generator

Engine #1 (Registration #9-0918)

NOx Emissions

NOx (tpy): (Hours of Engine Operation) * (NOx Emission Factor) / (2,000 pounds per ton)

16 hr/yr * 12.69 lb NOx/hr / 2000 lb/ton = 0.10 tons per year

NOx (ppd): (Hours of Engine Operation) * (NOx Emission Factor)

1.8 hr/day * 12.69 lb NOx/hr = 22.42 pounds per day

NOx (TOSD): (Hours of Engine Operation in OSDay) * (NOx Emission Factor)

1.6 hr/OSday * 12.69 lb NOx/hr = 20.82 pounds per day

VOC Emissions

VOC (tpy): (Hours of Engine Operation) * (VOC Emission Factor) / (2,000 pounds per ton)

16 hr/yr * 1.33 lb VOC/hr / 2000 lb/ton = 0.01 tons per year

VOC (ppd): (Hours of Engine Operation) * (VOC Emission Factor)

1.8 hr/day * 1.33 lb VOC/hr = 2.35 pounds per day

VOC (TOSD): (Hours of Engine Operation in OSDay) * (VOC Emission Factor)

1.6 hr/OSday * 1.33 lb VOC/hr = 2.18 pounds per day

CO Emissions

CO (tpy): (Hours of Engine Operation) * (CO Emission Factor) / (2,000 pounds per ton)

16 hr/yr * 6.95 lb CO/hr / 2000 lb/ton = 0.06 tons per year

CO (ppd): (Hours of Engine Operation) * (CO Emission Factor)

1.8 hr/day * 6.95 lb CO/hr = 12.27 pounds per day

PM(Total) Emissions

PM (tpy): (Hours of Engine Operation) * (PM Emission Factor) / (2,000 pounds per ton)

16 hr/yr * 0.40 lb PM/hr / 2000 lb/ton = 0.00 tons per year

PM (ppd): (Hours of Engine Operation) * (PM Emission Factor)

1.8 hr/day * 0.40 lb PM/hr = 0.71 pounds per day

CO2 Emissions

CO2 (tpy): (Gallons of Diesel Consumed) * (CO2 Emission Factor) / (2,000 pounds per ton)

1,037 gal/yr * 22.605 lb CO2/gal / 2000 lb/ton = 11.72 tons per year

CO2 (ppd): (Gallons of Diesel Consumed) * (CO2 Emission Factor)

115.2 gal/day * 22.605 lb CO2/gal = 2603.79 pounds per day

N2O Emissions

N2O (tpy): (Hours of Engine Operation) * (N2O Emission Factor) / (2,000 pounds per ton)

16 hr/yr * 12.69 lb PM/hr / 2000 lb/ton = 0.10 tons per year

N2O (ppd): (Hours of Engine Operation) * (N2O Emission Factor)

1.8 hr/day * 12.69 lb PM/hr = 22.42 pounds per day

CH4 Emissions

CH4 (tpy): (Hours of Engine Operation) * (CH4 Emission Factor) / (2,000 pounds per ton)

16 hr/yr * 1.33 lb CO2/hr / 2000 lb/ton = 0.01 tons per year

CH4 (ppd): (Hours of Engine Operation) * (CO2 Emission Factor)

1.8 hr/yr * 1.33 lb CO2/hr = 2.35 pounds per day

Note: Emission Factors are from Manufacturer Testing and AP-42.

Emission Data - Building 9840 Caterpillar Emergency Generator

Engine:		#1	
Reg. #:		9-0918	
BHP:		1207	
KW (Out):		900	
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)
Jan	59	1	1
Feb	72	1	1
March	117	2	1
April	137	2	1
May	78	1	1
June	0	0	0
July	85	1	1
Aug	91	1	1
Sept	143	2	1
Oct	0	0	0
Nov	254	4	1
Dec	0	0	0
Total(yr)	1037	16	9
Total(OS)	535	8	5
		Emergency Hours	0
		Maint./Testing Hours	16

Note: Emission factors used are EPA Tier 2 Emission Limits

12.69	lb NOx/hr	same for N2O
1.33	lb VOC/hr	same for CH4
6.95	lb CO/hr	
0.40	lb PM/hr	

SOx emissions negligible.

NOx Emissions

NOx (tpy): (Hours of Engine Operation) * (NOx Emission Factor) / (2,000 pounds per ton)

12 hr/yr * 35.69 lb NOx/hr / 2000 lb/ton = 0.21 tons per year

NOx (ppd): (Hours of Engine Operation) * (NOx Emission Factor)

1.5 hr/day * 35.69 lb NOx/hr = 52.91 pounds per day

NOx (TOSI (Hours of Engine Operation in OSDay) * (NOx Emission Factor)

1.2 hr/OSday * 35.69 lb NOx/hr = 42.83 pounds per day

VOC Emissions

VOC (tpy): (Hours of Engine Operation) * (VOC Emission Factor) / (2,000 pounds per ton)

12 hr/yr * 2.68 lb VOC/hr / 2000 lb/ton = 0.02 tons per year

VOC (ppd) (Hours of Engine Operation) * (VOC Emission Factor)

1.5 hr/day * 2.68 lb VOC/hr = 3.97 pounds per day

VOC (TOS (Hours of Engine Operation in OSDay) * (VOC Emission Factor)

1.2 hr/OSday * 2.68 lb VOC/hr = 3.21 pounds per day

CO Emissions

CO (tpy): (Hours of Engine Operation) * (CO Emission Factor) / (2,000 pounds per ton)

12 hr/yr * 21.90 lb CO/hr / 2000 lb/ton = 0.13 tons per year

CO (ppd): (Hours of Engine Operation) * (CO Emission Factor)

1.5 hr/day * 21.90 lb CO/hr = 32.47 pounds per day

PM(Total) Emissions

PM (tpy): (Hours of Engine Operation) * (PM Emission Factor) / (2,000 pounds per ton)

12 hr/yr * 3.42 lb PM/hr / 2000 lb/ton = 0.02 tons per year

PM (ppd): (Hours of Engine Operation) * (PM Emission Factor)

1.5 hr/day * 3.42 lb PM/hr = 5.07 pounds per day

CO2 Emissions

CO2 (tpy): (Hours of Engine Operation) * (CO2 Emission Factor) / (2,000 pounds per ton)

12 hr/yr * 6371.03 lb CO2/hr / 2000 lb/ton = 37.78 tons per year

CO2 (ppd): (Hours of Engine Operation) * (CO2 Emission Factor)

1.5 hr/day * 6371.03 lb CO2/hr = 9445.05 pounds per day

N2O Emissions

N2O (tpy): (Hours of Engine Operation) * (N2O Emission Factor) / (2,000 pounds per ton)

12 hr/yr * 54.72 lb PM/hr / 2000 lb/ton = 0.32 tons per year

N2O (ppd): (Hours of Engine Operation) * (N2O Emission Factor)

1.5 hr/day * 54.72 lb PM/hr = 81.12 pounds per day

CH4 Emissions

CH4 (tpy): (Hours of Engine Operation) * (CH4 Emission Factor) / (2,000 pounds per ton)

12 hr/yr * 0.14 lb CO2/hr / 2000 lb/ton = 0.00 tons per year

CH4 (ppd): (Hours of Engine Operation) * (CO2 Emission Factor)

1.5 hr/day * 0.14 lb CO2/hr = 0.21 pounds per day

Note: Emission Factors are from Manufacturer Testing and AP-42.

Emission Data - Building 9800C Loading Dock Emergency Generator

Engine:	#1		
Reg. #:	9-1090		
KW (Out):	2280		
MONTH 2022	Fuel (gallons)	Time (hours)	Runs (days)
Jan	156	1.1	1
Feb	309.3	2.1	1
March	147.3	1.0	1
April	0.0	0.0	0
May	147.3	1.0	1
June	0.0	0.0	0
July	176.8	1.2	1
Aug	0.0	0.0	0
Sept	206.2	1.4	1
Oct	324.1	2.2	1
Nov	279.9	1.9	1
Dec	0.0	0.0	0
Total(yr)	1747	11.9	8
Total(OS)	530	3.6	3
		Emergency Hours	0
		Maint./Testing Hours	12

Note: Emission factors used are from Manufacturer Testing and AP-42.

35.69	lb NOx/hr	same for N2O
2.68	lb VOC/hr	same for CH4
21.90	lb CO/hr	
3.42	lb PM/hr	
6371.03	lb CO2/hr	
54.72	lb N2O/hr	
0.14	lb CH4/hr	

Emission Calculations - Building 9700 Caterpillar Emergency Generator

Engine #1 (Registration #9-0442)

NOx Emissions

NOx (tpy):	(Gallons of Diesel Consumed) * (NOx Emission Factor) / (2,000 pounds per ton)					
	1,216	gal/yr *	0.4384	lb NOx/gal / 2000 lb/ton =	0.27	tons per year
NOx (ppd):	(Gallons of Diesel Consumed) * (NOx Emission Factor)					
	121.6	gal/day *	0.4384	lb NOx/gal =	53.31	pounds per day
NOx (TOSD):	(Gallons of Diesel Consumed in OSDay) * (NOx Emission Factor)					
	87.2	gal/OSday *	0.4384	lb NOx/gal =	38.23	pounds per day

VOC Emissions

VOC (tpy):	(Gallons of Diesel Consumed) * (VOC Emission Factor) / (2,000 pounds per ton)					
	1,216	gal/yr *	0.01233	lb VOC/gal / 2000 lb/ton =	0.01	tons per year
VOC (ppd):	(Gallons of Diesel Consumed) * (VOC Emission Factor)					
	121.6	gal/day *	0.01233	lb VOC/gal =	1.50	pounds per day
VOC (TOSD):	(Gallons of Diesel Consumed in OSDay) * (VOC Emission Factor)					
	87.2	gal/OSday *	0.01233	lb VOC/gal =	1.08	pounds per day

CO Emissions

CO (tpy):	(Gallons of Diesel Consumed) * (CO Emission Factor) / (2,000 pounds per ton)					
	1,216	gal/yr *	0.11645	lb CO/gal / 2000 lb/ton =	0.07	tons per year
CO (ppd):	(Gallons of Diesel Consumed) * (CO Emission Factor)					
	121.6	gal/day *	0.11645	lb CO/gal =	14.16	pounds per day

SOx Emissions

SOx (tpy):	(Gallons of Diesel Consumed) * (SOx Emission Factor) / (2,000 pounds per ton)					
	1,216	gal/yr *	0.0069185	lb SOx/gal / 2000 lb/ton =	0.00	tons per year
SOx (ppd):	(Gallons of Diesel Consumed) * (SOx Emission Factor)					
	121.6	gal/day *	0.0069185	lb SOx/gal =	0.84	pounds per day

PM(Total) Emissions

PM (tpy):	(Gallons of Diesel Consumed) * (PM Emission Factor) / (2,000 pounds per ton)					
	1,216	gal/yr *	0.0016988	lb PM/gal / 2000 lb/ton =	0.00	tons per year
PM (ppd):	(Gallons of Diesel Consumed) * (PM Emission Factor)					
	121.6	gal/day *	0.0016988	lb PM/gal =	0.21	pounds per day

PM(10) Emissions

PM (tpy):	(Gallons of Diesel Consumed) * (PM Emission Factor) / (2,000 pounds per ton)					
	1,216	gal/yr *	0.0002329	lb PM/gal / 2000 lb/ton =	0.00	tons per year
PM (ppd):	(Gallons of Diesel Consumed) * (PM Emission Factor)					
	121.6	gal/day *	0.0002329	lb PM/gal =	0.03	pounds per day

Note: Emission Factors are from AP-42 for a diesel-fired generator with a horsepower rating of greater than 600.

Emission Calculations - Building 9700 Caterpillar Emergency Generator
Engine #1 (Registration #9-0442)

PM(2.5) Emissions

PM (tpy): (Gallons of Diesel Consumed) * (PM Emission Factor) / (2,000 pounds per ton)

1,216 gal/yr * 0.0065623 lb PM/gal / 2000 lb/ton = 0.00 tons per year

PM (ppd): (Gallons of Diesel Consumed) * (PM Emission Factor)

121.6 gal/day * 0.0065623 lb PM/gal = 0.80 pounds per day

PM(Condensable) Emissions

PM (tpy): (Gallons of Diesel Consumed) * (PM Emission Factor) / (2,000 pounds per ton)

1,216 gal/yr * 0.0010549 lb PM/gal / 2000 lb/ton = 0.00 tons per year

PM (ppd): (Gallons of Diesel Consumed) * (PM Emission Factor)

121.6 gal/day * 0.0010549 lb PM/gal = 0.13 pounds per day

CO2 Emissions

CO2 (tpy): (Gallons of Diesel Consumed) * (CO2 Emission Factor) / (2,000 pounds per ton)

1,216 gal/yr * 22.605 lb CO2/gal / 2000 lb/ton = 13.74 tons per year

CO2 (ppd): (Gallons of Diesel Consumed) * (CO2 Emission Factor)

121.6 gal/day * 22.605 lb CO2/gal = 2748.77 pounds per day

CH4 Emissions

CH4 (tpy): (Gallons of Diesel Consumed) * (CH4 Emission Factor) / (2,000 pounds per ton)

1,216 gal/yr * 0.0011097 lb CH4/gal / 2000 lb/ton = 0.00 tons per year

CH4 (ppd): (Gallons of Diesel Consumed) * (CH4 Emission Factor)

121.6 gal/day * 0.0011097 lb CH4/gal = 0.13 pounds per day

Note: Emission Factors are from AP-42 for a diesel-fired generator with a horsepower rating of greater than 600.

Emission Data - Building 9700 Caterpillar Emergency Generator

Engine:	#1		
Reg. #:	9-0442		
BHP:	1340		
KW (Output):	1000		
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)
Jan	56	1.4	1
Feb	76	1.9	1
March	88	2.2	1
April	116	2.9	1
May	164	4.1	2
June	72	1.8	1
July	0	0.0	0
Aug	84	2.1	1
Sept	0	0.0	0
Oct	0	0.0	0
Nov	520	13.0	1
Dec	40	1.0	1
Total(yr)	1216	30.4	10
Total(OS)	436	10.9	5
		Emergency Hours	0
		Maint./Testing Hours	30.4

Note: Used AP-42 emission factors.

Emission Calculations - Cooper Avenue

Detroit Emergency Generator (Registration #9-0804)

NOx Emissions

NOx (tpy):	(Gallons of Diesel Consumed) * (NOx Emission Factor) / (2,000 pounds per ton)					
	575	gal/yr *	0.4384	lb NOx/gal / 2000 lb/ton =	0.13	tons per year
NOx (ppd):	(Gallons of Diesel Consumed) * (NOx Emission Factor)					
	57.5	gal/day *	0.4384	lb NOx/gal =	25.19	pounds per day
NOx (TOSD):	(Gallons of Diesel Consumed in OSDay) * (NOx Emission Factor)					
	57.6	gal/OSday *	0.4384	lb NOx/gal =	25.25	pounds per day

VOC Emissions

VOC (tpy):	(Gallons of Diesel Consumed) * (VOC Emission Factor) / (2,000 pounds per ton)					
	575	gal/yr *	0.01233	lb VOC/gal / 2000 lb/ton =	0.00	tons per year
VOC (ppd):	(Gallons of Diesel Consumed) * (VOC Emission Factor)					
	57.5	gal/day *	0.01233	lb VOC/gal =	0.71	pounds per day
VOC (TOSD):	(Gallons of Diesel Consumed in OSDay) * (VOC Emission Factor)					
	57.6	gal/OSday *	0.01233	lb VOC/gal =	0.71	pounds per day

CO Emissions

CO (tpy):	(Gallons of Diesel Consumed) * (CO Emission Factor) / (2,000 pounds per ton)					
	575	gal/yr *	0.11645	lb CO/gal / 2000 lb/ton =	0.03	tons per year
CO (ppd):	(Gallons of Diesel Consumed) * (CO Emission Factor)					
	57.5	gal/day *	0.11645	lb CO/gal =	6.69	pounds per day

SOx Emissions

SOx (tpy):	(Gallons of Diesel Consumed) * (SOx Emission Factor) / (2,000 pounds per ton)					
	575	gal/yr *	0.006919	lb SOx/gal / 2000 lb/ton =	0.00	tons per year
SOx (ppd):	(Gallons of Diesel Consumed) * (SOx Emission Factor)					
	57.5	gal/day *	0.006919	lb SOx/gal =	0.40	pounds per day

PM(Total) Emissions

PM (tpy):	(Gallons of Diesel Consumed) * (PM Emission Factor) / (2,000 pounds per ton)					
	575	gal/yr *	0.001699	lb PM/gal / 2000 lb/ton =	0.00	tons per year
PM (ppd):	(Gallons of Diesel Consumed) * (PM Emission Factor)					
	57.5	gal/day *	0.001699	lb PM/gal =	0.10	pounds per day

PM(10) Emissions

PM (tpy):	(Gallons of Diesel Consumed) * (PM Emission Factor) / (2,000 pounds per ton)					
	575	gal/yr *	0.000233	lb PM/gal / 2000 lb/ton =	0.00	tons per year
PM (ppd):	(Gallons of Diesel Consumed) * (PM Emission Factor)					
	57.5	gal/day *	0.000233	lb PM/gal =	0.01	pounds per day

Note: Emission Factors are from AP-42 for a diesel-fired generator with a horsepower rating of greater than 600.

Emission Calculations - Cooper Avenue
Detroit Emergency Generator (Registration #9-0804)

PM(2.5) Emissions

PM (tpy):	(Gallons of Diesel Consumed) * (PM Emission Factor) / (2,000 pounds per ton)					
	575	gal/yr *	0.006562	lb PM/gal / 2000 lb/ton =	0.00	tons per year
PM (ppd):	(Gallons of Diesel Consumed) * (PM Emission Factor)					
	57.5	gal/day *	0.006562	lb PM/gal =	0.38	pounds per day

PM(Condensable) Emissions

PM (tpy):	(Gallons of Diesel Consumed) * (PM Emission Factor) / (2,000 pounds per ton)					
	575	gal/yr *	0.001055	lb PM/gal / 2000 lb/ton =	0.00	tons per year
PM (ppd):	(Gallons of Diesel Consumed) * (PM Emission Factor)					
	57.5	gal/day *	0.001055	lb PM/gal =	0.06	pounds per day

CO2 Emissions

CO2 (tpy):	(Gallons of Diesel Consumed) * (CO2 Emission Factor) / (2,000 pounds per ton)					
	575	gal/yr *	22.605	lb CO2/gal / 2000 lb/ton =	6.49	tons per year
CO2 (ppd):	(Gallons of Diesel Consumed) * (CO2 Emission Factor)					
	57.5	gal/day *	22.605	lb CO2/gal =	1298.79	pounds per day

CH4 Emissions

CH4 (tpy):	(Gallons of Diesel Consumed) * (CH4 Emission Factor) / (2,000 pounds per ton)					
	575	gal/yr *	0.00111	lb CH4/gal / 2000 lb/ton =	0.00	tons per year
CH4 (ppd):	(Gallons of Diesel Consumed) * (CH4 Emission Factor)					
	57.5	gal/day *	0.00111	lb CH4/gal =	0.06	pounds per day

Note: Emission Factors are from AP-42 for a diesel-fired generator with a horsepower rating of greater than 600.

Emission Data - Cooper Avenue Detroit Emergency Generator

Engine:	#1		
Reg. #:	9-0804		
BHP:	805		
KW (Out):	600		
MONTH	Fuel (gallons)	Time (hours)	Runs (days)
Jan	24	1.0	1
Feb	47	1.9	1
March	96	4.0	1
April	24	1.0	1
May	0	0.0	0
June	0	0.0	0
July	0	0.0	0
Aug	221	9.2	3
Sept	43	1.8	1
Oct	70	2.9	1
Nov	50	2.1	1
Dec	0	0.0	0
Total(yr)	575	23.9	10
Total(OS)	288	12.0	5
		Emergency Hours	0
		Maint./Testing Hours	23.9

Note: Used AP42 emission factors

Emission Calculations - Building 9960 Emergency Generator

Engine #1 (Registration #9-0806)

NOx Emissions

NOx (tpy):	(Gallons of Diesel Consumed) * (NOx Emission Factor) / (2,000 pounds per ton)					
	191	gal/yr *	0.61299	lb NOx/gal / 2000 lb/ton =	0.06	tons per year
NOx (ppd):	(Gallons of Diesel Consumed) * (NOx Emission Factor)					
	23.9	gal/day *	0.61299	lb NOx/gal =	14.64	pounds per day
NOx (TOSD):	(Gallons of Diesel Consumed in OSDay) * (NOx Emission Factor)					
	10.8	gal/OSday *	0.61299	lb NOx/gal =	6.63	pounds per day

VOC Emissions

VOC (tpy):	(Gallons of Diesel Consumed) * (VOC Emission Factor) / (2,000 pounds per ton)					
	191	gal/yr *	0.04932	lb VOC/gal / 2000 lb/ton =	0.00	tons per year
VOC (ppd):	(Gallons of Diesel Consumed) * (VOC Emission Factor)					
	23.9	gal/day *	0.04932	lb VOC/gal =	1.18	pounds per day
VOC (TOSD):	(Gallons of Diesel Consumed in OSDay) * (VOC Emission Factor)					
	10.8	gal/OSday *	0.04932	lb VOC/gal =	0.53	pounds per day

CO Emissions

CO (tpy):	(Gallons of Diesel Consumed) * (CO Emission Factor) / (2,000 pounds per ton)					
	191	gal/yr *	0.13015	lb CO/gal / 2000 lb/ton =	0.01	tons per year
CO (ppd):	(Gallons of Diesel Consumed) * (CO Emission Factor)					
	23.9	gal/day *	0.13015	lb CO/gal =	3.11	pounds per day

SOx Emissions

SOx (tpy):	(Gallons of Diesel Consumed) * (SOx Emission Factor) / (2,000 pounds per ton)					
	191	gal/yr *	0.0069185	lb SOx/gal / 2000 lb/ton =	0.00	tons per year
SOx (ppd):	(Gallons of Diesel Consumed) * (SOx Emission Factor)					
	23.9	gal/day *	0.0069185	lb SOx/gal =	0.17	pounds per day

PM(Total) Emissions

PM (tpy):	(Gallons of Diesel Consumed) * (PM Emission Factor) / (2,000 pounds per ton)					
	191	gal/yr *	0.0016988	lb PM/gal / 2000 lb/ton =	0.00	tons per year
PM (ppd):	(Gallons of Diesel Consumed) * (PM Emission Factor)					
	23.9	gal/day *	0.0016988	lb PM/gal =	0.04	pounds per day

PM(10) Emissions

PM (tpy):	(Gallons of Diesel Consumed) * (PM Emission Factor) / (2,000 pounds per ton)					
	191	gal/yr *	0.0002329	lb PM/gal / 2000 lb/ton =	0.00	tons per year
PM (ppd):	(Gallons of Diesel Consumed) * (PM Emission Factor)					
	23.9	gal/day *	0.0002329	lb PM/gal =	0.01	pounds per day

Note: Emission Factors are from AP-42 for diesel-fired generators with a horsepower rating of less than 600.

Emission Calculations - Building 9960 Emergency Generator

Engine #1 (Registration #9-0806)

PM(2.5) Emissions

PM (tpy): (Gallons of Diesel Consumed) * (PM Emission Factor) / (2,000 pounds per ton)

191 gal/yr * 0.0065623 lb PM/gal / 2000 lb/ton = 0.00 tons per year

PM (ppd): (Gallons of Diesel Consumed) * (PM Emission Factor)

23.9 gal/day * 0.0065623 lb PM/gal = 0.16 pounds per day

PM(Condensable) Emissions

PM (tpy): (Gallons of Diesel Consumed) * (PM Emission Factor) / (2,000 pounds per ton)

191 gal/yr * 0.0010549 lb PM/gal / 2000 lb/ton = 0.00 tons per year

PM (ppd): (Gallons of Diesel Consumed) * (PM Emission Factor)

23.9 gal/day * 0.0010549 lb PM/gal = 0.03 pounds per day

CO2 Emissions

CO2 (tpy): (Gallons of Diesel Consumed) * (CO2 Emission Factor) / (2,000 pounds per ton)

191 gal/yr * 22.605 lb CO2/gal / 2000 lb/ton = 2.16 tons per year

CO2 (ppd): (Gallons of Diesel Consumed) * (CO2 Emission Factor)

23.9 gal/day * 22.605 lb CO2/gal = 539.69 pounds per day

CH4 Emissions

CH4 (tpy): (Gallons of Diesel Consumed) * (CH4 Emission Factor) / (2,000 pounds per ton)

191 gal/yr * 0.0011097 lb CH4/gal / 2000 lb/ton = 0.00 tons per year

CH4 (ppd): (Gallons of Diesel Consumed) * (CH4 Emission Factor)

23.9 gal/day * 0.0011097 lb CH4/gal = 0.03 pounds per day

Note: Emission Factors are from AP-42 for diesel-fired generators with a horsepower rating of less than 600.

Emission Data - Building 9960 Emergency Generator

Engine:	#1		
Reg. #:	9-0806		
BHP:	750		
KW (Out):	559		
MONTH 2022	Fuel (gallons)	Time (hours)	Runs (days)
Jan	0	0.0	0
Feb	21	1.1	1
March	17	0.9	1
April	4	0.2	1
May	15	0.8	1
June	0	0.0	0
July	13	0.7	1
Aug	0	0.0	0
Sept	0	0.0	0
Oct	32	1.7	1
Nov	80	4.2	1
Dec	8	0.4	1
Total(yr)	191	10.0	8
Total(OS)	32	1.7	3
		Emergency Hours	0.0
		Maint./Testing Hours	10.0

Note: Used AP-42 emission factors

Emission Calculations - Building 9703 Detroit Emergency Generator

Engine #1 (Registration #9-0807)

NOx Emissions

NOx (tpy): (Gallons of Diesel Consumed) * (NOx Emission Factor) / (2,000 pounds per ton)

2,495 gal/yr * 0.4384 lb NOx/gal / 2000 lb/ton = 0.55 tons per year

NOx (ppd): (Gallons of Diesel Consumed) * (NOx Emission Factor)

191.9 gal/day * 0.4384 lb NOx/gal = 84.14 pounds per day

NOx (TOSD): (Gallons of Diesel Consumed in OSDay) * (NOx Emission Factor)

37.9 gal/OSday * 0.4384 lb NOx/gal = 16.59 pounds per day

VOC Emissions

VOC (tpy): (Gallons of Diesel Consumed) * (VOC Emission Factor) / (2,000 pounds per ton)

2,495 gal/yr * 0.01233 lb VOC/gal / 2000 lb/ton = 0.02 tons per year

VOC (ppd): (Gallons of Diesel Consumed) * (VOC Emission Factor)

191.9 gal/day * 0.01233 lb VOC/gal = 2.37 pounds per day

VOC (TOSD): (Gallons of Diesel Consumed in OSDay) * (VOC Emission Factor)

37.9 gal/OSday * 0.01233 lb VOC/gal = 0.47 pounds per day

CO Emissions

CO (tpy): (Gallons of Diesel Consumed) * (CO Emission Factor) / (2,000 pounds per ton)

2,495 gal/yr * 0.11645 lb CO/gal / 2000 lb/ton = 0.15 tons per year

CO (ppd): (Gallons of Diesel Consumed) * (CO Emission Factor)

191.9 gal/day * 0.11645 lb CO/gal = 22.35 pounds per day

SOx Emissions

SOx (tpy): (Gallons of Diesel Consumed) * (SOx Emission Factor) / (2,000 pounds per ton)

2,495 gal/yr * 0.0069185 lb SOx/gal / 2000 lb/ton = 0.01 tons per year

SOx (ppd): (Gallons of Diesel Consumed) * (SOx Emission Factor)

191.9 gal/day * 0.0069185 lb SOx/gal = 1.33 pounds per day

PM(Total) Emissions

PM (tpy): (Gallons of Diesel Consumed) * (PM Emission Factor) / (2,000 pounds per ton)

2,495 gal/yr * 0.0016988 lb PM/gal / 2000 lb/ton = 0.00 tons per year

PM (ppd): (Gallons of Diesel Consumed) * (PM Emission Factor)

191.9 gal/day * 0.0016988 lb PM/gal = 0.33 pounds per day

PM(10) Emissions

PM (tpy): (Gallons of Diesel Consumed) * (PM Emission Factor) / (2,000 pounds per ton)

2,495 gal/yr * 0.0002329 lb PM/gal / 2000 lb/ton = 0.00 tons per year

PM (ppd): (Gallons of Diesel Consumed) * (PM Emission Factor)

191.9 gal/day * 0.0002329 lb PM/gal = 0.04 pounds per day

Note: Emission Factors are from AP-42 for a diesel-fired generator with a horsepower rating of greater than 600.

Emission Calculations - Building 9703 Detroit Emergency Generator
Engine #1 (Registration #9-0807)

PM(2.5) Emissions

PM (tpy): (Gallons of Diesel Consumed) * (PM Emission Factor) / (2,000 pounds per ton)

2,495	gal/yr *	0.0065623	lb PM/gal / 2000 lb/ton =	0.01	tons per year

PM (ppd): (Gallons of Diesel Consumed) * (PM Emission Factor)

191.9	gal/day *	0.0065623	lb PM/gal =	1.26	pounds per day

PM(Condensable) Emissions

PM (tpy): (Gallons of Diesel Consumed) * (PM Emission Factor) / (2,000 pounds per ton)

2,495	gal/yr *	0.0010549	lb PM/gal / 2000 lb/ton =	0.00	tons per year

PM (ppd): (Gallons of Diesel Consumed) * (PM Emission Factor)

191.9	gal/day *	0.0010549	lb PM/gal =	0.20	pounds per day

CO2 Emissions

CO2 (tpy): (Gallons of Diesel Consumed) * (CO2 Emission Factor) / (2,000 pounds per ton)

2,495	gal/yr *	22.605	lb CO2/gal / 2000 lb/ton =	28.20	tons per year

CO2 (ppd): (Gallons of Diesel Consumed) * (CO2 Emission Factor)

191.9	gal/day *	22.605	lb CO2/gal =	4338.39	pounds per day

CH4 Emissions

CH4 (tpy): (Gallons of Diesel Consumed) * (CH4 Emission Factor) / (2,000 pounds per ton)

2,495	gal/yr *	0.0011097	lb CH4/gal / 2000 lb/ton =	0.00	tons per year

CH4 (ppd): (Gallons of Diesel Consumed) * (CH4 Emission Factor)

191.9	gal/day *	0.0011097	lb CH4/gal =	0.21	pounds per day

Note: Emission Factors are from AP-42 for a diesel-fired generator with a horsepower rating of greater than 600.

Emission Data - Building 9703 Detroit Emergency Generator

Engine:	#1		
Reg. #:	9-0807		
BHP:	643		
KW (Out):	479		
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)
Jan	67	2.0	1
Feb	768	23.0	1
March	33	1.0	1
April	33	1.0	1
May	37	1.1	1
June	0	0.0	0
July	43	1.3	1
Aug	0	0.0	0
Sept	0	0.0	0
Oct	124	3.7	1
Nov	40	1.2	1
Dec	1349	40.4	5
Total(yr)	2495	74.7	13
Total(OS)	114	3.4	3
		Emergency Hours	0.0
		Maint./Testing Hours	74.7

Note: Emission Factors are from AP-42.

Emission Calculations - Visitor Control Points Emergency Generators

Engine #1 (Registration #9-0967)

NOx Emissions

NOx (tpy):	(Hours of Engine Operation) * (NOx Emission Factor) / (2,000 pounds per ton)					
	14	hr/yr *	3.66	lb NOx/hr / 2000 lb/ton =	0.03	tons per year
NOx (ppd):	(Hours of Engine Operation) * (NOx Emission Factor)					
	1.6	hr/day *	3.66	lb NOx/hr =	5.68	pounds per day
NOx (TOSD):	(Hours of Engine Operation in OSDay) * (NOx Emission Factor)					
	1.0	hr/OSday *	3.66	lb NOx/hr =	3.84	pounds per day

VOC Emissions

VOC (tpy):	(Hours of Engine Operation) * (VOC Emission Factor) / (2,000 pounds per ton)					
	14	hr/yr *	0.00	lb VOC/hr / 2000 lb/ton =	0.00	tons per year
VOC (ppd):	(Hours of Engine Operation) * (VOC Emission Factor)					
	1.6	hr/day *	0.00	lb VOC/hr =	0.00	pounds per day
VOC (TOSD):	(Hours of Engine Operation in OSDay) * (VOC Emission Factor)					
	1.0	hr/OSday *	0.00	lb VOC/hr =	0.00	pounds per day

CO Emissions

CO (tpy):	(Hours of Engine Operation) * (CO Emission Factor) / (2,000 pounds per ton)					
	14	hr/yr *	3.20	lb CO/hr / 2000 lb/ton =	0.02	tons per year
CO (ppd):	(Hours of Engine Operation) * (CO Emission Factor)					
	1.6	hr/day *	3.20	lb CO/hr =	4.97	pounds per day

SOx Emissions

SOx (tpy):	(Hours of Engine Operation) * (SOx Emission Factor) / (2,000 pounds per ton)					
	14	hr/yr *	0.00	lb SOx/hr / 2000 lb/ton =	0.00	tons per year
SOx (ppd):	(Hours of Engine Opeation) * (SOx Emission Factor)					
	1.6	hr/day *	0.00	lb SOx/hr =	0.00	pounds per day

PM(Total) Emissions

PM (tpy):	(Hours of Engine Operation) * (PM Emission Factor) / (2,000 pounds per ton)					
	14	hr/yr *	0.18	lb PM/hr / 2000 lb/ton =	0.00	tons per year
PM (ppd):	(Hours of Engine Operation) * (PM Emission Factor)					
	1.6	hr/day *	0.18	lb PM/hr =	0.28	pounds per day

CO2 Emissions

CO2 (tpy):	(Gallons of Diesel Consumed) * (CO2 Emission Factor) / (2,000 pounds per ton)					
	589	gal/yr *	22.605	lb CO2/gal / 2000 lb/ton =	6.66	tons per year
CO2 (ppd):	(Gallons of Diesel Consumed) * (CO2 Emission Factor)					
	65.5	gal/day *	22.605	lb CO2/gal =	1479.95	pounds per day

Note: Emission Factors are from USEPA Tier 3 Emission Limits and AP-42.

Emission Data - Visitor Control Points Emergency Generators

Engine:		@ VCC-1	
Reg. #:		9-0967	
KW (Out):		415	
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)
Jan	35	2.1	1
Feb	17	2.1	1
March	294	1.9	1
April	35	0.0	0
May	52	1.1	1
June	17	1.3	1
July	35	0.9	1
Aug	17	0.9	1
Sept	-	0.0	0
Oct	17	1.0	1
Nov	35	2.7	1
Dec	35	0.0	0
Total(yr)	589	14.0	9
Total(OS)	156	4.2	4
		Emergency Hours	0
		Maint./Testing Hours	14.0

Note: Emission factors are from USEPA Tier 3 Emission Limits and AP-42.

3.66	lb NOx/hr	same for N2O
0.00	lb VOC/hr	same for CH4
0.00	lb SOx/hr	
3.20	lb CO/hr	
0.18	lb PM/hr	
22.605	lb CO2/gal	

Emissions Calculations - Bldg 9816 South Generator Plant
18 Engines (Registration 9-1035)

NOx Emissions

Uncontrolled NOx (tpy):	(Hours of Engine Operation) * (NOx Emission Factor) / (2,000 pounds per ton)					
	21.0	hr/yr *	51.7	lb NOx/hr / 2000 lb/ton =	0.54	tons per year
Controlled NOx (tpy):	(Hours of Engine Operation) * (NOx Emission Factor) / (2,000 pounds per ton)					
	58.0	hr/yr *	4.3	lb NOx/hr / 2000 lb/ton =	0.12	tons per year
Uncontrolled NOx (ppd):	(Hours of Engine Operation) * (NOx Emission Factor)					
	6.4	hr/day *	51.7	lb NOx/hr =	329.83	pounds per day
Controlled NOx (ppd):	(Hours of Engine Operation) * (NOx Emission Factor)					
	17.6	hr/day*	4.3	lb NOx/hr =	75.77	pounds per day
Uncontrollled NOx (TOSD):	(Hours of Engine Operation) * (NOx Emission Factor)					
	6.0	hr/day *	51.7	lb NOx/hr =	310.20	pounds per day
Controllled NOx (TOSD):	(Hours of Engine Operation) * (NOx Emission Factor)					
	18.0	hr/day *	4.3	lb NOx/hr =	77.40	pounds per day

VOC Emissions

VOC (tpy):	(Hours of Engine Operation) * (Capacity of Engine) * (VOC Emission Factor) / (2,000 pounds per ton)					
	79.0	hr/yr * 4038 bhp *	0.0010	lb VOC/bhp-hr / 2000 lb/ton =	0.15	tons per year
VOC (ppd):	(Hours of Engine Operation) * (Capacity of Engine) * (VOC Emission Factor)					
	24.0	hr/day * 4038 bhp *	0.0010	lb VOC/bhp-hr =	94.01	pounds per day
VOC (TOSD):	(Hours of Engine Operation) * (Capacity of Engine) * (VOC Emission Factor)					
	24.0	hr/day * 4038 bhp *	0.0010	lb VOC/bhp-hr =	94.01	pounds per day

CO Emissions

CO (tpy):	(Hours of Engine Operation) * (Capacity of Engine) * (CO Emission Factor) / (2,000 pounds per ton)					
	79.0	hr/yr * 4038 bhp *	0.0014	lb CO/bhp-hr / 2000 lb/ton =	0.22	tons per year
CO (ppd):	(Hours of Engine Operation) * (Capacity of Engine) * (CO Emission Factor)					
	24.0	hr/day * 4038 bhp *	0.0014	lb CO/bhp-hr =	134.60	pounds per day

PM(Total) Emissions

PM(Total) (tpy):	(Hours of Engine Operation) * (Capacity of Engine) * (PM Emission Factor) / (2,000 pounds per ton)					
	79.0	hr/yr * 4038 bhp *	0.0005	lb PM/bhp-hr / 2000 lb/ton =	0.08	tons per year
PM(Total) (ppd):	(Hours of Engine Operation) * (Capacity of Engine) * (PM Emission Factor)					
	24.0	hr/day * 4038 bhp *	0.0005	lb PM/bhp-hr =	51.28	pounds per day

CO2 Emissions

CO2 (tpy):	(Gallons of Diesel Consumed) * (CO2 Emission Factor) / (2,000 pounds per ton)					
	11,952	gal/yr *	6.1731	lb CO2/gal / 2000 lb/ton =	36.89	tons per year
CO2 (ppd):	(Gallons of Diesel Consumed) * (CO2 Emission Factor)					
	5,456	gal/day *	6.1731	lb CO2/gal =	33,683.53	pounds per day

N2O Emissions

N2O (tpy):	(Gallons of Diesel Consumed) * (N2O Emission Factor) / (2,000 pounds per ton)					
	11,952.4	gal/yr *	0.000176	lb N2O/bhp-hr / 2000 lb/ton =	0.00	tons per year
N2O (ppd):	(Gallons of Diesel Consumed) * (N2O Emission Factor)					
	5,456.5	gal/day *	0.000176	lb N2O/bhp-hr =	0.96	pounds per day

CH4 Emissions

CH4 (tpy):	(Hours of Engine Operation) * (Capacity of Engine) * (CH4 Emission Factor) / (2,000 pounds per ton)					
	79.0	hr/yr * 4038 bhp *	0.00006	lb CH4/bhp-hr / 2000 lb/ton =	0.01	tons per year
CH4 (ppd):	(Hours of Engine Operation) * (Capacity of Engine) * (CH4 Emission Factor)					
	24.0	hr/day * 4038 bhp *	0.00006	lb CH4/bhp-hr =	0.00	pounds per day

Note: Emission Factors are from stack testing and manufacturer testing.

Emission Data - 9816 South Generator Plant
(Registration 9-1035)

Engine:	#1				#2				#3			
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)
Jan	288	1.9	1	17	271	1.8	1	16	316	2.1	1	19
Feb	-	-	-	-	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-	-	-	-
April	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	-	-	-	-
July	255	1.6	1	10	354	2.1	1	14	156	1.0	1	7
Aug	-	-	-	-	-	-	-	-	-	-	-	-
Sept	-	-	-	-	-	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-	-	-	-	-	-
Nov	156	1	1	-	105	1	1	-	79	1	1	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-
Total(yr)	699	4.6	3	27	731	4.6	3	30	551	3.6	3	25
Total(OS)	255	1.6	1	10	354	2.1	1	14	156	1.0	1	7
	Emergency Hours		0		Emergency Hours		0		Emergency Hours		0	
	Maint./Testing Hours		4.6		Maint./Testing Hours		4.6		Maint./Testing Hours		3.6	

Engine:	#4				#5				#6			
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)
Jan	316	2.1	1	19	318	2.1	1	19	316	2.1	1	19
Feb	-	-	-	-	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-	-	-	-
April	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	-	-	-	-
July	303	1.9	1	12	297	1.8	1	12	343	2.2	1	14
Aug	-	-	-	-	-	-	-	-	-	-	-	-
Sept	-	-	-	-	-	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-	-	-	-	-	-
Nov	334	2	1	-	167	1	1	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-
Total(yr)	954	6.4	3	31	782	5.0	3	30	659	4.3	2	33
Total(OS)	303	1.9	1	12	297	1.8	1	12	343	2.2	1	14
	Emergency Hours		0		Emergency Hours		0		Emergency Hours		0	
	Maint./Testing Hours		6.4		Maint./Testing Hours		5.0		Maint./Testing Hours		4.3	

Note: NOx and CO2 emissions rate based upon stack test data.
All others based on manufacturer's testing data or EPA Emission Factor (N2O).

4.3	lb NOx/hr controlled
51.7	lb NOx/hr uncontrolled
0.0010	lb VOC/bhp-hr
0.0014	lb CO/bhp-hr
0.0005	lb PM/bhp-hr
6.17	lb CO2/hr
0.000176	lb N2O/gal
0.00006	lb CH4/bhp-hr

SOx assumed negligible

total diesel fuel
11952

Emission Data - 9816 South Generator Plant
(Registration 9-1035)

Engine:	#7				#8				#9			
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)
Jan	301	2.0	1	18	318	2.1	1	19	301	2.0	1	18
Feb	-	-	-	-	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-	-	-	-
April	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	-	-	-	-
July	285	1.9	1	12	322	2.1	1	14	364	2.3	1	15
Aug	-	-	-	-	-	-	-	-	-	-	-	-
Sept	-	-	-	-	-	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-	-	-	-	-	-
Nov	166	1	1	-					-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-
Total(yr)	753	5.0	3	30	641	4.2	2	32	666	4.3	2	33
Total(OS)	285	1.9	1	12	322	2.1	1	14	364	2.3	1	15
	Emergency Hours		0		Emergency Hours		0		Emergency Hours		0	
	Maint./Testing Hours		5.0		Maint./Testing Hours		4.2		Maint./Testing Hours		4.3	

Engine:	#10				#11				#12			
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)
Jan	303	2.0	-	18	150	1.0	1	9	331	2.2	1	19
Feb	-	-	-	-	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-	-	-	-
April	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	-	-	-	-
July	359	2.3	1	15	310	2.1	1	14	163	1.3	1	9
Aug	-	-	-	-	-	-	-	-	-	-	-	-
Sept	-	-	-	-	-	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-
Total(yr)	662	4.3	1	33	461	3.1	2	23	494	3.5	2	28
Total(OS)	359	2.3	1	15	310	2.1	1	14	163	1.3	1	9
	Emergency Hours		0		Emergency Hours		0		Emergency Hours		0	
	Maint./Testing Hours		4.3		Maint./Testing Hours		3.1		Maint./Testing Hours		3.5	

Emission Data - 9816 South Generator Plant
(Registration 9-1035)

Engine:	#13				#14				#15			
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)
Jan	333	2.2	1	19	288	1.9	1	17	334	2.2	1	19
Feb	-	-	-	-	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-	-	-	-
April	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	-	-	-	-
July	302	2.0	1	13	309	2.0	1	13	388	2.4	1	16
Aug	-	-	-	-	-	-	-	-	-	-	-	-
Sept	-	-	-	-	-	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-
Total(yr)	636	4.2	2	33	597	3.9	2	30	721	4.6	2	35
Total(OS)	302	2.0	1	13	309	2.0	1	13	388	2.4	1	16
	Emergency Hours		0		Emergency Hours		0		Emergency Hours		0	
	Maint./Testing Hours		4.2		Maint./Testing Hours		3.9		Maint./Testing Hours		4.6	

Engine:	#16				#17				#18			
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)
Jan	331	2.2	1	19	303	2.0	1	18	301	2.0	1	18
Feb	-	-	-	-	-	-	-	-	-	-	-	-
March	5	0.2	1	-	-	-	-	-	-	-	-	-
April	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	-	-	-	-
July	299	2.0	1	13	287	1.7	1	11	422	3.3	1	22
Aug	-	-	-	-	-	-	-	-	-	-	-	-
Sept	-	-	-	-	-	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-
Total(yr)	635	4.4	3	33	590	3.7	2	29	723	5.3	2	39
Total(OS)	299	2.0	1	13	287	1.7	1	11	422	3.3	1	22
	Emergency Hours		0		Emergency Hours		0		Emergency Hours		0	
	Maint./Testing Hours		4.4		Maint./Testing Hours		3.7		Maint./Testing Hours		5.3	

Emissions Calculations - Bldg 9950 North Generator Plant
24 Engines (Registration 9-1055)

NOx Emissions

Uncontrolled NOx (tpy): (Hours of Engine Operation) * (NOx Emission Factor) / (2,000 pounds per ton)
29.0 hr/yr * 38.1 lb NOx/hr / 2000 lb/ton = 0.55 tons per year

Controlled NOx (tpy): (Hours of Engine Operation) * (NOx Emission Factor) / (2,000 pounds per ton)
63.2 hr/yr * 3.1 lb NOx/hr / 2000 lb/ton = 0.10 tons per year

Uncontrolled NOx (ppd): (Hours of Engine Operation) * (NOx Emission Factor)
7.5 hr/day * 38.1 lb NOx/hr = 287.61 pounds per day

Controlled NOx (ppd): (Hours of Engine Operation) * (NOx Emission Factor)
16.5 hr/day* 3.1 lb NOx/hr = 51.00 pounds per day

Uncontrollled NOx (TOSD): (Hours of Engine Operation) * (NOx Emission Factor)
6.0 hr/day * 38.1 lb NOx/hr = 228.60 pounds per day

Controllled NOx (TOSD): (Hours of Engine Operation) * (NOx Emission Factor)
18.0 hr/day * 3.1 lb NOx/hr = 55.80 pounds per day

VOC Emissions

VOC (tpy): (Hours of Engine Operation) * (Capacity of Engine) * (VOC Emission Factor) / (2,000 pounds per ton)
92.2 hr/yr * 4002 bhp * 0.0005 lb VOC/bhp-hr / 2000 lb/ton = 0.09 tons per year

VOC (ppd): (Hours of Engine Operation) * (Capacity of Engine) * (VOC Emission Factor)
24.0 hr/day * 4002 bhp * 0.0005 lb VOC/bhp-hr = 44.89 pounds per day

VOC (TOSD): (Hours of Engine Operation) * (Capacity of Engine) * (VOC Emission Factor)
24.0 hr/day * 4002 bhp * 0.0005 lb VOC/bhp-hr = 44.89 pounds per day

CO Emissions

CO (tpy): (Hours of Engine Operation) * (Capacity of Engine) * (CO Emission Factor) / (2,000 pounds per ton)
92.2 hr/yr * 4002 bhp * 0.0013 lb CO/bhp-hr / 2000 lb/ton = 0.23 tons per year

CO (ppd): (Hours of Engine Operation) * (Capacity of Engine) * (CO Emission Factor)
24.0 hr/day * 4002 bhp * 0.0014 lb CO/bhp-hr = 133.40 pounds per day

PM(Total) Emissions

PM(Total) (tpy): (Hours of Engine Operation) * (Capacity of Engine) * (PM Emission Factor) / (2,000 pounds per ton)
92.2 hr/yr * 4002 bhp * 0.0002 lb PM/bhp-hr / 2000 lb/ton = 0.03 tons per year

PM(Total) (ppd): (Hours of Engine Operation) * (Capacity of Engine) * (PM Emission Factor)
24.0 hr/day * 4002 bhp * 0.0005 lb PM/bhp-hr = 50.82 pounds per day

CO2 Emissions

CO2 (tpy): (Gallons of Diesel Consumed) * (CO2 Emission Factor) / (2,000 pounds per ton)
10,859 gal/yr * 10.21 lb CO2/gal / 2000 lb/ton = 55.43 tons per year

CO2 (ppd): (Gallons of Diesel Consumed) * (CO2 Emission Factor)
4,715.0 gal/yr * 10.21 lb CO2/gal = 48,140.62 pounds per day

N2O Emissions

N2O (tpy): (Gallons of Diesel Consumed) * (N2O Emission Factor) / (2,000 pounds per ton)
10,859 gal/yr * 0.000176 lb N2O/bhp-hr / 2000 lb/ton = 0.00 tons per year

N2O (ppd): (Gallons of Diesel Consumed) * (N2O Emission Factor)
4,715 gal/day * 0.000176 lb N2O/bhp-hr = 0.83 pounds per day

CH4 Emissions

CH4 (tpy): (Hours of Engine Operation) * (Capacity of Engine) * (CH4 Emission Factor) / (2,000 pounds per ton)
92.2 hr/yr * 4002 bhp * 0.00006 lb CH4/bhp-hr / 2000 lb/ton = 0.01 tons per year

CH4 (ppd): (Hours of Engine Operation) * (Capacity of Engine) * (CH4 Emission Factor)
24.0 hr/day * 4002 bhp * 0.00006 lb CH4/bhp-hr = 0.00 pounds per day

Note: Emission Factors are from stack testing and manufacturer testing.

Emission Data - 9950 North Generator Plant
(Registration #9-1055)

Engine:	#1				#2				#3			
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)
Jan	-	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-	-
March	122	0.8	1.0	0	106	0.7	1.0	0	119	0.8	1.0	0
April	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-
June	11	0.2	1.0	-	-	-	-	-	13	0.2	1.0	-
July	-	-	-	-	-	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-	-	-	-	-	-
Sept	326	2.9	1.0	10	287	2.3	1.0	8	319	2.7	1.0	10
Oct	-	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-
Total(yr)	459	3.9	3	11	393	3.0	2	8	450	3.7	3	10
Total(OS)	337	3.1	2	10	287	2.3	1	8	331	2.9	2	10
	Emergency Hours		0		Emergency Hours		0		Emergency Hours		0	
	Maint./Testing Hours		3.9		Maint./Testing Hours		3.0		Maint./Testing Hours		3.7	

Note: NOx and CO2 emissions rate based upon stack test data.
All others based on manufacturer's testing data or EPA Emission Factor (CO2 and N2O).

3.1	lb NOx/hr	controlled
38.1	lb NOx/hr	uncontrolled
0.0005	lb VOC/bhp-hr	
0.0013	lb CO/bhp-hr	
0.0002	lb PM/bhp-hr	
10.21	lb CO2/gal	
0.000176	lb N2O/gal	
0.00006	lb CH4/bhp-hr	
	SOx assumed negligible	

Engine:	#4				#5				#6			
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)
Jan	-	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-	-
March	121	1	1	0	650	10	2	2	117	1	1	0
April	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	11	0	1	-
July	-	-	-	-	-	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-	-	-	-	-	-
Sept	265	2	1	7	-	-	-	-	286	2	1	9
Oct	-	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-	-
Dec	4	0.2	1.0	-	5	-	1.0	-	4	0.2	1.0	-
Total(yr)	389	3.0	3	7	655	9.8	3	2	417	3.6	4	9
Total(OS)	265	2.0	1	7	0	0.0	0	0	297	2.6	2	9
	Emergency Hours		0		Emergency Hours		0		Emergency Hours		0	
	Maint./Testing Hours		3.0		Maint./Testing Hours		9.8		Maint./Testing Hours		3.6	

total diesel fuel
10859

Emission Data - 9950 North Generator Plant
(Registration #9-1055)

Engine:	#7				#8				#9			
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)
Jan	-	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-	-
March	119	1	1	0	122	1	1	0	115	1	1	0
April	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	-	-	-	-
July	-	-	-	-	-	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-	-	-	-	-	-
Sept	295	3	1	9	296	3	1	10	296	3	1	10
Oct	-	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-
Total(yr)	414	3.4	2	10	418	3.5	2	10	410	3.5	2	10
Total(OS)	295	2.6	1	9	296	2.7	1	10	296	2.7	1	10
	Emergency Hours		0		Emergency Hours		0		Emergency Hours		0	
	Maint./Testing Hours		3.4		Maint./Testing Hours		3.5		Maint./Testing Hours		3.5	

Engine:	#10				#11				#12			
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)
Jan	-	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-	-
March	127	1	1	0	118	1	1	0	117	1	1	0
April	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-
June	58	1	1	-	63	1	1	-	58	1	1	-
July	-	-	-	-	-	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-	-	-	-	-	-
Sept	255	2	1	7	255	2	1	7	254	2	1	7
Oct	-	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-
Total(yr)	440	3.3	3	7	436	3.3	3	7	428	3.2	3	7
Total(OS)	313	2.4	2	7	317	2.5	2	7	312	2.4	2	7
	Emergency Hours		0		Emergency Hours		0		Emergency Hours		0	
	Maint./Testing Hours		3.3		Maint./Testing Hours		3.3		Maint./Testing Hours		3.2	

Emission Data - 9950 North Generator Plant
(Registration #9-1055)

Engine:	#13				#14				#15			
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)
Jan	-	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-	-
March	119	1	1	0	122	1	1	0	120	1	1	0
April	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-
June	15	0	1	-	-	-	-	-	-	-	-	-
July	-	-	-	-	-	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-	-	-	-	-	-
Sept	269	2	1	5	283	3	1	6	277	2	1	6
Oct	-	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-
Total(yr)	403	3.1	3	5	404	3.3	2	6	397	3.2	2	6
Total(OS)	284	2.3	2	5	283	2.5	1	6	277	2.4	1	6
	Emergency Hours		0		Emergency Hours		0		Emergency Hours		0	
	Maint./Testing Hours		3.1		Maint./Testing Hours		3.3		Maint./Testing Hours		3.2	

Engine:	#16				#17				#18			
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)
Jan	-	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-	-
March	120	1	1	0	123	1	1	0	122	1	1	0
April	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	-	-	-	-
July	-	-	-	-	-	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-	-	-	-	-	-
Sept	277	3	1	6	267	2	1	5	260	2	1	5
Oct	-	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-
Total(yr)	397	3.5	2	7	389	3.1	2	6	382	2.8	2	5
Total(OS)	277	2.7	1	6	267	2.3	1	5	260	2.0	1	5
	Emergency Hours		0		Emergency Hours		0		Emergency Hours		0	
	Maint./Testing Hours		3.5		Maint./Testing Hours		3.1		Maint./Testing Hours		2.8	

Emission Data - 9950 North Generator Plant
(Registration #9-1055)

Engine:	#19				#20				#21			
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)
Jan	-	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-	-
March	151	1	1	0	126	1	1	0	126	1	1	0
April	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	-	-	-	-
July	-	-	-	-	-	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-	-	-	-	-	-
Sept	321	3	1	7	435	4	1	9	469	4	1	9
Oct	-	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-
Total(yr)	472	3.9	2	7	561	4.6	2	9	595	4.8	2	10
Total(OS)	321	2.9	1	7	435	3.8	1	9	469	4.0	1	9
	Emergency Hours		0		Emergency Hours		0		Emergency Hours		0	
	Maint./Testing Hours		3.9		Maint./Testing Hours		4.6		Maint./Testing Hours		4.8	

Engine:	#22				#23				#24			
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)
Jan	-	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-	-
March	176	1	1	0	124	1	1	0	106	1	1	0
April	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	-	-	-	-
July	-	-	-	-	-	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-	-	-	-	-	-
Sept	376	3	1	8	382	3	1	8	386	3	1	8
Oct	-	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-
Total(yr)	551	4.5	2	8	506	4.1	2	8	491	4.1	2	8
Total(OS)	376	3.3	1	8	382	3.3	1	8	386	3.4	1	8
	Emergency Hours		0		Emergency Hours		0		Emergency Hours		0	
	Maint./Testing Hours		4.5		Maint./Testing Hours		4.1		Maint./Testing Hours		4.1	

Emissions Calculations - Bldg 9000 Generator Yard

7 Engines (Registration 9-1091)

NOx Emissions

Uncontrolled NOx (tpy):	(Hours of Engine Operation) * (NOx Emission Factor) / (2,000 pounds per ton)					
	42.5	hr/yr *	65.4	lb NOx/hr / 2000 lb/ton =	1.39	tons per year
Controlled NOx (tpy):	(Hours of Engine Operation) * (NOx Emission Factor) / (2,000 pounds per ton)					
	226.8	hr/yr *	4.0	lb NOx/hr / 2000 lb/ton =	0.45	tons per year
Uncontrolled NOx (ppd):	(Hours of Engine Operation) * (NOx Emission Factor)					
	11.1	hr/day *	65.4	lb NOx/hr =	723.96	pounds per day
Controlled NOx (ppd):	(Hours of Engine Operation) * (NOx Emission Factor)					
	59.0	hr/day*	4.0	lb NOx/hr =	236.15	pounds per day
Uncontrollled NOx (TOSD):	(Hours of Engine Operation) * (NOx Emission Factor)					
	6.0	hr/day *	65.4	lb NOx/hr =	392.64	pounds per day
Controllled NOx (TOSD):	(Hours of Engine Operation) * (NOx Emission Factor)					
	18.0	hr/day *	4.0	lb NOx/hr =	72.00	pounds per day

VOC Emissions

VOC (tpy):	(Hours of Engine Operation) * (Capacity of Engine) * (VOC Emission Factor) / (2,000 pounds per ton)					
	269.3	hr/yr * 4002 bhp *	0.0019	lb VOC/bhp-hr / 2000 lb/ton =	1.02	tons per year
VOC (ppd):	(Hours of Engine Operation) * (Capacity of Engine) * (VOC Emission Factor)					
	70.1	hr/day * 4002 bhp *	0.0019	lb VOC/bhp-hr =	531.89	pounds per day
VOC (TOSD):	(Hours of Engine Operation) * (Capacity of Engine) * (VOC Emission Factor)					
	24.0	hr/day * 4002 bhp *	0.0019	lb VOC/bhp-hr =	182.10	pounds per day

CO Emissions

CO (tpy):	(Hours of Engine Operation) * (Capacity of Engine) * (CO Emission Factor) / (2,000 pounds per ton)					
	269.3	hr/yr * 4002 bhp *	0.0098	lb CO/bhp-hr / 2000 lb/ton =	5.27	tons per year
CO (ppd):	(Hours of Engine Operation) * (Capacity of Engine) * (CO Emission Factor)					
	70.1	hr/day * 4002 bhp *	0.0014	lb CO/bhp-hr =	389.64	pounds per day

PM(Total) Emissions

PM(Total) (tpy):	(Hours of Engine Operation) * (Capacity of Engine) * (PM Emission Factor) / (2,000 pounds per ton)					
	269.3	hr/yr * 4002 bhp *	0.0007	lb PM/bhp-hr / 2000 lb/ton =	0.36	tons per year
PM(Total) (ppd):	(Hours of Engine Operation) * (Capacity of Engine) * (PM Emission Factor)					
	70.1	hr/day * 4002 bhp *	0.0005	lb PM/bhp-hr =	148.43	pounds per day

CO2 Emissions

CO2 (tpy):	(Hours of Engine Operation) * (CO2 Emission Factor) / (2,000 pounds per ton)					
	269.3	hr/yr *	4290	lb CO2/hr / 2000 lb/ton =	577.65	tons per year
CO2 (ppd):	(Hours of Engine Operation) * (CO2 Emission Factor)					
	70.1	hr/yr *	4290	lb CO2/hr =	300,728.07	pounds per day

N2O Emissions

N2O (tpy):	(Hours of Engine Operation) * (Capacity of Engine) * (N2O Emission Factor) / (2,000 pounds per ton)					
	269.3	hr/yr * 4002 bhp *	0.0190	lb N2O/bhp-hr / 2000 lb/ton =	10.23	tons per year
N2O (ppd):	(Hours of Engine Operation) * (Capacity of Engine) * (N2O Emission Factor)					
	70.1	hr/day * 4002 bhp *	0.0190	lb N2O/bhp-hr =	5,325.05	pounds per day

CH4 Emissions

CH4 (tpy):	(Hours of Engine Operation) * (Capacity of Engine) * (CH4 Emission Factor) / (2,000 pounds per ton)					
	269.3	hr/yr * 4002 bhp *	0.00190	lb CH4/bhp-hr / 2000 lb/ton =	1.02	tons per year
CH4 (ppd):	(Hours of Engine Operation) * (Capacity of Engine) * (CH4 Emission Factor)					
	70.1	hr/day * 4002 bhp *	0.00190	lb CH4/bhp-hr =	0.27	pounds per day

Note: Emission Factors are from stack testing and manufacturer testing.

Emission Data - 9000 Generator Yard
(Registration #9-1091)

Engine:	#1				#2				#3			
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)
Jan	2,535	31.2	10.0	25	862	10.6	5.0	8	2,985	37.0	10.0	29
Feb	-	-	-	-	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-	-	-	-
April	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	78	0.7	1.0	0
July	-	-	-	-	-	-	-	-	-	-	-	-
Aug	468	4.4	1.0	-	-	-	-	-	299	1.9	1.0	-
Sept	-	-	-	-	486	4.4	1.0	-	-	-	-	-
Oct	217	1.5	1.0	3	215	1.5	1.0	3	215	1.5	1.0	3
Nov	-	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-
Total(yr)	3220	37.1	12	27	1563	16.5	7	11	3577	41.1	13	32
Total(OS)	468	4.4	1	0	486	4.4	1	0	377	2.6	2	0
	Emergency Hours		0		Emergency Hours		0		Emergency Hours		0	
	Maint./Testing Hours		37.1		Maint./Testing Hours		16.5		Maint./Testing Hours		41.1	

Note: NOx emissions rate based upon stack test data.
All others based on manufacturer's testing data.

4.0	lb NOx/hr	controlled	93.5%
65.4	lb NOx/hr	uncontrolled	
0.0019	lb VOC/bhp-hr		
0.0098	lb CO/bhp-hr		
0.0007	lb PM/bhp-hr		
4290.00	lb CO2/hr		

N2O same as NOx assumed
CH4 same as VOC assumed
SOx assumed negligible

Engine:	#5				#6				#7				#8			
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)
Jan	3,098	38.6	10.0	31	3,068	38.5	10.0	31	3,046	38.0	10.0	30	3,064	38.2	10.0	30
Feb	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June	146	1.3	1.0	1	210	1.7	1.0	1	22	0.3	1.0	0	176	1.4	1.0	1
July	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aug	-	-	-	-	354	3.1	1.0	-	350	2.3	1.0	-	328	2.1	1.0	-
Sept	-	-	-	-	-	-	-	-	249	1.6	1.0	-	245	1.5	1.0	-
Oct	216	1.5	1.0	3	217	1.5	1.0	3	214	1.5	1.0	3	216	1.5	1.0	3
Nov	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total(yr)	3460	41.4	12	34	3849	44.8	13	34	3882	43.7	14	33	4029	44.7	14	34
Total(OS)	146	1.3	1	1	564	4.8	2	1	621	4.2	3	0	749	5.0	3	1
	Emergency Hours		0		Emergency Hours		0		Emergency Hours		0		Emergency Hours		0	
	Maint./Testing Hours		41.4		Maint./Testing Hours		44.8		Maint./Testing Hours		43.7		Maint./Testing Hours		44.7	

Emissions Calculations - Bldg 9250 Generator Yard
14 Engines (Registration 9-1155)

NOx Emissions

Uncontrolled NOx (tpy):	(Hours of Engine Operation) * (NOx Emission Factor) / (2,000 pounds per ton)					
	13.5	hr/yr *	65.4	lb NOx/hr / 2000 lb/ton =	0.44	tons per year
Controlled NOx (tpy):	(Hours of Engine Operation) * (NOx Emission Factor) / (2,000 pounds per ton)					
	40.0	hr/yr *	4.0	lb NOx/hr / 2000 lb/ton =	0.08	tons per year
Uncontrolled NOx (ppd):	(Hours of Engine Operation) * (NOx Emission Factor)					
	3.5	hr/day *	65.4	lb NOx/hr =	229.96	pounds per day
Controlled NOx (ppd):	(Hours of Engine Operation) * (NOx Emission Factor)					
	10.4	hr/day*	4.0	lb NOx/hr =	41.65	pounds per day
Uncontrollled NOx (TOSD):	(Hours of Engine Operation) * (NOx Emission Factor)					
	6.0	hr/day *	65.4	lb NOx/hr =	392.64	pounds per day
Controllled NOx (TOSD):	(Hours of Engine Operation) * (NOx Emission Factor)					
	18.0	hr/day *	4.0	lb NOx/hr =	72.00	pounds per day

VOC Emissions

VOC (tpy):	(Hours of Engine Operation) * (Capacity of Engine) * (VOC Emission Factor) / (2,000 pounds per ton)						
	53.5	hr/yr *	4002	bhp *	0.0019	lb VOC/bhp-hr / 2000 lb/ton =	0.20 tons per year
VOC (ppd):	(Hours of Engine Operation) * (Capacity of Engine) * (VOC Emission Factor)						
	13.9	hr/day *	4002	bhp *	0.0019	lb VOC/bhp-hr =	105.67 pounds per day
VOC (TOSD):	(Hours of Engine Operation) * (Capacity of Engine) * (VOC Emission Factor)						
	24.0	hr/day *	4002	bhp *	0.0019	lb VOC/bhp-hr =	182.10 pounds per day

CO Emissions

CO (tpy):	(Hours of Engine Operation) * (Capacity of Engine) * (CO Emission Factor) / (2,000 pounds per ton)						
	53.5	hr/yr *	4002	bhp *	0.0098	lb CO/bhp-hr / 2000 lb/ton =	1.05 tons per year
CO (ppd):	(Hours of Engine Operation) * (Capacity of Engine) * (CO Emission Factor)						
	13.9	hr/day *	4002	bhp *	0.0014	lb CO/bhp-hr =	77.41 pounds per day

PM(Total) Emissions

PM(Total) (tpy):	(Hours of Engine Operation) * (Capacity of Engine) * (PM Emission Factor) / (2,000 pounds per ton)						
	53.5	hr/yr *	4002	bhp *	0.0007	lb PM/bhp-hr / 2000 lb/ton =	0.07 tons per year
PM(Total) (ppd):	(Hours of Engine Operation) * (Capacity of Engine) * (PM Emission Factor)						
	13.9	hr/day *	4002	bhp *	0.0005	lb PM/bhp-hr =	29.49 pounds per day

CO2 Emissions

CO2 (tpy):	(Hours of Engine Operation) * (CO2 Emission Factor) / (2,000 pounds per ton)					
	53.5	hr/yr *	4290	lb CO2/hr / 2000 lb/ton =	114.76	tons per year
CO2 (ppd):	(Hours of Engine Operation) * (CO2 Emission Factor)					
	13.9	hr/yr *	4290	lb CO2/hr =	59,743.60	pounds per day

N2O Emissions

N2O (tpy):	(Hours of Engine Operation) * (Capacity of Engine) * (N2O Emission Factor) / (2,000 pounds per ton)						
	53.5	hr/yr *	4002	bhp *	0.0190	lb N2O/bhp-hr / 2000 lb/ton =	2.03 tons per year
N2O (ppd):	(Hours of Engine Operation) * (Capacity of Engine) * (N2O Emission Factor)						
	13.9	hr/day *	4002	bhp *	0.0190	lb N2O/bhp-hr =	1,057.89 pounds per day

CH4 Emissions

CH4 (tpy):	(Hours of Engine Operation) * (Capacity of Engine) * (CH4 Emission Factor) / (2,000 pounds per ton)						
	53.5	hr/yr *	4002	bhp *	0.00190	lb CH4/bhp-hr / 2000 lb/ton =	0.20 tons per year
CH4 (ppd):	(Hours of Engine Operation) * (Capacity of Engine) * (CH4 Emission Factor)						
	13.9	hr/day *	4002	bhp *	0.00190	lb CH4/bhp-hr =	0.05 pounds per day

Note: Emission factors are from manufacturer's testing data.

Emission Data - 9250 Generator Yard
(Registration #9-1155)

Engine:	#16				#17				#18			
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)
Jan	-	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-	-	-	-
April	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-
June	125	1.2	1.0	0	114	1.1	1.0	0	156	1.5	1.0	0
July	-	-	-	-	-	-	-	-	-	-	-	-
Aug	426	4.1	1.0	1	437	4.2	1.0	1	468	4.5	1.0	1
Sept	-	-	-	-	52	0.5	1.0	0	218	2.1	1.0	1
Oct	156	1.5	1.0	1	156	1.5	1.0	1	156	1.5	1.0	1
Nov	-	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-
Total(yr)	707	6.8	3	2	759	7.3	4	2	998	9.6	4	3
Total(OS)	551	5.3	2	1	603	5.8	3	1	842	8.1	3	1
	Emergency Hours		0		Emergency Hours		0		Emergency Hours		0	
	Maint./Testing Hours		6.8		Maint./Testing Hours		7.3		Maint./Testing Hours		9.6	

Note: NOx emissions rate based upon stack test data.
All others based on manufacturer's testing data.

4.0	lb NOx/hr controlled	93.5%
65.4	lb NOx/hr uncontrolled	
0.0019	lb VOC/bhp-hr	
0.0098	lb CO/bhp-hr	
0.0007	lb PM/bhp-hr	
4290.00	lb CO2/hr	

N2O same as NOx assumed
CH4 same as VOC assumed
SOx assumed negligible

Engine:	#19				#20				#21				#22			
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)
Jan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June	114	1.1	1.0	0	114	1.1	1.0	0	94	0.9	1.0	0	94	0.9	1.0	0
July	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aug	364	3.5	1.0	1	354	3.4	1.0	1	364	3.5	1.0	1	416	4.0	1.0	1
Sept	135	1.3	1.0	0	156	1.5	1.0	0	156	1.5	1.0	0	114	1.1	1.0	0
Oct	156	1.5	1.0	1	156	1.5	1.0	1	156	1.5	1.0	1	156	1.5	1.0	1
Nov	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total(yr)	770	7.4	4	2	780	7.5	4	703	770	7.4	4	2	780	7.5	4	2
Total(OS)	614	5.9	3	1	624	6.0	3	1	614	5.9	3	1	624	6.0	3	1
	Emergency Hours		0		Emergency Hours		0		Emergency Hours		0		Emergency Hours		0	
	Maint./Testing Hours		7.4		Maint./Testing Hours		7.5		Maint./Testing Hours		7.4		Maint./Testing Hours		7.5	

Note: Emission factors are from manufacturer's testing data.

Emission Data - 9250 Generator Yard
(Registration #9-1155)

Engine:	#23				#24				#25				#26			
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)
Jan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June	135	1.3	1.0	0	135	1.3	1.0	0	156	1.5	1.0	0	114	1.1	1.0	0
July	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aug	426	4.1	1.0	1	406	3.9	1.0	1	426	4.1	1.0	1	343	3.3	1.0	1
Sept	62	0.6	1.0	0	83	0.8	1.0	0	42	0.4	1.0	0	166	1.6	1.0	0
Oct	156	1.3	1.0	2	156	1.5	1.0	1	156	1.5	1.0	1	166	1.6	1.0	1
Nov	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total(yr)	780	7.3	4	3	780	7.5	4	2	780	7.5	4	2	790	7.6	4	2
Total(OS)	624	6.0	3	1	624	6.0	3	1	624	6.0	3	1	624	6.0	3	1
	Emergency Hours		0		Emergency Hours		0		Emergency Hours		0		Emergency Hours		0	
	Maint./Testing Hours		7.3		Maint./Testing Hours		7.5		Maint./Testing Hours		7.5		Maint./Testing Hours		7.6	

Engine:	#27				#28				#4			
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)
Jan	-	-	-	-	-	-	-	-	3,855	48.1	10.0	38
Feb	-	-	-	-	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-	-	-	-
April	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-
June	114	1.1	1.0	0	94	0.9	1.0	0	93	0.8	1.0	1
July	-	-	-	-	-	-	-	-	-	-	-	-
Aug	426	4.1	1.0	1	343	3.3	1.0	1	293	1.9	1.0	-
Sept	73	0.7	1.0	0	187	1.8	1.0	0	-	-	-	-
Oct	156	1.5	1.0	1	156	1.5	1.0	1	215	1.5	1.0	3
Nov	-	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-
Total(yr)	770	7.4	4	2	780	7.5	4	2	4455	52.3	13	41
Total(OS)	614	5.9	3	1	624	6.0	3	1	385	2.7	2	1
	Emergency Hours		0		Emergency Hours		0		Emergency Hours		0	
	Maint./Testing Hours		7.4		Maint./Testing Hours		7.5		Maint./Testing Hours		52.3	

Note: Emission factors are from manufacturer's testing data.

Emissions Calculations - Bldg 9250 Generator Yard (2)
6 Engines (Registration 9-1116)

NOx Emissions

Uncontrolled NOx (tpy):	(Hours of Engine Operation) * (NOx Emission Factor) / (2,000 pounds per ton)					
	40.0 hr/yr *	65.4	lb NOx/hr / 2000 lb/ton =		1.31	tons per year
Controlled NOx (tpy):	(Hours of Engine Operation) * (NOx Emission Factor) / (2,000 pounds per ton)					
	164.4 hr/yr *	4.0	lb NOx/hr / 2000 lb/ton =		0.33	tons per year
Uncontrolled NOx (ppd):	(Hours of Engine Operation) * (NOx Emission Factor)					
	10.4 hr/day *	65.4	lb NOx/hr =		681.37	pounds per day
Controlled NOx (ppd):	(Hours of Engine Operation) * (NOx Emission Factor)					
	42.8 hr/day*	4.0	lb NOx/hr =		171.18	pounds per day
Uncontrollled NOx (TOSD):	(Hours of Engine Operation) * (NOx Emission Factor)					
	6.0 hr/day *	65.4	lb NOx/hr =		392.64	pounds per day
Controllled NOx (TOSD):	(Hours of Engine Operation) * (NOx Emission Factor)					
	18.0 hr/day *	4.0	lb NOx/hr =		72.00	pounds per day

VOC Emissions

VOC (tpy):	(Hours of Engine Operation) * (Capacity of Engine) * (VOC Emission Factor) / (2,000 pounds per ton)					
	204.4 hr/yr * 4002 bhp *	0.0019	lb VOC/bhp-hr / 2000 lb/ton =		0.78	tons per year
VOC (ppd):	(Hours of Engine Operation) * (Capacity of Engine) * (VOC Emission Factor)					
	53.2 hr/day * 4002 bhp *	0.0019	lb VOC/bhp-hr =		403.70	pounds per day
VOC (TOSD):	(Hours of Engine Operation) * (Capacity of Engine) * (VOC Emission Factor)					
	24.0 hr/day * 4002 bhp *	0.0019	lb VOC/bhp-hr =		182.10	pounds per day

CO Emissions

CO (tpy):	(Hours of Engine Operation) * (Capacity of Engine) * (CO Emission Factor) / (2,000 pounds per ton)					
	204.4 hr/yr * 4002 bhp *	0.0098	lb CO/bhp-hr / 2000 lb/ton =		4.00	tons per year
CO (ppd):	(Hours of Engine Operation) * (Capacity of Engine) * (CO Emission Factor)					
	53.2 hr/day * 4002 bhp *	0.0014	lb CO/bhp-hr =		295.74	pounds per day

PM(Total) Emissions

PM(Total) (tpy):	(Hours of Engine Operation) * (Capacity of Engine) * (PM Emission Factor) / (2,000 pounds per ton)					
	204.4 hr/yr * 4002 bhp *	0.0007	lb PM/bhp-hr / 2000 lb/ton =		0.27	tons per year
PM(Total) (ppd):	(Hours of Engine Operation) * (Capacity of Engine) * (PM Emission Factor)					
	53.2 hr/day * 4002 bhp *	0.0005	lb PM/bhp-hr =		112.66	pounds per day

CO2 Emissions

CO2 (tpy):	(Hours of Engine Operation) * (CO2 Emission Factor) / (2,000 pounds per ton)					
	204.4 hr/yr *	4290	lb CO2/hr / 2000 lb/ton =		438.44	tons per year
CO2 (ppd):	(Hours of Engine Operation) * (CO2 Emission Factor)					
	53.2 hr/yr *	4290	lb CO2/hr =		228,254.06	pounds per day

N2O Emissions

N2O (tpy):	(Hours of Engine Operation) * (Capacity of Engine) * (N2O Emission Factor) / (2,000 pounds per ton)					
	204.4 hr/yr * 4002 bhp *	0.0190	lb N2O/bhp-hr / 2000 lb/ton =		7.76	tons per year
N2O (ppd):	(Hours of Engine Operation) * (Capacity of Engine) * (N2O Emission Factor)					
	53.2 hr/day * 4002 bhp *	0.0190	lb N2O/bhp-hr =		4,041.74	pounds per day

CH4 Emissions

CH4 (tpy):	(Hours of Engine Operation) * (Capacity of Engine) * (CH4 Emission Factor) / (2,000 pounds per ton)					
	204.4 hr/yr * 4002 bhp *	0.00190	lb CH4/bhp-hr / 2000 lb/ton =		0.78	tons per year
CH4 (ppd):	(Hours of Engine Operation) * (Capacity of Engine) * (CH4 Emission Factor)					
	53.2 hr/day * 4002 bhp *	0.00190	lb CH4/bhp-hr =		0.20	pounds per day

Note: Emission factors are from manufacturer's testing data.

Emission Data - 9250 Generator Yard (2)
(Registration #9-1116)

Engine:	#9				#10				#11			
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)
Jan	4,087	39.3	10.0	34	3,879	37.3	10.0	32	1,903	18.3	10.0	16
Feb	-	-	-	-	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-	-	-	-
April	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-
June	125	1.2	1.0	0	198	1.9	1.0	0	125	1.2	1.0	0
July	-	-	-	-	-	-	-	-	-	-	-	-
Aug	426	4.1	1.0	1	416	4.0	1.0	1	406	3.9	1.0	1
Sept	-	-	-	-	-	-	-	-	21	0.2	1.0	1
Oct	156	1.5	1.0	1	156	1.5	11.0	1	156	1.5	1.0	1
Nov	-	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-
Total(yr)	4794	46.1	13	36	4649	44.7	23	34	2610	25.1	14	18
Total(OS)	551	5.3	2	1	614	5.9	2	1	551	5.3	3	1
	Emergency Hours		0		Emergency Hours		0		Emergency Hours		0	
	Maint./Testing Hours		46.1		Maint./Testing Hours		44.7		Maint./Testing Hours		25.1	

Note: NOx emissions rate based upon stack test data.
All others based on manufacturer's testing data.

4.0	lb NOx/hr	controlled	93.5%
65.4	lb NOx/hr	uncontrolled	
0.0019	lb VOC/bhp-hr		
0.0098	lb CO/bhp-hr		
0.0007	lb PM/bhp-hr		
4290.00	lb CO2/hr		

N2O same as NOx assumed
CH4 same as VOC assumed
SOx assumed negligible

Engine:	#12				#13				#14			
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)
Jan	3,484	33.5	10.0	29	3,692	35.5	10.0	30	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-	-	-	-
April	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-
June	94	0.9	1.0	0	104	1.0	1.0	0	-	-	-	-
July	-	-	-	-	-	-	-	-	-	-	-	-
Aug	416	4.0	1.0	1	395	3.8	1.0	1	406	3.9	1.0	1
Sept	42	0.4	1.0	0	-	-	-	-	104	1.0	1.0	0
Oct	156	1.5	1.0	1	156	1.5	1.0	1	156	1.5	1.0	1
Nov	-	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-
Total(yr)	4191	40.3	14	31	4347	41.8	13	32	666	6.4	3	2
Total(OS)	551	5.3	3	1	499	4.8	2	1	510	4.9	2	1
	Emergency Hours		0		Emergency Hours		0		Emergency Hours		0	
	Maint./Testing Hours		40.3		Maint./Testing Hours		41.8		Maint./Testing Hours		6.4	

Note: Emission factors are from manufacturer's testing data.

Emissions Calculations - Bldg 9250 Generator Yard (#15)

1 Engines (Registration 9-1136)

NOx Emissions

NOx (tpy): (Hours of Engine Operation) * (NOx Emission Factor) / (2,000 pounds per ton)

7 hr/yr * 2.42 lb NOx/hr / 2000 lb/ton = 0.01 tons per year

NOx (ppd): (Hours of Engine Operation) * (NOx Emission Factor)

3.2 hr/day * 2.42 lb NOx/hr = 7.77 pounds per day

NOx (TOSD): (Hours of Engine Operation in OSDay) * (NOx Emission Factor)

5.9 hr/OSday * 2.42 lb NOx/hr = 14.31 pounds per day

VOC Emissions

VOC (tpy): (Hours of Engine Operation) * (VOC Emission Factor) / (2,000 pounds per ton)

7 hr/yr * 0.18 lb VOC/hr / 2000 lb/ton = 0.00 tons per year

VOC (ppd): (Hours of Engine Operation) * (VOC Emission Factor)

3.2 hr/day * 0.18 lb VOC/hr = 0.58 pounds per day

VOC (TOSD): (Hours of Engine Operation in OSDay) * (VOC Emission Factor)

5.9 hr/OSday * 0.18 lb VOC/hr = 1.06 pounds per day

CO Emissions

CO (tpy): (Hours of Engine Operation) * (CO Emission Factor) / (2,000 pounds per ton)

7 hr/yr * 1.49 lb CO/hr / 2000 lb/ton = 0.01 tons per year

CO (ppd): (Hours of Engine Operation) * (CO Emission Factor)

3.2 hr/day * 1.49 lb CO/hr = 4.78 pounds per day

PM(Total) Emissions

PM (tpy): (Hours of Engine Operation) * (PM Emission Factor) / (2,000 pounds per ton)

7 hr/yr * 0.09 lb PM/hr / 2000 lb/ton = 0.00 tons per year

PM (ppd): (Hours of Engine Operation) * (PM Emission Factor)

3.2 hr/day * 0.09 lb PM/hr = 0.29 pounds per day

CO2 Emissions

CO2 (tpy): (Hours of Engine Operation) * (CO2 Emission Factor) / (2,000 pounds per ton)

7 hr/yr * 273 lb CO2/hr / 2000 lb/ton = 0.96 tons per year

CO2 (ppd): (Hours of Engine Operation) * (CO2 Emission Factor)

3.2 hr/day * 273 lb CO2/hr = 876.61 pounds per day

Note: Emission factors are from manufacturer's testing data.

Emission Data - 9250 Generator Yard (#15)
(Registration #9-1136)

Engine:	#15			
Reg. #:	9-1136			
KW (Out):	3000			
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	Urea (gallons)
Jan	-	-		-
Feb	-	-		-
March	-	-		-
April	-	-		-
May	-	-		-
June	62	1	1	0
July	-	-		-
Aug	510	5	1	1
Sept	-	-	-	-
Oct	156	2	1	1
Nov				
Dec				
Total(yr)	728	7.0	3.0	2.2
Total(OS)	572	5.5	2.0	0.9
		Emergency Hours		0
		Maint./Testing Hours		7

***Generators began operation in June 2022**

Note: All emission factors are based on manufacturer's testing data.

2.42 lb NOx/hr
0.18 lb VOC/hr
1.49 lb CO/hr
0.09 lb PM/hr
273 lb CO2/hr
N2O same as NOx assumed
CH4 same as VOC assumed
SOx assumed negligible

Emissions Calculations - Bldgs 9250 Life Safety Generator
1 Engine (Registration 9-1156)

NOx Emissions

NOx (tpy): (Hours of Engine Operation) * (NOx Emission Factor) / (2,000 pounds per ton)	5	hr/yr *	2.42	lb NOx/hr / 2000 lb/ton =	0.01	tons per year
NOx (ppd): (Hours of Engine Operation) * (NOx Emission Factor)	1.7	hr/day *	2.42	lb NOx/hr =	4.19	pounds per day
NOx (TOSI (Hours of Engine Operation in OSDay) * (NOx Emission Factor)	0.0	hr/OSday *	2.42	lb NOx/hr =	0.00	pounds per day

VOC Emissions

VOC (tpy): (Hours of Engine Operation) * (VOC Emission Factor) / (2,000 pounds per ton)	5	hr/yr *	0.18	lb VOC/hr / 2000 lb/ton =	0.00	tons per year
VOC (ppd) (Hours of Engine Operation) * (VOC Emission Factor)	1.7	hr/day *	0.18	lb VOC/hr =	0.31	pounds per day
VOC (TOS (Hours of Engine Operation in OSDay) * (VOC Emission Factor)	0.0	hr/OSday *	0.18	lb VOC/hr =	0.00	pounds per day

CO Emissions

CO (tpy): (Hours of Engine Operation) * (CO Emission Factor) / (2,000 pounds per ton)	5	hr/yr *	1.49	lb CO/hr / 2000 lb/ton =	0.00	tons per year
CO (ppd): (Hours of Engine Operation) * (CO Emission Factor)	1.7	hr/day *	1.49	lb CO/hr =	2.58	pounds per day

PM(Total) Emissions

PM (tpy): (Hours of Engine Operation) * (PM Emission Factor) / (2,000 pounds per ton)	5	hr/yr *	0.09	lb PM/hr / 2000 lb/ton =	0.00	tons per year
PM (ppd): (Hours of Engine Operation) * (PM Emission Factor)	1.7	hr/day *	0.09	lb PM/hr =	0.16	pounds per day

CO2 Emissions

CO2 (tpy): (Hours of Engine Operation) * (CO2 Emission Factor) / (2,000 pounds per ton)	5	hr/yr *	273	lb CO2/hr / 2000 lb/ton =	0.71	tons per year
CO2 (ppd): (Hours of Engine Operation) * (CO2 Emission Factor)	1.7	hr/day *	273	lb CO2/hr =	473.20	pounds per day

Note: Emission factors are from manufacturer's testing data.

Emission Data - 9250 Life Safety Generator
1 Engine (Registration #9-1156)

Engine:	#1		
Reg. #:	9-1156		
KW (Out):	850		
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)
Jan	-	-	-
Feb	-	-	-
March	-	-	-
April	-	-	-
May	-	-	-
June	-	-	-
July	-	-	-
Aug	-	-	-
Sept	-	-	-
Oct	268	2.2	1
Nov	220	1.8	1
Dec	146	1.2	1
Total(yr)	634	5.2	3
Total(OS)	0	0.0	0
		Emergency Hours	0
		Maint./Testing Hours	5

***Generators began operation in October 2022**

Note: All emission factors are based on manufacturer's testing data.

2.42 lb NOx/hr
0.18 lb VOC/hr
1.49 lb CO/hr
0.09 lb PM/hr
273 lb CO2/hr
N2O same as NOx assumed
CH4 same as VOC assumed
SOx assumed negligible

Emissions Calculations - Bldgs 9000 Life Safety Generator

1 Engine (Registration 9-1092)

NOx Emissions

NOx (tpy): (Hours of Engine Operation) * (NOx Emission Factor) / (2,000 pounds per ton)

22 hr/yr * 2.42 lb NOx/hr / 2000 lb/ton = 0.03 tons per year

NOx (ppd): (Hours of Engine Operation) * (NOx Emission Factor)

3.1 hr/day * 2.42 lb NOx/hr = 7.50 pounds per day

NOx (TOSD): (Hours of Engine Operation in OSDay) * (NOx Emission Factor)

4.7 hr/OSday * 2.42 lb NOx/hr = 11.43 pounds per day

VOC Emissions

VOC (tpy): (Hours of Engine Operation) * (VOC Emission Factor) / (2,000 pounds per ton)

22 hr/yr * 0.18 lb VOC/hr / 2000 lb/ton = 0.00 tons per year

VOC (ppd): (Hours of Engine Operation) * (VOC Emission Factor)

3.1 hr/day * 0.18 lb VOC/hr = 0.56 pounds per day

VOC (TOSD): (Hours of Engine Operation in OSDay) * (VOC Emission Factor)

4.7 hr/OSday * 0.18 lb VOC/hr = 0.85 pounds per day

CO Emissions

CO (tpy): (Hours of Engine Operation) * (CO Emission Factor) / (2,000 pounds per ton)

22 hr/yr * 1.49 lb CO/hr / 2000 lb/ton = 0.02 tons per year

CO (ppd): (Hours of Engine Operation) * (CO Emission Factor)

3.1 hr/day * 1.49 lb CO/hr = 4.62 pounds per day

PM(Total) Emissions

PM (tpy): (Hours of Engine Operation) * (PM Emission Factor) / (2,000 pounds per ton)

22 hr/yr * 0.09 lb PM/hr / 2000 lb/ton = 0.00 tons per year

PM (ppd): (Hours of Engine Operation) * (PM Emission Factor)

3.1 hr/day * 0.09 lb PM/hr = 0.28 pounds per day

CO2 Emissions

CO2 (tpy): (Hours of Engine Operation) * (CO2 Emission Factor) / (2,000 pounds per ton)

22 hr/yr * 273 lb CO2/hr / 2000 lb/ton = 2.96 tons per year

CO2 (ppd): (Hours of Engine Operation) * (CO2 Emission Factor)

3.1 hr/day * 273 lb CO2/hr = 846.30 pounds per day

Note: Emission factors are from manufacturer's testing data.

Emission Data - 9000 Life Safety Generator

1 Engine (Registration #9-1092)

Engine:	#1		
Reg. #:	9-1092		
KW (Out):	1000		
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)
Jan	0	-	-
Feb	19	1	1
March	0	-	-
April	0	-	-
May	69	2	1
June	42	1	1
July	0	-	-
Aug	577	15	1
Sept	34	1	1
Oct	50	1	1
Nov	0	-	-
Dec	38	1.0	1
Total(yr)	829	21.7	7
Total(OS)	722	18.9	4
		Emergency Hours	0
		Maint./Testing Hours	22

Note: All emission factors are based on manufacturer's testing data.

2.42 lb NOx/hr
0.18 lb VOC/hr
1.49 lb CO/hr
0.09 lb PM/hr
273 lb CO2/hr
N2O same as NOx assumed
CH4 same as VOC assumed
SOx assumed negligible

Emissions Calculations - BIdgs 9220 and 9230 Life Safety Generator

2 Engines (Registration 9-1117)

NOx Emissions

NOx (tpy): (Hours of Engine Operation) * (NOx Emission Factor) / (2,000 pounds per ton)

27 hr/yr * 9.08 lb NOx/hr / 2000 lb/ton = 0.12 tons per year

NOx (ppd): (Hours of Engine Operation) * (NOx Emission Factor)

4.5 hr/day * 9.08 lb NOx/hr = 41.01 pounds per day

NOx (TOSI (Hours of Engine Operation in OSDay) * (NOx Emission Factor)

5.5 hr/OSday * 9.08 lb NOx/hr = 50.39 pounds per day

VOC Emissions

VOC (tpy): (Hours of Engine Operation) * (VOC Emission Factor) / (2,000 pounds per ton)

27 hr/yr * 0.02 lb VOC/hr / 2000 lb/ton = 0.00 tons per year

VOC (ppd) (Hours of Engine Operation) * (VOC Emission Factor)

4.5 hr/day * 0.02 lb VOC/hr = 0.09 pounds per day

VOC (TOS (Hours of Engine Operation in OSDay) * (VOC Emission Factor)

5.5 hr/OSday * 0.02 lb VOC/hr = 0.11 pounds per day

CO Emissions

CO (tpy): (Hours of Engine Operation) * (CO Emission Factor) / (2,000 pounds per ton)

27 hr/yr * 0.67 lb CO/hr / 2000 lb/ton = 0.01 tons per year

CO (ppd): (Hours of Engine Operation) * (CO Emission Factor)

4.5 hr/day * 0.67 lb CO/hr = 3.03 pounds per day

PM(Total) Emissions

PM (tpy): (Hours of Engine Operation) * (PM Emission Factor) / (2,000 pounds per ton)

27 hr/yr * 0.04 lb PM/hr / 2000 lb/ton = 0.00 tons per year

PM (ppd): (Hours of Engine Operation) * (PM Emission Factor)

4.5 hr/day * 0.04 lb PM/hr = 0.18 pounds per day

CO2 Emissions

CO2 (tpy): (Hours of Engine Operation) * (CO2 Emission Factor) / (2,000 pounds per ton)

27 hr/yr * 486 lb CO2/hr / 2000 lb/ton = 6.59 tons per year

CO2 (ppd): (Hours of Engine Operation) * (CO2 Emission Factor)

4.5 hr/day * 486 lb CO2/hr = 2195.10 pounds per day

Note: Emission factors are from manufacturer's testing data.

Emission Data - Bldgs 9210 Life Safety Generator

1 Engines (Registration #9-1146)

Engine:	#1			Engine:	#2		
Reg. #:	9-1117			Reg. #:	9-1117		
KW (Out):	500			KW (Out):	500		
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)	MONTH 0	Diesel Fuel (gallons)	Time (hours)	Runs (days)
Jan	9	0	1	Jan	0	-	0
Feb	0	-	-	Feb	0	-	0
March	0	-	-	March	0	-	0
April	0	-	-	April	0	-	0
May	0	-	-	May	0	-	0
June	9	9	2	June	22	1	1
July	1	1	1	July	22	1	1
Aug	0	-	-	Aug	43	2	1
Sept	6	6	1	Sept	45	2	1
Oct	0	-	-	Oct	32	2	1
Nov	2	2	1	Nov	24	1	1
Dec	0	-	-	Dec	0	-	0
Total(yr)	27	18.4	6	Total(yr)	188	8.7	6
Total(OS)	16	16.1	4	Total(OS)	132	6.1	4
		Emergency Hours	0			Emergency Hours	0
		Maint./Testing Hours	18			Maint./Testing Hours	9

Note: All emission factors are based on manufacturer's testing data.

9.08 lb NOx/hr
0.02 lb VOC/hr
0.67 lb CO/hr
0.04 lb PM/hr
486 lb CO2/hr 40CFR98 Table C-2
N2O same as NOx assumed
CH4 same as VOC assumed
SOx assumed negligible

Emission Data - Bldgs 9210 Life Safety Generator

1 Engines (Registration #9-1146)

NOx Emissions

NOx (tpy): (Hours of Engine Operation) * (NOx Emission Factor) / (2,000 pounds per ton)

29 hr/yr * 6.02 lb NOx/hr / 2000 lb/ton = 0.09 tons per year

NOx (ppd): (Hours of Engine Operation) * (NOx Emission Factor)

4.1 hr/day * 6.02 lb NOx/hr = 24.68 pounds per day

NOx (TOSI (Hours of Engine Operation in OSDay) * (NOx Emission Factor)

6.2 hr/OSday * 6.02 lb NOx/hr = 37.47 pounds per day

VOC Emissions

VOC (tpy): (Hours of Engine Operation) * (VOC Emission Factor) / (2,000 pounds per ton)

29 hr/yr * 0.01 lb VOC/hr / 2000 lb/ton = 0.00 tons per year

VOC (ppd) (Hours of Engine Operation) * (VOC Emission Factor)

4.1 hr/day * 0.01 lb VOC/hr = 0.04 pounds per day

VOC (TOS (Hours of Engine Operation in OSDay) * (VOC Emission Factor)

6.2 hr/OSday * 0.01 lb VOC/hr = 0.06 pounds per day

CO Emissions

CO (tpy): (Hours of Engine Operation) * (CO Emission Factor) / (2,000 pounds per ton)

29 hr/yr * 1.61 lb CO/hr / 2000 lb/ton = 0.02 tons per year

CO (ppd): (Hours of Engine Operation) * (CO Emission Factor)

4.1 hr/day * 1.61 lb CO/hr = 6.60 pounds per day

PM(Total) Emissions

PM (tpy): (Hours of Engine Operation) * (PM Emission Factor) / (2,000 pounds per ton)

29 hr/yr * 0.07 lb PM/hr / 2000 lb/ton = 0.00 tons per year

PM (ppd): (Hours of Engine Operation) * (PM Emission Factor)

4.1 hr/day * 0.07 lb PM/hr = 0.29 pounds per day

CO2 Emissions

CO2 (tpy): (Hours of Engine Operation) * (CO2 Emission Factor) / (2,000 pounds per ton)

29 hr/yr * 598 lb CO2/hr / 2000 lb/ton = 8.58 tons per year

CO2 (ppd): (Hours of Engine Operation) * (CO2 Emission Factor)

4.1 hr/day * 598 lb CO2/hr = 2451.80 pounds per day

Note: Emission factors are from manufacturer's testing data.

Emission Data - Bldgs 9210 Life Safety Generator

1 Engines (Registration #9-1146)

Engine:	#1		
Reg. #:	9-1137		
KW (Out):	400		
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)
Jan	0	-	-
Feb	0	-	-
March	0	-	-
April	0	-	-
May	0	-	-
June	259	15	2
July	0	-	-
Aug	21	1	1
Sept	156	9	1
Oct	26	2	1
Nov	33	2	1
Dec	7	0	1
Total(yr)	502	28.7	7
Total(OS)	436	24.9	4
		Emergency Hours	0
		Maint./Testing Hours	29

Note: All emission factors are based on manufacturer's testing data.

6.02 lb NOx/hr
0.01 lb VOC/hr
1.61 lb CO/hr
0.07 lb PM/hr
598 lb CO2/hr 40CFR98 Table C-2
N2O same as NOx assumed
CH4 same as VOC assumed
SOx assumed negligible

Note: Emission factors are from manufacturer's testing data.

Emission Data - Bldgs 9210 Life Safety Generator
1 Engines (Registration #9-1146)

NOx Emissions

NOx (tpy):	(Hours of Engine Operation) * (NOx Emission Factor) / (2,000 pounds per ton)					
	8	hr/yr *	7.32	lb NOx/hr / 2000 lb/ton =	0.03	tons per year
NOx (ppd):	(Hours of Engine Operation) * (NOx Emission Factor)					
	1.2	hr/day *	7.32	lb NOx/hr =	8.57	pounds per day
NOx (TOSD):	(Hours of Engine Operation in OSDay) * (NOx Emission Factor)					
	1.1	hr/OSday *	7.32	lb NOx/hr =	8.34	pounds per day

VOC Emissions

VOC (tpy):	(Hours of Engine Operation) * (VOC Emission Factor) / (2,000 pounds per ton)					
	8	hr/yr *	0.22	lb VOC/hr / 2000 lb/ton =	0.00	tons per year
VOC (ppd):	(Hours of Engine Operation) * (VOC Emission Factor)					
	1.2	hr/day *	0.22	lb VOC/hr =	0.26	pounds per day
VOC (TOSD):	(Hours of Engine Operation in OSDay) * (VOC Emission Factor)					
	1.1	hr/OSday *	0.22	lb VOC/hr =	0.25	pounds per day

CO Emissions

CO (tpy):	(Hours of Engine Operation) * (CO Emission Factor) / (2,000 pounds per ton)					
	8	hr/yr *	0.60	lb CO/hr / 2000 lb/ton =	0.00	tons per year
CO (ppd):	(Hours of Engine Operation) * (CO Emission Factor)					
	1.2	hr/day *	0.60	lb CO/hr =	0.70	pounds per day

PM(Total) Emissions

PM (tpy):	(Hours of Engine Operation) * (PM Emission Factor) / (2,000 pounds per ton)					
	8	hr/yr *	0.23	lb PM/hr / 2000 lb/ton =	0.00	tons per year
PM (ppd):	(Hours of Engine Operation) * (PM Emission Factor)					
	1.2	hr/day *	0.23	lb PM/hr =	0.27	pounds per day

CO2 Emissions

CO2 (tpy):	(Hours of Engine Operation) * (CO2 Emission Factor) / (2,000 pounds per ton)					
	8	hr/yr *	428	lb CO2/hr / 2000 lb/ton =	1.75	tons per year
CO2 (ppd):	(Hours of Engine Operation) * (CO2 Emission Factor)					
	1.2	hr/day *	428	lb CO2/hr =	501.37	pounds per day

N2O Emissions

CO2 (tpy):	(Hours of Engine Operation) * (N2O Emission Factor) / (2,000 pounds per ton)					
	8	hr/yr *	0.003	lb N2O/hr / 2000 lb/ton =	0.00	tons per year
CO2 (ppd):	(Hours of Engine Operation) * (N2O Emission Factor)					
	1.2	hr/day *	0.003	lb N2O/hr =	0.00	pounds per day

CH4 Emissions

CO2 (tpy):	(Hours of Engine Operation) * (CH4 Emission Factor) / (2,000 pounds per ton)					
	8	hr/yr *	0.017	lb CH4/hr / 2000 lb/ton =	0.00	tons per year
CO2 (ppd):	(Hours of Engine Operation) * (CH4 Emission Factor)					
	1.2	hr/day *	0.017	lb CH4/hr =	0.02	pounds per day

Note: Emission factors are from manufacturer's testing data.

Emission Data - Bldgs 9210 Life Safety Generator

1 Engines (Registration #9-1146)

Engine:	#1		
Reg. #:	9-1146		
KW (Out):	550		
MONTH 2022	Diesel Fuel (gallons)	Time (hours)	Runs (days)
Jan	0	-	-
Feb	0	-	-
March	0	-	-
April	19	1	1
May	19	1	1
June	36	2	1
July	13	1	1
Aug	0	-	-
Sept	21	1	1
Oct	32	2	1
Nov	15	1	1
Dec	0	-	-
Total(yr)	157	8.2	7
Total(OS)	109	5.7	5
		Emergency Hours	0
		Maint./Testing Hours	8

Note: All emission factors are based on manufacturer's testing data except CO2.

7.32	lb NOx/hr	
0.22	lb VOC/hr	
0.6	lb CO/hr	
0.23	lb PM/hr	
428	lb CO2/hr	40CFR98 Table C-2
0.003	lb N2O/hr	40CFR98 Table C-2
0.017	lb CH4/hr	40CFR98 Table C-2
	SOx assumed negligible	

Note: Emission factors are from manufacturer's testing data.

Emission Calculations - Building 9706
Plating Operations (Registration #6-0375)

There are no criteria pollutants from this source.

No recordkeeping requirements for this source.

Note: Emissions are from mass balance.

Emission Calculations - Building 9706

SPC Paint Spray Booth (Registration #6-1114)

Hours/day	4
Days/week	2
Weeks/year	40
Days/year	80

Product	Amount used	units
Sealer	3.45	gallons
Base Coat	2.94	gallons
Etch Primer	1.06	gallons
Carc Paint	0.00	gallons
Cromax Clear Coat	5.00	gallons
Adhesion Promoter	0.81	gallons
Fill Primer	1.50	gallons
Williams 36173	5.50	gallons

VOC Emissions

Product:	(Gallons of product consumed annually) * (density[lb/gal]) * (VOC %wt.)								
Sealer	3.45	gal/yr *	4.60	lb/gal *	0.5	VOC %wt.	7.94	pounds VOC per year	
Product:	(Gallons of product consumed annually) * (density[lb/gal]) * (VOC %wt.)								
Base Coat	2.94	gal/yr *	6.20	lb/gal *	0.43	VOC %wt.	7.84	pounds VOC per year	
Product:	(Gallons of product consumed annually) * (density[lb/gal]) * (VOC %wt.)								
Etch Primer	1.06	gal/yr *	7.05	lb/gal *	0.74	VOC %wt.	5.51	pounds VOC per year	
Product:	(Gallons of product consumed annually) * (density[lb/gal]) * (VOC %wt.)								
Carc Paint	0	gal/yr *	5.60	lb/gal *	0.28	VOC %wt.	0.00	pounds VOC per year	
Product:	(Gallons of product consumed annually) * (density[lb/gal]) * (VOC %wt.)								
Cromax Clear Coat	5	gal/yr *	2.10	lb/gal *	0.5	VOC %wt.	5.25	pounds VOC per year	
Product:	(Gallons of product consumed annually) * (density[lb/gal]) * (VOC %wt.)								
Adhesion Promoter	0.81	gal/yr *	9.17	lb/gal *	0.74	VOC %wt.	5.50	pounds VOC per year	
Product:	(Gallons of product consumed annually) * (density[lb/gal]) * (VOC %wt.)								
Fill Primer	1.5	gal/yr *	2.00	lb/gal *	1	VOC %wt.	3.00	pounds VOC per year	
Product:	(Gallons of product consumed annually) * (VOC[lb/gal])								
VOC Emissions	5.50	gal/yr *	1.78	lb/gal			9.79	pounds VOC per year	
						Total VOC	44.82	lb/yr	
						Total VOC	**0.02**	**tpy**	
						Total VOC	**0.56**	**ppd**	
						Total VOC OSD	**0.56**	**ppd**	

Note: Emissions are from mass balance.

Emission Calculations - Building 9700 (SPL)
Spray Booth (Registration #6-0717)

Operation

hr/dy	1
dy/wk	2
wk/yr	52
Dy/yr	104

Chemical Use

PRODUCT	Usage (gal/yr)	VOC (lb/gal)	Waste %
10% IPA Solution	3.0	0.8	0%
Perma 21F Ink	0.0	0.1	0%
Perma 21F Hardener	0.0	0.3	0%
Perma 21F Thinner	0.0	3.0	0%
Sunnyside Thinner	4.0	0.2	0%

VOC Emissions

Product: 10% IPA Solution
(Annual Quantity Used) * (VOC Content) * (1-Waste%)
3.0 gal/yr * 0.8 lb/gal VOC * 1.00 = 2.40 pounds per year

Product: Perma 21F Ink
(Annual Quantity Used) * (VOC Content) * (1-Waste%)
0.0 gal/yr * 0.1 lb/gal VOC * 1.00 = 0.00 pounds per year

Product: Perma 21F Hardner
(Annual Quantity Used) * (VOC Content) * (1-Waste%)
0.0 gal/yr * 0.3 lb/gal VOC * 1.00 = 0.00 pounds per year

Product: Perma 21F Thinner
(Annual Quantity Used) * (VOC Content) * (1-Waste%)
0.0 gal/yr * 3.0 lb/gal VOC * 1.00 = 0.00 pounds per year

Product: NCP Coatings, Inc. Thinner
(Annual Quantity Used) * (VOC Content) * (1-Waste%)
4.0 gal/yr * 0.2 lb/gal VOC * 1.00 = 0.80 pounds per year

Total VOC 3.20 pounds per year
Total VOC 0.00 tpy
Total VOC 0.03 ppd
Total OSD VOC 0.03 ppd

Note: Emissions are from mass balance.

Emission Calculations - Building 9700 (SPL)

Printed Circuit Board Assembly (Registration #6-0720)

Operation	
hr/dy	1
dy/wk	1
wk/yr	8
dy/yr	8

Chemical Use	Usage (units/yr)	Units	VOC Content (lb/unit)	% Removal
Flux - 615-25	0.0	gal	5.96	0%
Solder Mask/Cream	0.0	lbs	45.0%	0%
Conap S-8 Solvent	0.0	gal	6.48	0%
BioAct EC-7	0.0	gal	6.62	0%
Solder Paste	0.0	lbs	3.0%	95%
Booster Fluid/Isopropanol	0.0	gal	6.51	95%
Bestine Solvent & Thinner -Dope/Lacquer	0.0	gal	5.79	95%
Safezone Cleaning Solvent & Flux Remover	0.0	gal	0.44	95%
Conformal Coating Stripper	0.0	gal	3.35	95%
VeriClean Solvent MCC-DC1	0.0	gal	0.05	0%
Chipbonder and Heat Cure Adhesive	0.0	lbs	38.9%	95%

VOC Emissions

Product: Flux - 615-25 (Annual quantity consumed) * (VOC Content) * (1-Removal %)

0 units/yr * 5.96 lb/unit * 1.00 = 0.00 pounds per year

Product: Solder Mask/Cream (Annual quantity consumed) * (VOC Content) * (1-Removal %)

0 units/yr * 0.45 lb/unit * 1.00 = 0.00 pounds per year

Product: Thinner 438 (Annual quantity consumed) * (VOC Content) * (1-Removal %)

0 units/yr * 6.48 lb/unit * 1.00 = 0.00 pounds per year

Product: BioAct EC-7 (Annual quantity consumed) * (VOC Content) * (1-Removal %)

0 units/yr * 6.62 lb/unit * 1.00 = 0.00 pounds per year

Product: Solder Paste (Annual quantity consumed) * (VOC Content) * (1-Removal %)

0.0 units/yr * 0.03 lb/unit * 0.05 = 0.00 pounds per year

Product: Booster Fluid/Isopropanol (Annual quantity consumed) * (VOC Content) * (1-Removal %)

0 units/yr * 6.51 lb/unit * 0.05 = 0.00 pounds per year

Product: Bestine Solvent & Thinner-Dope/Lacquer (Annual quantity consumed) * (VOC Content) * (1-Removal %)

0 units/yr * 5.79 lb/unit * 0.05 = 0.00 pounds per year

Product: Safezone Cleaning Solvent & Flux Remover (Annual quantity consumed) * (VOC Content) * (1-Removal %)

0 units/yr * 0.44 lb/unit * 0.05 = 0.00 pounds per year

Product: Conformal Coating Stripper (Annual quantity consumed) * (VOC Content) * (1-Removal %)

0.0 units/yr * 3.35 lb/unit * 0.05 = 0.00 pounds per year

Note: Emissions are from mass balance.

Emission Calculations - Building 9700 (SPL)

Printed Circuit Board Assembly (Registration #6-0720)

Product: VeriClean Solvent MCC-DC1	(Annual quantity consumed)	*	(VOC Content)	*	(1-Removal %)		
	0 units/yr	*	0.05 lb/unit	*	1.00	= 0.00	pounds per year
Product: Chipbonder and Heat Cure Adhesive	(Annual quantity consumed)	*	(VOC Content)	*	(1-Removal %)		
	0 units/yr	*	0.39 lb/unit	*	0.05	= 0.00	pounds per year
					Total VOC	0.00	pounds per year
					Total Stack (95%) VOC	**0.00**	**tpy**
					Total Fugitive (5%) VOC	**0.00**	**tpy**
					Total Stack VOC	**0.00**	**ppd**
					Total Fugitive VOC	**0.00**	**ppd**
					Total Stack OSD VOC	**0.00**	**ppd**
					Total Fugitive OSD VOC	**0.00**	**ppd**

Note: Emissions are from mass balance.

Emission Calculations - Cooper

Paint Spray Booth (Registration #6-1095)

Hours/day	0
Days/week	0
Weeks/year	0
Days/year	0

*Paint booth not in use in 2022

Product	Amount used	units
Sanding Sealer	0.00	gallons
SW Chemical Coatings	0.00	gallons
Etch Primer	0.00	gallons
Carc Paint	0.00	gallons
Gloss Lacquer	0.00	gallons
Lacquer Thinner	0.00	gallons

VOC Emissions

Product:	(Gallons of product consumed annually)	*	(density[lb/gal])	*	(VOC %wt.)				
Sanding Sealer	0	gal/yr *	8.20	lb/gal *	0.5	VOC %wt.	0.00	pounds VOC per year	
Product:	(Gallons of product consumed annually)	*	(density[lb/gal])	*	(VOC %wt.)				
SW Chemical Coatings	0	gal/yr *	6.80	lb/gal *	0.43	VOC %wt.	0.00	pounds VOC per year	
Product:	(Gallons of product consumed annually)	*	(density[lb/gal])	*	(VOC %wt.)				
Etch Primer	0	gal/yr *	7.05	lb/gal *	0.74	VOC %wt.	0.00	pounds VOC per year	
Product:	(Gallons of product consumed annually)	*	(density[lb/gal])	*	(VOC %wt.)				
Carc Paint	0	gal/yr *	6.80	lb/gal *	0.28	VOC %wt.	0.00	pounds VOC per year	
Product:	(Gallons of product consumed annually)	*	(density[lb/gal])	*	(VOC %wt.)				
Gloss Lacquer	0	gal/yr *	8.40	lb/gal *	0.5	VOC %wt.	0.00	pounds VOC per year	
Product:	(Gallons of product consumed annually)	*	(density[lb/gal])	*	(VOC %wt.)				
Lacquer Thinner	0	gal/yr *	8.00	lb/gal *	1	VOC %wt.	0.00	pounds VOC per year	
						Total VOC	0.00	lb/yr	
						Total VOC	**0.00**	**tpy**	
						Total VOC	**0.00**	**ppd**	
						Total VOC OSD	**0.00**	**ppd**	

Note: Emissions are from mass balance.

Emission Calculations - Building 9814A

Paper Recycling Baghouse #1 (Registration #9-0449)

Operation:	
Feed Rate (lbs/hour)	63.5
hours/day	6
hours/year	1506
day/week	5
weeks/year	36
days/year	251
Removal Efficiency	99.3%

PM Emissions

(Hourly Feed Rate) * (Daily Operating Hours) * (1 - Removal Efficiency)

63.5 lb/hr * 6 hr/day * 0.007 = **2.67 pounds per day**

Total PM 0.33 tpy

Note: Emissions are from mass balance.

Emission Calculations - Building 9814A

Paper Recycling Baghouse #2 (Registration #9-0450)

Operation:	
Feed Rate (lbs/hour)	63.5
hours/day	6
hours/year	1506
day/week	5
weeks/year	50
days/year	251
Removal Efficiency	99.1%

PM Emissions

(Hourly Feed Rate) * (Daily Operating Hours) * (1 - Removal Efficiency)

63.5 lb/hr * 6 hr/day * 0.009 = **3.43** **pounds per day**

Total PM **0.43** **tpy**

Note: Emissions are from mass balance.

Operation	
hr/dy	2
dy/wk	5
wk/yr	12
dy/yr	60
Meat Cooked (lb/yr)	7,500
Fat Content	10.00%

Number of Units 4

*Charbroilers came online mid October 2022

VOC Emissions

(Annual quantity of meat cooked)*(% fat content)*(Emission Factor)

30,000 lb/yr* 0.10 * 0.5 (lb VOC/lb fat)= 300.00 pounds per year

Total VOC **0.15 typ**

Total VOC **5 ppd**

Total OSD VOC **5 ppd**

PM(10) Emissions

(Annual quantity of meat cooked)*(% fat content)*(Emission Factor)

30,000 lb/yr* 0.10 * 0.5 (lb PM/lb fat)= 300.00 pounds per year

Total PM10 0.15 **tpy**

Total PM10 5 **ppd**

U.S. ENVIRONMENTAL PROTECTION AGENCY
FORM A-COMP – ANNUAL COMPLIANCE CERTIFICATION

OMB Control No. 2060-0336

A. GENERAL INFORMATION

1. **Identifying Information**. All facilities must complete this section.

   Source or company name National Security Agency

   Mailing address: Street of P.O. Box 9800 Savage Road, Suite 6218
   City Fort Meade State MD ZIP 20755 - 6218

   Contact person Samantha Schutt Title Environmental Engineer

   Telephone (301) 688 - 2970 Ext. _____ Title V permit no. 24-003-00317

2. **Reporting Period**. You must complete this section. The reporting period should be the one-year, or shorter period, required by your Title V permit. It will be assumed that the beginning date begins and ends at Midnight (12 A.M.), unless you specify otherwise.

   Period beginning **01 / 01 / 2022** Period ending **12 / 31 / 2022**

B. CERTIFICATION OF TRUTH, ACCURACY, AND COMPLETENESS

1. **Responsible Official**.

   Name: (Last) Westfall (First) Randy (MI) A

   Title Chief, Installations and Logistics

   Street or P.O. Box 9800 Savage Road
   City Fort Meade State MD ZIP 20755 - _____

   Telephone (301) 688 - 2970 Ext. _____ Facsimile (301) 688 - 5487

2. **Certification of Truth, Accuracy and Completeness**. The Responsible official must sign this statement after the form is completed for each applicable requirement.

   I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in these documents are true, accurate and complete.

   Name (signed) Kathleen V Harris on behalf of

   Name (typed) Randy Westfall Date: 3 / 21 / 2023

Form **A-COMP** Continued

Use this page to describe the compliance status of each permit term or condition. This page may be used to provide information on 2 different permit terms or conditions. Copy this page as many times as necessary to cover all permit terms and conditions.

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s):	Compliance status during reporting period
CONTROL OF VISIBLE EMISSIONS [COMAR 26.11.09.05A] – 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. 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.	5-0502 5-0503 5-0504 5-0505	X Intermittent Compliance ___ Continuous Compliance

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

Testing: None
Monitoring: The Permittee shall: (1) Properly operate and maintain the boilers in a manner to prevent visible emissions; and (2) Verify no visible emissions when burning No. 2 fuel oil. The Permittee shall perform a visual observations for a 6-minute period once for each 168 hours that the boiler burns oil or at a minimum of once per year. **Completed.**
Recordkeeping: The Permittee shall: (1) Maintain an operation manual and prevention maintenance plan on site; (2) Maintain a 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; and (4) Maintain a record of the hours that No. 2 fuel oil is burned. **Completed**
Reporting: 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". **Not necessary**

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s):	Compliance status during reporting period
CONTROL OF SULFUR OXIDES [COMAR 26.11.09.07A(2)] – 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.	5-0502 5-0503 5-0504 5-0505	___ Intermittent Compliance X Continuous Compliance

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

Testing: None
Monitoring: 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. **Completed**
Recordkeeping: The Permittee shall maintain records of the fuel supplier's certification and shall make records available to the Department upon request. **Completed**
Reporting: The Permittee shall report fuel supplier certification to the Department upon request. **Available**

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s):	Compliance status during reporting period
CONTROL OF NITROGEN OXIDES [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. **[COMAR 26.11.09.08E]** – "A person who owns or operates fuel-burning equipment with a rated heat input capacity of 100 Million Btu per hour or less 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 combination analysis at the site for at least 2 years and make this data available to the Department and the EPA upon request; (4) 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 (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.	5-0502 5-0503 5-0504 5-0505	__ Intermittent Compliance _X_ Continuous Compliance

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

Testing: The Permittee shall perform a combustion analysis once a year. **Completed**
Monitoring: The Permittee shall optimize combustion based on the annual combustion analysis. **Completed**
Recordkeeping: The Permittee shall maintain: (1) Records of the results of the annual combustion analysis on site; and (2) Record of training program attendance for each operator at the site. **Completed (Training conducted in 2021)**
Reporting: The Permittee shall submit: (1) The results of combustion analysis to the department and the EPA upon request; and (2) A record of training program attendance for each operator to the Department upon request. **Available**

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s):	Compliance status during reporting period
OPERATING LIMITATION – The Permittee shall only burn natural gas with No. 2 fuel oil as back up fuel unless the Permittee applies for and receives an approval or permit from the Department to burn alternate fuels.	5-0502 5-0503 5-0504 5-0505	___ Intermittent Compliance _X_ Continuous Compliance

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

Testing: None
Monitoring: None
Recordkeeping: The Permittee shall maintain records of the quantity and types of fuel burned. **Completed**
Reporting: The Permittee shall submit records of the quantity and type of fuels burn with the annual emissions certification report. **Completed**

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s):	Compliance status during reporting period
CONTROL OF VISIBLE EMISSIONS [COMAR 26.11.09.05A] – 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. 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.	5-0644, 5-0645 5-0891, 5-0892, 5-0900, 5-0809, 5-0810, 5-0811, 5-0823, 5-0842	___ Intermittent Compliance _X_ Continuous Compliance

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

Testing: None
Monitoring: None
Recordkeeping: None
Reporting: 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". **Not necessary**

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s):	Compliance status during reporting period
CONTROL OF NITROGEN OXIDES [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. **[COMAR 26.11.09.08F]** – "(1) A person who owns or operates a space heater as defined in Regulation .01B of this chapter shall: (a) Submit to the Department a list of each affected installation on the premises and the types of fuel used in each installation; (b) Develop an operating and maintenance plan to minimize NOx emissions based upon the recommendations of equipment vendors and other information including the source's operating and maintenance experience; (c) Implement the operating and maintenance plan and maintain the plan at the premises for review upon request by the Department; (d) 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 (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. (2) A person who owns and 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."	5-0644, 5-0645 5-0891, 5-0892, 5-0900, 5-0809, 5-0810, 5-0811, 5-0823, 5-0842	__ Intermittent Compliance _x_ Continuous Compliance

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

Testing: None
Monitoring: The Permittee shall develop and maintain an operating and maintenance plan to minimize NOx emissions. **Completed**
Recordkeeping: The Permittee shall maintain: (1) Records of maintenance performed that relates to combustion performance in keeping with the requirements of an operations and maintenance plan; (2) Record of training program attendance for each operator; (3) An operations manual and preventive maintenance plan; and (4) Records of fuel use that demonstrate the boiler's status as a space heater or process boiler. **Completed**
Reporting: The Permittee shall submit a record of training program attendance for each operator to the Department upon request. **Available**

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s):	Compliance status during reporting period
OPERATING LIMITATION – The Permittee shall only burn natural gas unless the Permittee applies for and receives an approval or permit from the Department to burn alternate fuels.	5-0644, 5-0645 5-0891, 5-0892, 5-0900, 5-0809, 5-0810, 5-0811, 5-0823, 5-0842	___ Intermittent Compliance _X_ Continuous Compliance

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

Testing: None
Monitoring: None
Recordkeeping: The Permittee shall maintain records of the quantity and types of fuel burned. **Completed**
Reporting: The Permittee shall submit records of the quantity and type of fuels burn with the annual emissions certification report. **Completed**

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s):	Compliance status during reporting period
CONTROL OF VISIBLE EMISSIONS [COMAR 26.11.09.05B] – (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. (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. (3) Exceptions. (a) 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. (b) 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. (c) Section B(2) and (3) does not apply while maintenance, repair, or testing is being performed by qualified mechanics.	9-0804, 9-0806, 9-0807 9-0818, 9-0819 9-0820, 9-0821 9-0822, 9-0823 9-0918, 9-0967, 9-1035, 9-1055, 9-1090, 9-1091, 9-1092, 9-1117, 9-1137, 9-1146	___ Intermittent Compliance _X_ Continuous Compliance

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

Testing: None
Monitoring: The Permittee shall properly operate and maintain the engines in a manner to minimize visible emissions. **Completed**
Recordkeeping: The Permittee shall retain records of preventive maintenance on sire for at least five years and make these records available to the Department upon request. **Completed**
Reporting: 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”. **Not necessary**

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s):	Compliance status during reporting period
CONTROL OF SULFUR OXIDES [COMAR 26.11.09.07A(2)] – 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.	9-0804, 9-0806, 9-0807 9-0818, 9-0819 9-0820, 9-0821 9-0822, 9-0823 9-0918, 9-0967, 9-1035, 9-1055, 9-1090, 9-1091, 9-1092, 9-1117, 9-1137, 9-1146	___ Intermittent Compliance _X_ Continuous Compliance

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

Testing: None
Monitoring: The Permittee shall obtain a certification from the fuel supplier indicating that the fuel oil complies with the limitation on the sulfur content of the fuel oil. **Completed**
Recordkeeping: The Permittee shall retain annual fuel supplier certifications stating that fuel oil is in compliance with this regulation must be maintained for at least 5 years. **Completed**
Reporting: The Permittee shall report annual fuel supplier certification to the Department upon request. **Available**

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s):	Compliance status during reporting period
CONTROL OF NITROGEN OXIDES [COMAR 26.11.09.08G] – (1) 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: (a) Provide certification of the capacity factor of the equipment to the Department in writing; (b) 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; (c) Maintain the results of the combustion analysis at this site for at least 2 years and make these results available to the Department and the EPA upon request; (d) 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 (e) Maintain a record of training program attendance for each operator at the site and make these records available to the Department upon request. (2) A person who owns and operates a combustion turbine with a capacity factor greater than 15 percent shall meet an hourly average NOx emission rate of not more than 42 ppm when burning gas or 65 ppm when burning fuel oil (dry volume at 15 percent oxygen) or meet applicable Prevention of Significant Deterioration limits, whichever is more restrictive.	9-0804, 9-0806, 9-0807 9-0818, 9-0819 9-0820, 9-0821 9-0822, 9-0823 9-0918, 9-0967, 9-1035, 9-1055, 9-1090, 9-1091, 9-1092, 9-1117, 9-1137, 9-1146	_--__ Intermittent Compliance _X_ Continuous Compliance

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

Testing: 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. **Completed.**
If the Permittee operates the turbine in excess of 15 percent capacity factor, the Permittee shall demonstrate compliance with the 42-ppm limit by performing an EPA Reference Method Test within 120 days after exceeding the 15 percent capacity factor. The Permittee shall submit a test protocol to the Department for approval at least 30 days prior to the proposed test date**. Not necessary**
Monitoring: For engines that operate more than 500 hours during a calendar year, the Permittee shall perform a combustion analysis and optimize combustion. The Permittee shall calculate the capacity factor of the combustion turbine within 30 days after the end of each month. **Completed when necessary.**
Recordkeeping: 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. The Permittee shall maintain a record of the calculated capacity factor. 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. **Completed**
Reporting: 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. The Permittee shall submit a list of trained operators to the Department upon request. A person subject to this regulation shall maintain annual fuel use records on site for not less than 3 years and make these records available to the Department upon request. **Completed**

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s):	Compliance status during reporting period
OPERATING LIMITATION – Each of the six (6) emergency generators sets shall not operate more than 125 hours a year, unless the source obtains a prior approval from the Department.	9-0818, 9-0819 9-0820, 9-0821 9-0822, 9-0823	___ Intermittent Compliance _X_ Continuous Compliance

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

Testing: None
Monitoring: The Permittee shall log the number of hours each generator is operated on a daily basis for generator preventive maintenance. **Completed**
Recordkeeping: The Permittee shall maintain records of hours of Preventative Maintenance testing operation, emergency operation, and BGE peak demand operations on a daily basis. The Permittee shall keep records of Preventative Maintenance Testing on file for review by the Department. The Permittee shall maintain a record of hours of operation, fuel use and criteria pollutant emission estimates for each emergency generator. The Permittee shall maintain copies of written notification for at least five years. **Completed**
Reporting: The Permittee shall report to the Department records of hours of operation upon request. The Permittee shall submit with annual Emission Certification Report a record of the hours of operation, fuel use and criteria pollutant emission estimates for each emergency generator. The Permittee shall notify the Department by phone and followed by written notification when emergency operations and/or peak demand operations. **Completed**

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s):	Compliance status during reporting period
NSPS [40 CFR 60 Subpart IIII] – An emergency diesel generator or diesel engine subject to the requirements of 40 CFR 60, Subpart IIII shall be equipped with a non-resettable hour meter.	9-0918, 9-0967, 9-1035, 9-1055, 9-1090, 9-1091, 9-1092, 9-1117, 9-1137, 9-1146	___ Intermittent Compliance _X_ Continuous Compliance

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

Testing: None
Monitoring: None
Recordkeeping: All records must be maintained for a period of at least 5 years. The Permittee shall maintain a log for the emergency generator indicating the amounts of fuel oil combusted, the hours of operation, and reason for generator operation (i.e., maintenance of operational testing, power outage, etc.). 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). Beginning October 1, 2007, for any NSPS emergency diesel generator the 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. **Completed**

Reporting: None

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s):	Compliance status during reporting period
OPERATING LIMITATION 40 CFR 60 Subpart IIII] – (1) The Permittee must operate and maintain an NSPS emergency diesel generator and control devices according to the manufacturer's written instructions or according to procedures developed by the owner or operator that are approved by the manufacturer. Additionally the Permittee may change only those settings that are permitted by the manufacturer. The Permittee must also meet the requirements of 40 CFR Parts 89, 94 and/or 1068, as they may apply to an owner or operator. (2) Beginning October 1, 2007, an NSPS emergency diesel generator must combust diesel fuel meeting the requirements of 40 CFR §80.510(a) (sulfur content: 500 ppm maximum), unless a waiver is obtained from the Department and/or the EPA Administrator. (3) Beginning October 1, 2010, an NSPS emergency diesel generator must combust diesel fuel meeting the requirements of 40 CFR §80.510(b) (sulfur content: 15 ppm maximum), unless a waiver is obtained from the Department and/or the EPA Administrator. (4) In accordance with 40 CFR §60.4211(e), non-emergency use of each NSPS emergency diesel generator for the purpose of maintenance checks and readiness testing is limited to **100** hours per year or less unless prior approval is received from the Department.	9-0918, 9-0967, 9-1035, 9-1055, 9-1090, 9-1091, 9-1092, 9-1117, 9-1137, 9-1146	_--_ Intermittent Compliance ___ Continuous Compliance X

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

Testing: None
Monitoring: None
Recordkeeping: Records of fuel combusted, hours of operation, and reason for generator operation are recorded monthly. **Completed**
Reporting: The Permittee shall report the amounts of fuel combusted, the hours of operation, and reason for generator operation (i.e., maintenance or operational testing, power outage, etc.) to the Department in the annual emission certification report due on April 1 of each year. **Completed**

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s):	Compliance status during reporting period
CONTROL OF VISIBLE EMISSIONS [COMAR 26.11.06.02C(2)] – A person may not cause or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which is visible to human observers. Exceptions – The visible emissions standards in §C of this regulation do not apply to emissions during startup and process modifications 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.	9-0449 9-0450	___ Intermittent Compliance _X_ Continuous Compliance

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

Testing: None

Monitoring: The Permittee shall conduct a monthly 1-minute visual observation of the baghouse exhaust. The visual observation must be conducted while the pulp paper operation and baghouse are in operation. If no visible emissions are observed in six consecutive monthly observations from the baghouse exhaust, the Permittee may decrease the frequency of visual observations from monthly to quarterly for the baghouse exhaust. If visible emissions are observed during any quarter visual observation, the Permittee must resume the observation of the baghouse exhaust on a monthly basis and maintain that schedule until no visible emissions are observed in six consecutive monthly visual observations. If visible emissions are observed during any observation, the Permittee must inspect baghouse for cause of visible emission and perform necessary adjustments or repairs within 24-hours or prior to operating the pulp paper operation. If visible emissions have not been eliminated, the Permittee shall perform daily 18-minute visual observation for opacity in accordance with EPA Reference Method 9 when operating the pulp paper operation. **Completed**

Recordkeeping: The Permittee shall maintain a site a log of the dates and results of visible emissions observations for a period of at least 5 years. **Completed**

Reporting: 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”. **Not necessary**

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s):	Compliance status during reporting period
CONTROL OF PARTICULATE MATTER [COMAR 26.11.06.03B(2)(a)] – A person may not cause or permit to be discharged into the outdoor atmosphere from any other installation, particulate matter in excess of 0.03 gr./SCFD (68.7 mg/dscm).	9-0449 9-0450	___ Intermittent Compliance _X_ Continuous Compliance

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

Testing: None
Monitoring: The Permittee shall develop and maintain a preventive maintenance plan for the baghouse that describes the maintenance activity and time schedule for completing each activity. The Permittee shall perform maintenance activities within the time frames established in the plan and shall maintain a log with records of the dates and description of the maintenance that was performed. **Completed**
Recordkeeping: The Permittee shall maintain a copy of the preventive maintenance plan and a record of the dates of and description of maintenance activity performed. The Permittee shall maintain records of the baghouse malfunctions and the corrective actions taken to bring into proper operation. **Completed**
Reporting: None

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s):	Compliance status during reporting period
OPERATIONAL LIMITATION – The Permittee shall record the annual quantity of material processed by the automatic material collection system and separate continuous operating system and shall maintain these records for at least 5 years.	9-0449 9-0450	___ Intermittent Compliance _X_ Continuous Compliance

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

Testing: None
Monitoring: None
Recordkeeping: The Permittee shall record the annual quantity of material processed by the paper pulp operation and shall maintain these records on site for at least 2 years. **Completed**
Reporting: The Permittee shall make records available to the Department upon request and submit records with annual Emission Certification Report. **Completed**

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s):	Compliance status during reporting period
CONTROL OF VISIBLE EMISSIONS [COMAR 26.11.06.02C(2)] – A person may not cause or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which is visible to human observers. Exceptions – The visible emissions standards in §C of this regulation do not apply to emissions during startup and process modifications 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.	6-0375	___ Intermittent Compliance _X_ Continuous Compliance

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

Testing: None
Monitoring: None
Recordkeeping: None
Reporting: None

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s):	Compliance status during reporting period
CONTROL OF PARTICULATE MATTER [COMAR 26.11.06.03B(2)(a)] – A person may not cause or permit to be discharged into the outdoor atmosphere from any other installation, particulate matter in excess of 0.03 gr./SCFD (68.7 mg/dscm).	6-0375	___ Intermittent Compliance _X_ Continuous Compliance

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

Testing: None
Monitoring: The Permittee shall perform preventive maintenance once per month or as recommended by the equipment manufacturer on scrubbers that control emissions units. **Completed**
Recordkeeping: The Permittee shall maintain a log of the maintenance performed on the scrubbers. The log shall be kept on site for at least five years and make available to the Department upon request. **Completed**
Reporting: None

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s): 6-1114	Compliance status during reporting period
CONTROL OF VOLATILE ORGANIC COMPOUNDS [COMAR 26.11.19.13] – These provisions apply to any metal surface coating operation at a premises where the total VOC emissions from all metal surface coating operations not specifically covered by not specifically covered by COMAR 26.11.19.03 through .10 exceed 20 pounds per day. A person may not cause or permit the discharge of VOC into the atmosphere from a miscellaneous metal coating operation unless the following emission standards are achieved: High Performance Coating – 3.5 pounds per gallon of coating applied (minus water); Clear Coating – 4.3 pounds per gallon of coating applied (minus water); and Standard – 3.0 pounds per gallon of coating applied (minus water).		___ Intermittent Compliance _X_ Continuous Compliance

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

Testing: None
Monitoring: None
Recordkeeping: All records must be maintained for a period of at least 5 years. The Permittee shall maintain monthly records of the hours of spray booth operation, cleaning, and material usage on site for at least five (5) years and make available to the Department upon request. **Completed**
Reporting: The Permittee shall report material usage to the Department annually in the Emission Certification Report. **Completed**

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s): 6-1095	Compliance status during reporting period ___ Intermittent Compliance _X_ Continuous Compliance
CONTROL OF VOLATILE ORGANIC COMPOUNDS – This general permit applies only to autobody repair facilities that: (1) are at a fixed stationary location; (2) Use not more than 400 gallons of vehicle refinishing material per year; (3) Have two or less paint spray booths; and (4) Do not use materials containing: (a) lead; (b) formaldehyde; or (c) pot life extenders. Operating Requirements: (1) All spray painting shall be conducted exclusively by personnel who are trained and certified as painters. (2) The following painting operations can be performed by non-certified painters: (a) Painting with brushes, rollers, markers or other non-atomizing applications; (b) spray painting from non-refillable hand-held aerosol containers; or (c) spray painting from guns with a paint cup size 3 oz or less. (3) All spray painting shall be conducted in a spray booth or preparation station. (4) All spray booths and preparation stations used to refinish complete motor vehicles or mobile equipment shall be fully enclosed having four complete walls or side curtains and a full roof. (5) All spray booths and preparation stations used to coat miscellaneous parts and products or vehicles subassemblies shall have at least three complete walls or side curtains and a full roof. (6) All mobile enclosures used to perform spot repairs must enclose and, if necessary seal against the surface around the area being painted in order to ensure that paint overspray is retained within the enclosure. (7) All spray booths, preparation stations and mobile enclosures shall be equipped with an exhaust gas filter having at least 98% capture efficiency during all times of use. Waterwash spray booths and preparation stations that are operated and maintained according to the manufacturer's specification are exempt from this requirement. (8) All spray booths and preparation stations shall be ventilated through the exhaust gas filter at a negative pressure. Fully enclosed and sealed spray booths equipped with an automatic pressure balancing system may be operated at up to, but not more than 0.05 inches water gauge positive pressure. (9) All spray applied coatings shall be applied by HVLP spray guns, electrostatic application, airless spray guns, air-assisted airless spray guns, or an equivalent technology that is demonstrated by the spray gun manufacturer to achieve transfer efficiency comparable to one of the spray gun technologies listed, and for which written approval has been obtained by the Administrator. (10) Any paint stripping performed with a chemical paint stripper containing Methylene Chloride requires the following practices: (a) An evaluation of the application to determine if paint stripping is necessary; (b) An evaluation of the application to determine if another paint stripping alternative could be used; (c) Minimization of air exposure by the chemical paint stripper; (d) Optimization of application conditions; and (e) The proper storage and disposal of the chemical paint stripper. (11) VOC content of materials used shall not exceed the limitations listed in the Title V permit. (12) Use of specialty coatings may not exceed five percent by volume of all coatings on a monthly basis. (13) The Permittee shall perform the following good operating practices and equipment cleanup procedures to reduce VOC emissions: (a) Establish good operating practices in writing; (b) Make the written operating practices available to the Department upon request; (c) Display the good operating practices so that they are clearly visible to the operator, or include them in operator training; (d) Provide training for equipment operators on the practices, procedures, and maintenance requirements that are consistent with equipment manufacturer's recommendations and the Permittee's experience in operating the equipment; (e) Minimize material or color changes when applying VOC coatings, whenever practical; (f) Mix or blend VOC materials in closed containers to reduce VOC emissions, as practical; (g) Maintain lids on all VOC containers when not in use; (h) Store VOC contaminated materials in closed containers; (i) Promptly		

contain and clean spills and leaks of materials containing VOC; (j) Use enclosed spray gun cleaning, VOC-recycling systems and other spray gun cleaning methods; and use detergents, high-pressure water, or other non-VOC cleaning options to clean lines, containers, equipment, where practical. Training Requirements: (1) All personnel, including contract personnel, who spray coatings must be trained and certified no later than 180 days after hiring. (2) Training and certification is valid for a period not to exceed five years after the date of training is completed. (3) All personnel who spray coatings must receive refresher training and be recertified every five years.		

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

Testing: None
Monitoring: The Permittee shall check MSDS to ensure that the VOC content of coatings is less than the applicable standard. The MSDS shall contain VOC data that is based on EPA Method 24 testing or equivalent. **Completed**
Recordkeeping: The following records must be kept for at least 5 years after the date of each record: (a) certification that each painter has completed the required training, with the date of the initial training and the most recent refresher training was completed; (b) documentation of the filter efficiency of any spray booth exhaust filter material; (c) for spray guns that are not HVLP spray guns, electrostatic application, airless spray guns, or air-assisted/air-less spray guns, documentation from the manufacturer that the gun achieves equivalent transfer efficiency and has received written approval by the Administrator; (d) copies of any Notifications; (e) copies of any annual reports; (f) records of any deviations from the federal requirements outlined in this permit; (g) Records of any assessments of source compliance; (h) Records of usage of paint stripper containing Methylene Chloride; and (j) Total Volume and VOC content of coatings, cleanup materials and surface preparation materials purchased. **Completed**
Reporting: Existing shops (before September 17, 2007) must submit initial notification to MDE and EPA by January 10, 2011. **Completed**

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s): Facility-Wide	Compliance status during reporting period
CONTROL OF VOLATILE ORGANIC COMPOUNDS [COMAR 26.11.19.02I] – **Good Operating Practices** (a) A person who is subject to this section shall implement good operating practices to minimize VOC emissions into the atmosphere. (b) Good operating practices, at a minimum, include the following: (i) Provisions for training operators on practices, procedures, and maintenance requirements that are consistent with the equipment manufacturers' recommendations and the source's experience in operating the equipment, with the training to include proper procedures for maintenance of air pollution control equipment; (ii) Maintenance of covers on containers and other vessels that contain VOC and VOC-containing materials when not in use; (iii) As practical, scheduling of operations to minimize color or material changes when applying VOC coatings or other materials by spray gun; (iv) For spray gun applications of coatings, use of high volume low pressure (HVLP) or other high efficiency application methods where practical; and (v) As practical, mixing or blending materials containing VOC in closed containers and taking preventive measures to minimize emissions for products that contain VOC.		___ Intermittent Compliance _X_ Continuous Compliance

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

Testing: None
Monitoring: The Permittee shall conduct facility-wide inspections at least once per calendar month to determine the compliance status of facility operations with regard to implementation of "good operating practices" designed to minimize emissions of VOC. **Completed**
Recordkeeping: The Permittee shall maintain: (1) Written descriptions of all "good operating practices" designed to minimize emissions of VOC from facility-wide operations; and (2) Records of all inspections conducted to determine the facility's compliance status with regard to implementation of "good operating practices" designed to minimize emissions of VOC from facility-wide operations. The records shall include for each inspection the name of the inspector, the data and time of the inspection, and an account of the findings. **Completed**
Reporting: Good operating practices information as required by COMAR 26.11.19.o2I shall be made available to the Department upon request. **Available**

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s): Facility-Wide	Compliance status during reporting period
CONTROL OF VOLATILE ORGANIC COMPOUNDS [COMAR 26.11.19.02I] – **Equipment Cleanup** (a) A person subject to this section shall take all reasonable precautions to prevent or minimize the discharge of VOC into the atmosphere when cleaning process and coating application equipment, including containers, vessels, tanks, lines, and pumps. (b) Reasonable precautions for equipment cleanup shall, at a minimum, include the following: (i) Storing all wastes and waste materials, including cloth and paper that are contaminated with VOC, in closed containers; (ii) Preparing written standard operating procedures for frequently cleaned equipment, including when practical, provisions for the use of low-VOC or non-VOC materials and procedures to minimize the quantity of VOC-materials used; (iii) Using enclosed VOC spray gun cleaning, VOC recycling systems and other spray gun cleaning methods where practical that reduce or eliminate VOC emissions; and (iv) Using, when practical, detergents, high-pressure water, or other non-VOC cleaning options to clean coating lines, containers, and process equipment.		___ Intermittent Compliance _X_ Continuous Compliance

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

Testing: None
Monitoring: The Permittee shall conduct facility-wide inspections at least once per calendar month to determine the compliance status of facility operations with regard to implementation of "good operating practices" designed to minimize emissions of VOC. **Completed**
Recordkeeping: The Permittee shall maintain: (1) Written descriptions of all "good operating practices" designed to minimize emissions of VOC from facility-wide operations; and (2) Records of all inspections conducted to determine the facility's compliance status with regard to implementation of "good operating practices" designed to minimize emissions of VOC from facility-wide operations. The records shall include for each inspection the name of the inspector, the data and time of the inspection, and an account of the findings. **Completed**
Reporting: Good operating practices information as required by COMAR 26.11.19.o2I shall be made available to the Department upon request. **Available**

Form **A-COMP** Continued

E. DEVIATIONS FROM PERMIT TERMS AND CONDITIONS

The table below is appropriate for reporting deviations from permit terms or conditions that have been previously reported in a six-month report (assuming that the most recent six-month monitoring report and the annual compliance certification both end on the same date). Copy this page as many times as necessary to include all such deviations. Note that you may cross-reference deviations already reported in the six-month report in the first column of the table, and leave the other columns blank, however such cross-reference must be clear and unambiguous with respect to the six-month monitoring report and the individual deviation being cross-referenced. In addition, in the first column, whether you cross-reference deviations or not, you must indicate whether each deviation is a "possible exception to compliance." If a deviation is not a possible exception to compliance, please briefly explain why it is allowed by the permit and cite the relevant permit term that provides the excuse. In addition, if there are deviations that have never been reported in writing to the permitting authority, more information than required by this table will be needed. In such cases, you must include information consistent with Section D of the six-month monitoring report form, and indicate whether it is a "possible exception to compliance."

Permit Term for Which There is a Deviation & Whether the Deviation is a "Possible Exception to Compliance"	Emission Units (unit IDs)	Deviation Time Periods Date(mo/dy/yr) Time(hr/min) Time Zone	Written Deviation Report Submittal Date (mo/dy/yr)
N/A		Beginning ___/___/____ __:__ _____ Ending ___/___/____ __:__ _____	___/___/____
		Beginning ___/___/____ __:__ _____ Ending ___/___/____ __:__ _____	___/___/____
		Beginning ___/___/____ __:__ _____ Ending ___/___/____ __:__ _____	___/___/____
		Beginning ___/___/____ __:__ _____ Ending ___/___/____ __:__ _____	___/___/____
		Beginning ___/___/____ __:__ _____ Ending ___/___/____ __:__ _____	___/___/____
		Beginning ___/___/____ __:__ _____ Ending ___/___/____ __:__ _____	___/___/____
		Beginning ___/___/____ __:__ _____ Ending ___/___/____ __:__ _____	___/___/____

F. Other Deviations From Permit Terms

All sources must complete this section. Answer questions 1 through 5 below as a group for each deviation from permit terms that is required to be reported for the first time in this monitoring report form. This page may be used to report three separate deviations. Copy this page as many times as necessary to include all such deviations. Include all such deviations including those that occur during startup, shutdown, malfunction, and upset conditions. Question 1: describe and cross-reference the permit terms for which there is a deviation. Question 2: list the Emission unit ID (if not available, identify by some other method) where the deviation occurred. Question 3: Report the beginning and ending times for each deviation using the 24-hour clock. Question 4: Briefly explain (if known) the probable cause of each deviation from permit terms. Question 5: If any corrective actions or preventative measures were taken to avoid these same types of deviation at the same emissions units, briefly describe them. If known, include dates when such actions or measures were taken or will be taken in the future.

1. Permit Term for Which There is a Deviation: **N/A**	2. Emission Units (unit IDs):	3. Time Period: Date(mo/dy/yr) Time(hr:min) Time Zone Beginning Ending
4. Probable Cause of Deviation:	5. Corrective Actions or Preventative Measures Taken:	

1. Permit Term for Which There is a Deviation:	2. Emission Units (unit IDs):	3. Time Period: Date(mo/dy/yr) Time(hr:min) Time Zone Beginning ___/___/____ __:__ ____ Ending ___/___/____ __:__ ____
4. Probable Cause of Deviation:	5. Corrective Actions or Preventative Measures Taken:	

1. Permit Term for Which There is a Deviation:	2. Emission Units (unit IDs):	3. Time Period: Date(mo/dy/yr) Time(hr:min) Time Zone Beginning ___/___/____ __:__ ____ Ending ___/___/____ __:__ ____
4. Probable Cause of Deviation:	5. Corrective Actions or Preventative Measures Taken:	

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 throughout 2022

2. Open Burning
   In compliance throughout 2022

3. Air Pollution Episode (N/A)
   Not applicable

4. Report of Excess Emissions and Deviations
(All deviations from permit requirements should be clearly identified in quarterly monitoring reports.)
   In compliance throughout 2022

5. Accidental Release Provisions (if applicable)
   Not applicable

6. General Testing Requirements
   In compliance throughout 2022

7. Emissions Test Methods
   In compliance throughout 2022

8. Emission Certification Report
   In compliance throughout 2022

9. Compliance Certification Report
   In compliance throughout 2022

10. Certification by Responsible Official
   In compliance throughout 2022

11. Sampling and Emissions Testing Record Keeping
   In compliance throughout 2022

12. General Record Keeping
   In compliance throughout 2022

13. General Conformity (N/A except for Federal facilities)
   In compliance throughout 2022

14. Asbestos Provisions (if applicable)
   In compliance throughout 2022

15. Ozone Depleting Regulations (if applicable)
   In compliance throughout 2022

16. Acid Rain Permit (if applicable)
   Not applicable

Appendix C

Compliance Assurance Monitoring Plan

APPENDIX C – Compliance Assurance Monitoring Plan

Under the definition of a control device contained in the Compliance Assurance Monitoring (CAM) regulations (40 CFR 64, i.e., not inherent process equipment), only one emission unit at the source are potentially subject to the CAM rule. It is:

- The Plating Shop (#6-0375)

The emissions unit does not meet all of the criteria found in 40 CFR 64.2(a), as follows:

- The Plating Shop (#6-0375) does not have the uncontrolled potential to emit any criteria pollutant, hazardous air pollutant or aggregate of all hazardous air pollutants that would exceed the relevant major source threshold.

Therefore, no emissions unit at the source is subject to the requirements of the CAM rule.